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UNIVERSITAS PANCA SAKTI BEKASI, JAWA BARAT

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بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ

Alhamdulillah, we praise and thank Allah S.W.T. for with His abundant permission, we can successfully organize the 3rd International Conference on Teacher Education 2024 (ICTE'24). First of all, I would like to congratulate all parties involved in making this international conference a success.

The ICTE`24 is an avenue that allows the sharing of resources and expertise among the education community in order to develop knowledge, share experiences, ideas as well as enhance possibilities especially meeting the demands of the Malaysian Education Development Plan (2021-2025).

I am very grateful for this event as it is significant to foster a culture of professional excellence that can elevate the organizing institutions as leaders in education. Thus, we hope that ICTE'24 will serve to elevate the East Coast Educational Institutions as leaders in creative and innovative education at the global level. It juxtaposes with the theme for this conference which is "Empowering Educators: Advancing Quality Education for Sustainable Development". Therefore, this Conference is our initiative to support the transformation of educational institutions, particularly in efforts to enhance the quality of lecturers, teachers and students in order to achieve the objectives of Sustainable Education by 2030.

It is our hope that the ICTE`24 will trigger a thinking culture towards dynamic education practices for the campus community besides becoming a catalyst of research and intellectual culture among educators. May Allah bless our effort for the conferences that we have organised and will organise in the future and may all educators continue to excel on the international stage. Have a good conference and memorable stay in Kota Bharu!

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KERTAS KONSEP PEMBANGUNAN MODUL *KemAS* UNTUK AMALAN PENGETAHUAN PEDAGOGI PERKEMBANGAN FIZIKAL DALAM KALANGAN GURU PRASEKOLAH

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ABSTRAK

Salah satu matlamat kurikulum pendidikan prasekolah adalah dengan menerapkan amalan kesihatan dan membina kecergasan badan bagi tujuan mengembangkan potensi bakat dan pembentukan karakter keseluruhan kanak-kanak. Mengadaptasi kemahiran asas sukan (KemAS) dalam instruksional tunjang perkembangan fizikal mampu memberikan impak terhadap gaya hidup aktif dalam diri kanak-kanak. Di samping itu, peningkatkan prestasi akademik, kemahiran kognitif, kesihatan mental, kesejahteraan psikologi, dan kemahiran sosial juga dapat dikekalkan. Dapatan kajian lepas, masih menunjukkan keupayaan amalan pengetahuan pedagogi guru pendidikan prasekolah terhadap strategi pengajaran perkembangan fizikal masih ditahap kurang cemerlang. Cadangan pembangunan modul berasaskan permainan aktif dalam kebanyakan kajian lepas, dilihat berjaya menjadikan aktiviti penyampaian pengajaran lebih berstruktur, jelas dan bermatlamat serta bimbingan yang komprehensif dalam menghubungkan ilmu dan kemahiran. Kajian bersifat kepenggunaan ini menggunakan Model Kemmis dan Mc Targgart (1988) sebagai asas reka bentuk kajian yang mengandungi empat langkah kajian bagi menyelesaikan masalah amalan pendidikan guru prasekolah sebagai pengguna sebenar. Seterusnya, Model Richey dan Klein (2007) yang diubahsuai kepada tiga fasa digunakan sebagai reka bentuk penyelidikan pembangunkan modul yang sistematik bertujuan untuk mendapatkan data empirikal bagi menghasilkan modul mengikut keperluan pengguna sebenar. Manakala Model Morrison et al. (2011) sebagai asas reka bentuk pengajaran bagi meningkatkan kualiti penyampaian pengajaran. Keterlibatan pakar dari aspek bilangan serta jenis kepakaran bidang diambil kira bagi memastikan proses kajian pembangunan modul ini menepati kriteria pengguna dan matlamat kajian.

***Kata Kunci**: Pembangunan Modul, Amalan Pengetahuan Pedagogi, Perkembangan Fizikal, dan Pendidikan Prasekolah.*

PENGENALAN

Kurikulum Pendidikan prasekolah memberikan pengalaman pembelajaran awal yang berkesan, bermakna dan menyeronokkan bagi kanak-kanak yang berumur empat sehingga enam tahun (Bahagian Pembangunan Kurikulum 2017). Pembinaan Kurikulum Pendidikan prasekolah yang berasaskan kepada beberapa tunjang merupakan domain utama dalam pelbagai kemahiran literasi awal serta kesepaduan pembangunan modal insan. Menurut laporan World Bank (2023), kepentingan penguasaan pelbagai kemahiran asas di peringkat pendidikan prasekolah sangat ditekankan dalam tonggak pendidikan kedua UNESCO. Ianya bertujuan bagi membentuk asas kepada modal insan yang kompeten, produktif, dan inovatif serta meningkatkan kualiti hidup bagi individu dan sesebuah negara.

Menurut Ili Raihana dan Suziyani (2023) kerangka Kurikulum Standard Prasekolah Kebangsaan 2017 (KSPK 2017) digubal bertujuan untuk memberikan fokus kepada tiga bahagian utama iaitu standard kandungan, standard pembelajaran dan standard prestasi yang perlu diketahui, difahami dan dikuasai

oleh murid. Oleh itu, pelaksanaan kurikulum prasekolah yang berkualiti adalah kritikal dalam dasar pendidikan awal kanak-kanak untuk mengembangkan sikap positif modal insan, produktif, dan kepribadian muslim sejati yang boleh menyumbang kepada keharmonian dan kemakmuran keluarga, masyarakat, dan negara (Ramly, Nur Adillah & Masnan 2023).

Perkembangan fizikal amat penting di peringkat pendidikan prasekolah kerana ianya menjadi asas kepada perkembangan potensi bakat dan pembentukan karakter keseluruhan kanak-kanak. Menurut Rubén et al. (2021), pergerakan kompleks yang pelbagai diperlukan terhadap kecergasan badan, kecerdasan minda, ketangkasan, koordinasi dan kesihatan pada peringkat awal kanak-kanak. Menurut Chiam dan Denise (2021), walaupun perkembangan fizikal kanak-kanak lelaki lebih cepat pertumbuhannya berbanding kanak-kanak perempuan, namun ianya tidak membataskan keinginan sama ada kanak-kanak lelaki mahupun perempuan untuk melakukan aktiviti fizikal yang mencabar atau ekstrem di luar bilik darjah.

Menurut Dinham dan Williams (2019) pembelajaran perkembangan fizikal merupakan salah satu kurikulum asas untuk membentuk penguasaan kemahiran fizikal murid prasekolah secara holistik dengan membekalkan pengetahuan, pemahaman, keyakinan, motivasi dan kecekapan fizikal. Berdasarkan pandangan Coe (2020) tunjang perkembangan fizikal di pendidikan prasekolah meliputi kemahiran-kemahiran motor asas, pergerakan kreatif dan kemahiran manipulatif yang merupakan asas kepada pelbagai pergerakan kompleks yang diperlukan untuk membina gaya hidup aktif dalam kehidupan. Justeru itu, menurut World Health Organization (2020) keupayaan pengetahuan dan kemahiran dalam kalangan guru pendidikan prasekolah mengendalikan organisasi kandungan tunjang perkembangan fizikal KSPK amat penting dalam memberikan pengalaman awal, membangunkan potensi serta membentuk karakter mengikut keperluan, kebolehan dan keupayaan individu setiap kanak-kanak.

KAJIAN LITERATUR

Berdasarkan laporan kajian Institut Penyelidikan Pembangunan Belia Malaysia (2023), mendapati 52 peratus keaktifan rakyat Malaysia berada pada tahap sederhana. Manakala Utusan Malaysia pula melaporkan hanya 22 peratus kanak-kanak di negara ini aktif secara fizikal lebih daripada 60 minit sehari. Laporan yang bertarikh 22 jun juga menyatakan penurunan trend dalam aktiviti fizikal bagi golongan kanak-kanak dan remaja di negara ini berada pada tahap sangat rendah (Utusan Malaysia 2023). Disamping itu menurut Csonka et al. (2022), isu berlebihan berat badan dan obestiti dikalangan kanak-kanak di kebanyakan negara maju juga meningkat ekoran gaya hidup aktif yang rendah. Walaupun tiada data yang spesifik bagi keterlibatan aktiviti fizikal kanak-kanak 5 hingga 12 tahun di Malaysia, tetapi Laporan Kementerian Kesihatan Malaysia dalam Wan, Intan dan Nurfarhana (2023) menyatakan masalah obesiti dalam kalangan kanak-kanak bawah lima tahun semakin serius. Menurut Erin et al. (2020), kajian lepas menunjukkan 80 peratus kecerdasan dan kecergasan remaja terbina pada peringkat umur ketika di prasekolah melalui penjagaan kesihatan dan penglibatan aktif aktiviti fizikal.

Menurut David Morley (2019); serta Ahla dan Denise (2022), seseorang guru perlu mempunyai ciri-ciri elemen literasi fizikal yang tinggi untuk mengendalikan instruksional perkembangan fizikal yang lebih efisen dan berkualiti di peringkat pendidikan awal kanak-kanak. Memetik kenyataan Lowri et.al (2016) dalam Karen Vincent (2023) menyatakan pengajaran perkembangan fizikal bukanlah semata-mata "melakukan aktiviti fizikal sahaja" tetapi ia lebih memerlukan kepada "membangunkan kemahiran fizikal asas" untuk memberikan manfaat kesihatan menyeluruh terhadap kesejahteraan diri dan mengekalkan penglibatan aktiviti fizikal secara berterusan dalam gaya hidup kanak-kanak.

Tunjang Perkembangan Fizikal merupakan salah satu kurikulum pendidikan prasekolah yang boleh merangsang kepada pelbagai pergerakan asas kompleks yang diperlukan dalam gaya hidup aktif serta perkembangan dari aspek domain psikomotor, kognitif, dan afektif. Rentetatan perlaksanaan bidang

pembelajaran aktivti fizikal yang memperuntukan waktu kurang dari piawai yang disarankan WHO juga dilihat salah satu faktor kegagalan melaksanakan instruksional perkembangan fizikal dengan baik di pendidikan prasekolah (Zain et al. 2023). Secara purata perlaksanaan aktiviti fizikal berstruktur di pendidikan prasekolah Malaysia hanya memperuntukan 60 minit seminggu iaitu berkurangan daripada negara maju yang memperuntukkan melebihi 100 minit seminggu bagi pembelajaran aktiviti fizikal berstruktur (Barnett et al. 2023); (Betsy Hoza et al. 2021). Selain itu menurut Rosny dan Kamariah (2021), faktor keterbatasan sumber daya seperti bahan rujukan, ruang dan peralatan yang terhad untuk melakukan aktiviti kemahiran fizikal. Menurut Taipoi dan Othman (2023), kurang mendapat sokongan ibu bapa juga merupakan kekangan utama untuk mencapai matlamat dan objektif yang telah ditetapkan dalam Kurikulum Standard Prasekolah Kebangsaan 2017 (KSPK 2017).

Justeru seseorang guru prasekolah sepatutnya mempunyai pengetahuan dan kemahiran dalam menyediakan aktiviti pengajaran dan pembelajaran yang selamat, menyeronokkan, kreatif dan bermakna. Di samping itu juga dapat memenuhi tuntutan dalam mengintegrisikan pengetahuan, kemahiran dan nilai melalui organisasi kandungan KSPK. Menurut laporan PPPM 2012-2025 Kementerian Pendidikan Malaysia (2018), masalah kurang mahir dari elemen pengetahuan dan kemahiran sesetengah guru prasekolah terhadap mengendalikan strategi pengajaran kepelbagaian literasi asas, sering membawa kepada implikasi kegagalan kepada matlamat Kurikulum Standard Prasekolah Kebangsaan (KSPK). Tahap pengetahuan dan kemahiran yang sederhana dalam mengendalikan strategi pengajaran yang bermakna, menjadikan amalan pengetahuan pedagogi guru prasekolah tidak berupaya memberikan impak terhadap penguasaan kemahiran perkembangan fizikal di pendidikan prasekolah dengan baik. Kenyataan tersebut disokong dengan dapatan tinjauan awal yang dijalankan oleh Mohd Rizal, Omar, dan Rozaireen (2024) mendapati tahap strategi pengajaran bagi aktiviti perkembangan fizikal di prasekolah Tabika masih lagi berada kurang cemerlang dalam kalangan guru pendidikan prasekolah di bawah kelolaan agensi kerajaan.

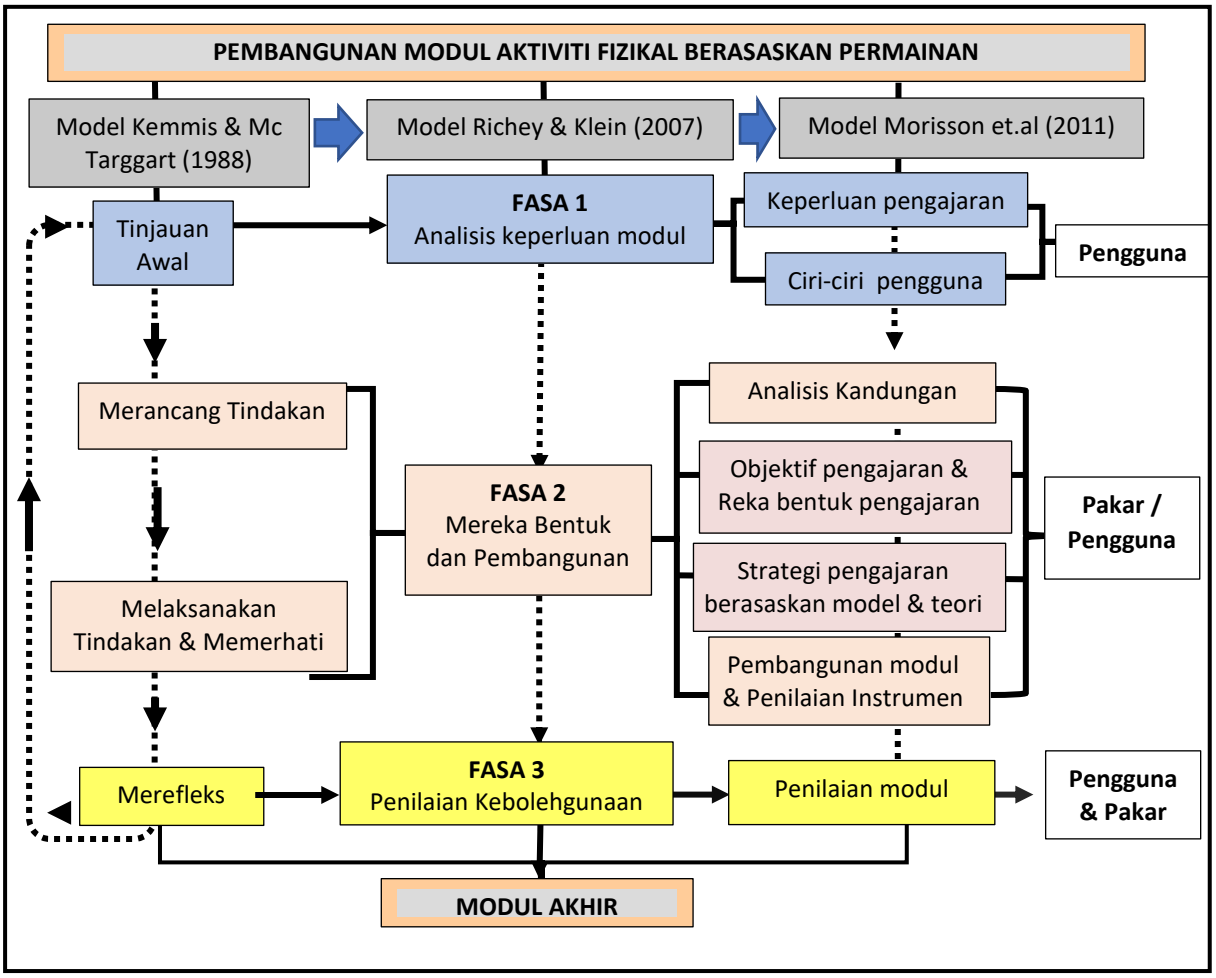
Bertitik tolak daripada permasalah tersebut adalah menjadi satu keperluan bagi membangunkan satu modul yang dapat memenuhi keperluan instruksi dari aspek mengendalikan strategi pengajaran (Masnan et al. 2021) dan teknik pengubahsuaian kaedah pengajaran bersesuaian dengan keperluan dan keupayaan murid (Nor Jannah 2018). Menurut Connie dan Alley (2021) permainan aktif dilihat lebih praktikal dalam mengembangkan pelbagai penguasaan kemahiran termasuk perkembangan fizikal kanak-kanak pendidikan prasekolah yang berkualiti dan lebih bermakna (Cheung et al. 2023). Disamping itu, pembangunan modul ini boleh digunakan sebagai modul latihan profesionalisme bagi guru. Kajian Russell (2017) dalam Syafie (2019) juga menyatakan akibat latihan profesionalisme yang tidak mencukupi, menyebabkan kebanyakan guru pendidikan prasekolah kurang berpengetahuan dan memahami konsep bermain dalam Kurikulum Standard Prasekolah Kebangsaan dengan jelas.

METODOLOGI

Secara dasarnya, konsep pembangunan modul berasaskan permainan Kemahiran Asas Sukan *(KemAS)* ini bertujuan menambahbaikan elemen pengetahuan dan pemahaman amalan pedagogi guru pendidikan prasekolah dalam mengendalikan tunjang perkembangan fizikal dengan lebih efektif dan berkesan. Kajian pembangunan modul ini menggunakan Model Kemmis dan McTaggart (2007) sebagai asas reka bentuk kajian kepenggunaan ini. Seterusnya, Model Richey dan Klein (2007) yang diubahsuai kepada tiga fasa digunakan sebagai asas reka bentuk dan pembangunkan modul yang komprehensif dan bersistematik yang bertujuan untuk mendapatkan data empirikal bagi menghasilkan modul mengikut keperluan pengguna sebenar.

Manakala Model Morrison et al. (2011) sebagai asas Reka bentuk pengajaran bagi meningkatkan kualiti pengajaran. Penggunaan kedua-dua kaedah kualitatif dan kuantitatif akan menghasilkan dapatan yang saling melengkapi dalam aspek kekuatan dan kelemahan (Creswell 2018). Produk yang dihasilkan adalah dalam bentuk buku modul bercetak bagi guru pendidikan prasekolah mengendalikan aktiviti fizikal berdasarkan standard kandungan, standard pembelajaran dan standard prestasi dalam tunjang

perkembangan. Rajah 1 dibawah, menunjukkan kerangka konseptual hubungan antara model-model dalam pembangunan modul ini.



Rajah 1. Kerangka konseptual menunjukkan hubungan antara model dalam pembangunan kajian

Model Reka Bentuk Penyelidikan Kemmis Dan Mc Targgart, (2007)

Menurut Mohtar dan Koh (2019) reka bentuk penyelidikan kepenggunaan Model Kemmis dan McTaggart (2007) yang mengandungi empat peringkat utama sering digunakan sebagai penambahbaikan bagi menyelesaikan masalah dalam amalan pendidikan. Berdasarkan kerangka konsep di rajah 1, tinjauan awal yang dilakukan pada peringkat pertama bertujuan mengenal pasti isu dan pemasalahan kajian secara tepat dan jelas. Pada peringkat kedua pengkaji merancang tindakan dengan teliti, teratur dan tersusun untuk mencapai objektif kajian. Pada peringkat ini, pengkaji akan menentukan pendekatan, strategi dan teknik yang sesuai dan berkesan digunakan sebagai penambahbaikan dalam amalan pendidikan. Tindakan intervensi yang dilakukan secara kreatif diperlukan untuk membantu menangani masalah keperluan pengajaran dan pembelajaran dalam tunjang perkembangan fizikal.

Seterusnya, melaksanakan tindakan pada peringkat ketiga pengkaji perlu melakukan beberapa kaedah seperti pemerhatian dan melaksanakan pengujian untuk melihat keberkesanan intervensi yang dijalankan. Dalam masa yang sama, pengkaji juga perlu memerhati, merekod dan menilai bagi penambahbaikan terhadap tindakan intervensi yang dijalankan. Data dikumpulkan menggunakan pelbagai cara seperti soal selidik, pemerhatian, temubual dan penelitian dokumen yang bertujuan bagi melihat kebolehlaksanaan, kebolehtadbiran dan kerelevan produk yang dibangunkan. Pada peringkat

terakhir iaitu keempat dimana pengkaji akan membuat refleksi mengimbas tindakan intervensi yang telah dibangunkan dalam menyelesaikan masalah amalan pendidikan yang dihadapi atau masih memerlukan penambahan keatas intervensi yang dilaksanakan. Seterusnya tindakan susulan bagi meneliti sama ada keberhasilan kajian pembangunan modul ini boleh digeneralisasikan serta ditambahbaik pada cadangan kajian masa hadapan (Kemmis 2007).

Model Reka Bentuk Dan Pembangunan Modul Richey & Klein (2007)

Pembangunan modul aktiviti fizikal ini menggunakan reka bentuk model Richey dan Klein (2007) sebagai langkah-langkah pembangunan modul secara sistematik yang merangkumi tiga fasa. Menurut Mohd Ridhuan, dan Nurulrabihah (2020) walaupun kaedah penyelidikan ini agak ketat (rigid) kerana mewajibkan para pengkaji mematuhi setiap prosedur yang telah digariskan. Sebenarnya ianya dapat membantu perkembangan teori dan penyediaan bukti yang bersifat empirikal terhadap penilaian. Reka bentuk kajian ini menggunakan pendekatan campuran yang dikenali *exploratory design*. Pendekatan campuran ini menganalisis kedua-dua pendekatan kajian secara kualitatif dan kuantitatif yang dilihat lebih memahami masalah penyelidikan (Creswell & Creswell 2018). Pendekatan kaedah campuran ini juga bersesuaian dengan model Richey dan Klein (2007) yang membenarkan pendekatan yang berbeza-beza mengikut fasa-fasa kajian seperti berikut:

I. Fasa 1: Analisis Keperluan

Merupakan tinjauan awal untuk mengenal pasti apakah masalah dan keperluan untuk melaksanakan kajian tersebut (McKillip 1987). Analisis keperluan ini dilakukan secara temu bual separa struktur dalam kalangan pengguna yang mengendalikan instruksional tunjang perkembangan fizikal di pendidikan prasekolah. Menurut (Yin 2016) pendekatan kualitatif dan pemilihan sampel yang tepat dalam fasa ini dapat menjelaskan masalah dengan terperinci dan membantu mencapai objektif kajian (Hassan 2018). Mengikut pendekatan *Rules of Thumb Based* dalam kajian kualitatif, pengkaji perlu mengemukakan 20-30 peserta kajian bagi populasi yang mempunyai 8000 keatas. Namun menurut Marszałek dan McCabe (2024) menyatakan secara purata 5 hingga 10 peserta kajian sudah memadai bagi kaedah pengumpulan data temu bual untuk sampai ke tahap ketepuan. Justeru pada fasa ini, pengkaji melibatkan 10 orang guru pendidikan prasekolah yang dipilih secara pensampelan bertujuan dengan megambil kira faktor perbelanjanan dan kerjasama peserta kajian (Chua 2012); serta (Creswell dan Poth, 2018). Kesahan kandungan bagi soalan temubual untuk guru yang telah digubal dirujuk dan dinilai menggunakan tiga orang pakar dalam bidang penyelidikan pendidikan jasmani dan bidang pendidikan awal kanak-kanak.

II. Fasa 2: Reka Bentuk dan Pembangunan

Dapatan data dari analisis keperluan digunakan sebagai input untuk membina instrumen soal selidik mengenai elemen-elemen yang perlu ada dalam kajian pembangunan modul yang dijalankan. Menurut Amahorseya dan Mardliyah (2023) produk berkaitan amalan pendidikan yang dibangunkan mestilah bersandarkan teori dan model serta mempunyai nilai-nilai ilmiah. Justeru soal selidik yang dibina telah disemak oleh lima orang pakar serta penambahbaikan dibuat sebelum soal selidik diedarkan untuk mendapatkan konsensus pakar yang bertindak sebagai peserta kajian.

Dalam konteks kajian pembangunan modul ini, proses menganalisis kandungan dokumen tunjang perkembangan fizikal dilaksanakan untuk mendapatkan maklumat tentang standard organisasi yang terkandung dalam Kurikulum Standard Prasekolah Kebangsaan (KSPK). Hal ini adalah kerana pembangunan dan reka bentuk modul yang dibangunkan seharusnya berupaya memperkukuhkan dan mengembangkan amalan pendidikan melalui teori dan model yang boleh disandarkan. Justeru menurut Muszali et al. (2017) elemen-elemen aktiviti perkembangan fizikal yang berasaskan kepada Model Pengajaran *Teaching Games For Understanding* (TGFU) dan *KinderGym* adalah sangat sesuai membantu guru dan pelajar memperoleh pengetahuan dengan lebih berkesan dan menyeronokkan.

Dalam kajian ini juga kesahan oleh pakar akan dilaksanakan terhadap keberkesanan, kecekapan, kepuasan dan kerelevanan terhadap modul yang dibangunkan menggunakan instrumen soal selidik. Menurut Mohd Said, Md Taff, Hashim dan Jaffry (2020), sesuatu modul atau instrumen penilaian perlu melalui proses kesahan pakar lima orang pakar bidang bagi menentukan modul yang dibangunkan. Menurut Eshak dan Zain (2020) dapatan pada peringkat ini dianalisis menggunakan Kaedah Fuzzy Delphi (FDM) bagi mendapatkan pandangan pakar dan kebolehpercayaan tentang reka bentuk modul. Sehubungan dengan itu, pengkaji melaksanakan kajian rintis kepada 42 orang guru pendidikan prasekolah tabika yang telah berkhidmat melebihi lima tahun bertujuan mendapatkan kesepakatan persetujuan kebolehlaksanaan modul yang telah dibangunkan (Othman dan Yunus 2018) supaya hasil dapatan adalah sah dan boleh dipercayai. Pengujian ini bertujuan bagi mengesahkan sama ada modul yang dibangunkan mengikut spesifikasi kandungan, reka bentuk strategi PdP dan bahan pengajaran modul menepati keperluan instruksi dalam tunjang perkembangan fizikal. Seterusnya proses penambahbaikan modul dilakukan dan penambahbaikan instrumen soal selidik berdasarkan maklum balas pakar sebagai pengguna.

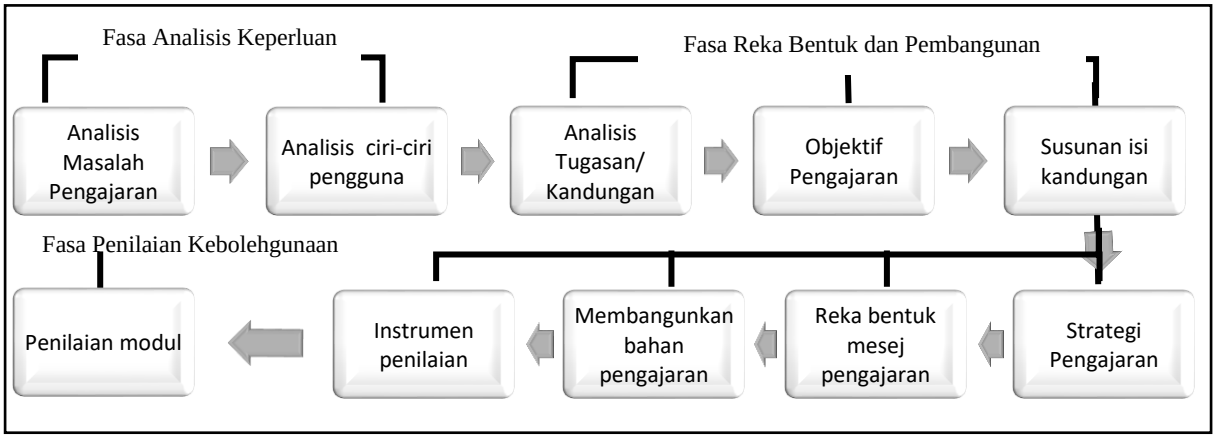
III. Fasa 3: Penilaian Kebolehgunaan

Tujuan fasa ini dilaksanakan ialah untuk mengukur kualiti produk. Dalam konteks kajian pembangunan ini, pengkaji menggunakan instrumen soal selidik dalam menentukan kebolehgunaan sesuatu produk dari aspek keberkesanan, kecekapan dan kepuasan pengguna. Disamping itu juga pengkaji melaksanakan latihan profesional menggunakan modul yang dibangunkan kepada 400 orang guru pendidikan prasekolah mengikut persampelan berkelompok yang dibahagikan mengikut zon negeri. Bilangan responden kajian menggunakan jadual penentuan saiz sampel Krejcie dan Morgan (1970).

Dalam fasa III ini, pengkaji bertindak sebagai fasilitator ke atas latihan berstruktur yang dijalankan melalui bengkel. Setiap siri bengkel diperuntukkan 16 jam termasuk makan minum dan rehat iaitu bersamaan dua hari dua. Keseluruhan perlaksanaan bengkel mencakupi keseluruhan topik dan sub topik dalam tunjang perkembangan fizikal sebagaimana yang dinyatakan dalam standard organisasi KSPK. Pengkaji menilai kebolehgunaan modul ini ke atas guru-guru pendidikan prasekolah tabika dengan mengambil kira konstruk-konstruk yang dinyatakan dalam instrumen soal selidik penilaian kebolehgunaan modul seperti yang dilaksanakan dalam kajian Shariza Said (2017).

Pengkaji terdahulu Saedah Siraj dan Muhammad Ridhuan (2021) mensyorkan data dikutip melalui proses penilaian dalaman dan penilaian luaran kebolehgunaan modul. Di mana penilaian dalaman adalah melibat sekumpulan pakar iaitu penyelia operasi pendidikan awal kanak-kanak yang berfungsi sebagai pengerak dan mentor bagi setiap negeri untuk melihat integriti komponen kandungan modul yang dibangunkan. Manakala penilaian luaran adalah bertujuan melihat impak atau kesan kepada guru pendidikan prasekolah sebagai pengguna sebenar dalam keperluan penyelidikan reka bentuk dan pembangunan modul ini.

Model Reka Bentuk Pengajaran Morrison, Ross, Kalman Dan Kemp (2011)



Rajah 2. Fasa dan komponen Model Pengajaran Bermakna Morrison et al. (2011)

Menurut Kok, dan Ruhizan (2019) model reka bentuk pengajaran bermakna ini memberi tumpuan kepada usaha untuk meningkatkan kualiti kandungan pengajaran dan mempunyai pengurusan proses reka bentuk pengajaran bebas antara satu sama lain. Merujuk rajah 2 diatas, secara keseluruhan terdapat sembilan komponen dalam reka bentuk pengajaran bermakna Morisson et al (2011). Dalam konteks kajian pembangunan ini pengkaji telah memulakan dua daripada sembilan komponen dalam Model Pengajaran Morrison et al. (2011) iaitu analisis keperluan pengajaran, dan analisis ciri-ciri pengguna dilaksanakan dalam fasa analisis keperluan. Tujuan analisis keperluan ini adalah memberi gambaran tentang keperluan pembangunan sesuatu bahan pembelajaran. Bagi melaksanakan analisis keperluan ini, Morrison et al. (2011) mencadangkan empat langkah, iaitu; (i) perancangan, (ii) mengumpul data, (iii) menganalisis data, dan (iv) menulis laporan akhir.

Manakala, tujuh komponen lagi dilaksanakan dalam fasa reka bentuk dan pembangunan modul. Dalam konteks kajian pembangunan ini, pengkaji telah membahagikan kepada empat peringkat (rujuk rajah 1) dalam mereka bentuk modul supaya pembangunan modul yang dihasilkan tidak tersasar mengikut keperluan pengguna. Peringkat pertama, pengkaji menganalisis tugasan atau kandungan merujuk kepada untuk mengenal pasti kemahiran dan informasi yang wajar diajar dan sesuai, isi kandungan yang mempunyai kaitan dengan komponen yang lain dan menganalisis perubahan tingkah laku yang boleh diperhatikan daripada murid.

Pada peringkat kedua, objektif pengajaran bagi mereka bentuk pengajaran yang bermakna dan menyeronokkan. Khususnya bagi memilih dan menyusun aktiviti pengajaran dan bahan yang boleh digunakan dalam proses instruksional seperti menilai hasil pembelajaran murid, dan membimbing kemahiran serta pengetahuan yang sepatutnya murid kuasai. Objektif pengajaran dalam tunjang perkembang fizikal biasanya dikelompokkan kepada tiga kategori yang utama iaitu domain kognitif, domain psikomotor dan domain afektif. Menurut Rhodes et al. (2019), pada fasa ini pendekatan humanistik juga digunakan bagi memberi peluang untuk penglibatan murid secara mendalam. Pendekatan yang berteraskan konkrit ke abstrak, mudah ke kompleks, keseluruhan ke sebahagian, dan umum ke spesisifik (deduktif) dilihat sangat sesuai digunakan dan mendatangkan keberkesanan dalam instruksional perkembangan fizikal.

Seterusnya peringkat ketiga pembangunan strategi pengajaran mengambil kira matlamat untuk melahirkan murid yang mempunyai prinsip dan ciri yang dinyatakan dalam profil murid seperti dalam Kurikulum Standard Prasekolah Kebangsaan (KSPK), supaya berupaya bersaing di peringkat global. Berdasarkan kenyataan Dwivedi (2021) pada peringkat ini, model pengajaran Bunker dan Thorpe digunakan sebagai asas reka bentuk mesej pengajaran untuk merancang, mengurus dan mengelolakan instruksional dengan seronok dan bermakna. Manakala teori pembelajaran aktif Nelson (2004) sebagai panduan kepada penentuan kaedah PdP secara konstruktivisme. Prinsip pembelajaran aktif Nielson

(2004) juga menitikberatkan penyediaan ruang, persekitaran dan bahan pengajaran yang sesuai dan selamat sebelum pengajaran dilaksanakan.

Manakala peringkat terakhir ialah proses menterjemahkan reka bentuk pengajaran kepada strategi pengajaran. iaitu fasa pembangunan dimulakan selepas fasa reka bentuk selesai. Di samping itu objektif pengajaran yang dirancangkan mesti dapat menyelesaikan masalah pengajaran yang dikaji. Penilaian dilaksanakan untuk memberi maklumat tentang pencapaian objektif pengajaran. Dalam kajian ini, dua instrumen penilaian yang akan dibangunkan iaitu penilaian kebolehgunaan modul dan soal selidik amalan pengetahuan pedagogi kandungan guru terhadap tunjang perkembangan fizikal. Namun, kedua-dua instrumen penilaian ini tidak dibincangkan dalam artikel ini. Proses penyediaan instrumen tersebut akan dibincangkan di dalam cadangan penyelidikan sebenar. Kesemua instrumen dan kandungan modul yang dibangunkan akan melalui semakan kesahan pakar terlebih dahulu sebelum melaksanakan ujian kebolehpercayaan dan seterusnya kepada kajian sebenar

RUMUSAN

Modul yang bakal dilaksanakan ini diharapkan akan memberikan dapat meningkatkan pengetahuan, dan pemahaman perlaksana atau guru pendidikan prasekolah terhadap tunjang perkembangan fizikal. Kajian pembangunan yang mengambil kira keperluan amalan pedagogi guru pendidikan prasekolah Tabika berdasarkan kurang keupayaan dari elemen pengetahuan pedagogi mengendalikan tunjang perkembangan fizikal secara efektif. Usaha ini dilihat bertepatan seperti yang dinyatakan dalam kualiti Standard Guru Malaysia berdasarkan tiga komponen standard yang merangkumi aspek berikut (i) Standard yang memperincikan kompetensi amalan nilai profesionalisme keguruan berdasarkan domain diri, profesion dan sosial seorang guru; (ii) Standard yang memperincikan kompetensi ilmu pengetahuan dan kefahaman tentang subjek pengkhususan, ilmu pendidikan, kurikulum dan kokurikulum yang perlu ada pada seseorang guru; dan Standard yang memperincikan kompetensi kemahiran pengajaran dan pembelajaran yang patut dikuasai oleh guru.

Kajian pembangunan ini diharapkan dapat memberikan memberi implikasi besar kepada pemegang taruh, khususnya Kementerian Pendidikan Malaysia, dan agensi-agensi pelaksana pendidikan prasekolah samaada kelolaan kerajaan mahupun swasta. Berasaskan gabungan teori dan data empirikal Pembangunan modul ini dijangkakan dapat membantu mengendalikan penyampaian pengajaran. Malah menerusi modul ini juga diharapkan dapat memberi impak positif terhadap trend budaya aktif bersukan diperingkat awal kanak-kanak. Pengembangan pengetahuan dalam bentuk pedagogikal baharu yang dihasilkan di dalam modul ini dijangka berupaya mengubah amalan pendidikan guru-guru pendidikan prasekolah dalam menyediakan pendidikan aktiviti fizikal yang sesuai berdasarkan keperluan dan keupayaan murid.

Lantaran itu kajian pembangunan modul ini perlu fleksibel, relevan dan kontekstual untuk mencapai budaya pendidikan sepanjang hayat bagi menbentuk generasi yang memiliki kompetensi, sahsiah, berdaya tahan dan kalis masa. serta berkarakter bangsa Malaysia. Justeru pendekatan bermain permainan yang diterapkan dalam pembangunan modul ini dapat memindahkan konsep penguasaan kemahiran secara aktif melalui pengalaman konkrit. Pengkaji percaya modul yang akan dibangunkan ini boleh memberikan harapan yang lebih baik terhadap pendidikan prasekolah terutamanya kepada pembentukan karakter masyarakat yang berdisiplin dan berdaya saing.

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MENINGKATKAN KEMAHIRAN TAMBAH DAN TOLAK MELIBATKAN PENGUMPULAN SEMULA MENGGUNAKAN KALKULATOR 2 PETATO

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ABSTRAK

Salah satu objektif KSSR Matematik ialah memperluaskan penggunaan kemahiran operasi asas tambah, tolak, darab dan bahagi dalam empat bidang utama. Penguasaan asas operasi matematik dalam pembelajaran Matematik memegang peranan yang sangat penting dalam memperkembangkan kemahiran penyelesaian masalah, berkomunikasi, dan berfikiran secara kritis serta sistematik. Walau bagaimanapun, Matematik sering dianggap sebagai mata pelajaran yang menghalang minat dan pencapaian murid kerana dianggap sukar dan tidak menyeronokkan. Salah satu faktor utama yang mempengaruhi ini adalah tahap penguasaan asas kemahiran operasi tambah dan tolak. Kajian tindakan ini dijalankan bertujuan untuk membantu tujuh orang murid 6 Bijak di SK Keruak yang mengalami kesukaran untuk menambah dan menolak yang melibatkan nombor melebihi bilangan jari mereka dengan menggunakan bahan alternatif Kalkulator 2 PETATO. Selain itu juga, pendekatan ini bermatlamat untuk memperbaiki dan menambah baik amalan PdPc guru dan meningkatkan keupayaan, minat serta pencapaian murid dalam menyelesaikan soalan operasi tambah dan tolak. Dapatan awal yang menunjukkan tujuh orang murid ini tidak dapat menambah dan menolak dengan betul adalah melalui pemerhatian buku latihan semasa PdPc, Ujian Pra dan Ujian Pos serta temubual. Kesukaran untuk menambah dan menolak menggunakan kaedah konvensional yang kurang sesuai menyebabkan murid mengambil masa yang lama untuk menyelesaikan soalan yang berkaitan tambah dan tolak. Perancangan tindakan yang dilakukan ialah melalui penggunaan Kalkulator 2 PETATO bersama dengan tujuh orang murid 6 Bijak. Maklumat daripada pemerhatian, Ujian Pra dan Ujian Pos serta temu bual menunjukkan terdapat peningkatan dari segi minat, sikap dan pencapaian murid selepas diperkenalkan dengan Kakulator 2 PETATO. Kualiti amalan baik pengajaran guru dan pembelajaran murid dalam menyelesaikan masalah tambah dan tolak dapat dilaksanakan dengan mudah dan berkesan serta proses pengajaran dan pembelajaran menjadi lebih bermakna melaui kajian tindakan ini. Kalkulator 2 PETATO merupakan pendekatan pengajaran yang mengintegrasikan permainan berstruktur dan penggunaan teknologi untuk menyampaikan konsep matematik dengan cara yang interaktif dan menyeronokkan.

***Kata Kunci**: Kalkulator 2 PETATO, pengajaran dan pembelajaran, menambah, menolak, bahan bantu mengajar, inovatif*

PENGENALAN

Sekolah Kebangsaan Keruak merupakan sebuah sekolah yang terletak di kawasan luar bandar di negeri Terengganu. Di mana hampir 95% muridnya ialah anak-anak petani dan juga penoreh getah. Situasi ini menyebabkan pendidikan anak-anak mereka bergantung sepenuhnya kepada pihak sekolah. Tahap pencapaian matematik di kalangan muridnya berada di tahap yang rendah berdasarkan kepada analisa keputusan Pentaksiran Bilik Darjah (PBD) Pertengahan Sesi 2024/2025 jika dibandingkan dengan mata

pelajaran teras yang lain iaitu Bahasa Melayu (82.41%), Bahasa Inggeris (70.68%), Matematik (63.19%), Sains (77.85%) dan Sejarah (95.78%). Tambahan pula mata pelajaran matematik seringkali dianggap satu subjek yang sukar (Sugiman et. al 2020). Peranan guru merupakan salah satu langkah untuk mengatasi masalah ini, di mana guru perlu kreatif dalam membangunkan intervensi yang bersesuaian dengan potensi murid mempelajari matematik dalam usaha meningkatkan tahap profesionalisme secara berterusan.

Berdasarkan kepada pemerhatian buku tulis, saya dapati murid saya menyelesaikan soalan tambah dan tolak menggunakan kaedah konvensional. Kaedah konvensioanal tersebut sememangnya sesuai untuk menerangkan konsep asas menambah dan menolak tetapi kurang sesuai apabila digunakan serta diaplikasikan dalam penyelesaian masalah operasi menambah dan menolak yang melibatkan kuantiti yang banyak dan melebihi jari mereka. Selain itu, salah satu faktor mengapa PdPc saya tidak berkesan ialah saya tidak melakukan penambahbaikan mengikut tahap kebolehan dan keupayaan murid di dalam aktiviti PdPc di mana saya hanya fokus untuk mencapai objektif PdPc tanpa menilai semula kaedah pengajaran yang saya gunakan.

Refleksi Pengajaran dan Pembelajaran

Mengimbau kembali aktiviti pengajaran dan pembelajaran bagi topik Nombor dan Operasi dalam Dokumen Standard Kurikulum (DSKP) Matematik Tahun 6 yang telah dijalankan, sering kali mencetuskan kerisauan pengkaji. Kerisauan ini berasaskan bahawa topik ini mempunyai pengaruh yang agak luas dan boleh dikatakan semua topik di tahun enam memerlukan murid cekap untuk menambah dan menolak. Murid bukan sahaja perlu tahu menambah dan menolak sahaja tetapi mereka perlu melaksanakan operasi ini menggunakan nombor sehingga juta dengan cepat dan tepat. Kumpulan sasaran saya mengalami masalah menambah dan menolak jika nombor tersebut melebihi bilangan jari yang mereka sedia ada, di mana ada di kalangan mereka menukar kedudukan nombor di dalam soalan. Konsep menambah dan menolak di kalangan kumpulan sasaran telah dikuasai tetapi ianya menjadi masalah jika soalan tersebut melebihi bilangan jari yang mereka ada ataupun istilah matematiknya pengumpulan semula. Situasi ini menyebabkan pencapaian mata pelajaran Matematik di SK Keruak sangat kritikal di mana lebih teruk jika dibandingkan dengan subjek teras yang lain. Sumber dari analisis Pentaksiran PBD Pertengahan Tahun Sesi 2024/2025.

Kaedah pengajaran guru yang masih berorientasikan kaedah tradisional (Chalk & Talk) ataupun lebih dikenali dengan kaedah konvensional menyebabkan murid kurang berminat untuk belajar Matematik. Mereka seringkali menganggap Matematik adalah sukar untuk difahami. Menurut Dayang Julida Abang Tar (2021), kegagalan guru memilih gaya pembelajaran yang sesuai untuk digunakan di dalam kelas semasa mengajar akan menimbulkan kebosanan seterusnya murid tidak berminat untuk mengikuti PdPc. Faktor minat sangat penting, dimana seseorang individu melakukan sesuatu tanpa dorongan . Sebaliknya jika tidak berminat terhadap sesuatu akan mencetuskan kepada masalah tingkah laku yang akhirnya mengganggu pelajaran mereka. Gardner (1983) ada mengatakan tentang ketidakserasian antara kaedah mengajar dengan profil kecerdasan murid boleh menyebabkan seseorang murid itu gagal atau hilang minat terhadap sesuatu mata pelajaran. Oleh yang demikian, pengkaji berpendapat bahawa kaedah pengajaran guru Matematik perlu ditambah baik dan diperbaiki dari semasa ke semasa mengikut keperluan dan tahap kecerdasan murid agar murid sentiasa berminat untuk belajar kemahiran matematik yang perlu mereka kuasai. Minat terbahagi kepada dua jenis iaitu minat bersandar individu dan minat bersandar situasi. (Alexander, 1997; Alexander et al, 1995; Krapp et al., 1992, Krapp, 1999; Hidi, 1990; Schiefele, 2001; Renninger, 2000). Minat bersandar individu adalah bersifat dalaman yang didorong oleh naluri bagi menyukai sesuatu. Sifat ini sudah sebati dalam diri tanpa mengira masa. Ia merujuk kepada kepuasan dan rasa seronok sama ada kerana pengembangan ilmu pengetahuan, pencapaian diri atau memperolehi pengalaman yang menggembirakan. Manakala bersandar pula situasi pula adalah sifat atau tingkah laku yang di dorong oleh persekitaran. Faktor persekitaran boleh menyebabkan minat yang negatif atau positif. Salah satu faktor persekitaran yang negatif adalah gaya pembelajaran guru yang kurang menarik. (Alhaadi Ismail Norimah Zakaria, 2019; Christina, Rosmiza, Wong Hock Chuo, Rohana, 2019).

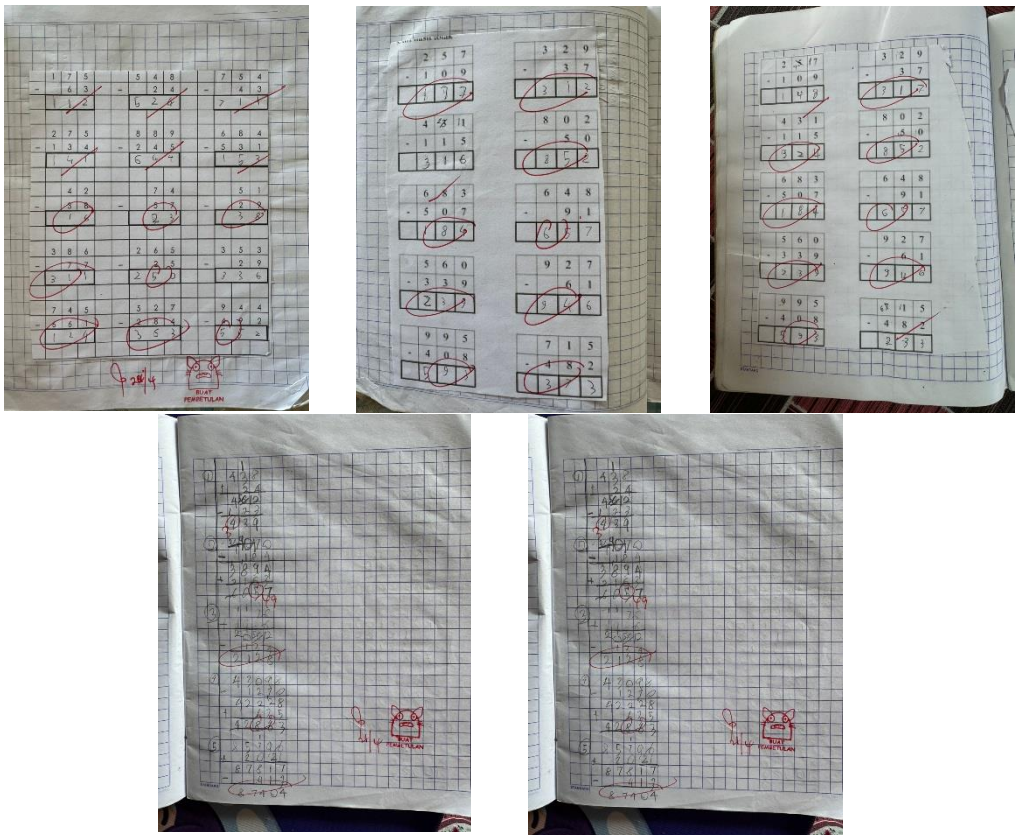
Kaedah cara atau teknik yang kurang sesuai akan menyebabkan murid hilang tumpuan dan menyumbang kepada kecenderungan murid untuk tidak mencapai objektif PdPc. Hasil daripada tinjauan awal inilah, saya mula mencari kaedah lain dengan merancang alternatif yang boleh membantu guru dan murid iaitu dengan mereka satu Bahan Bantu Belajar (BBB) yang berkesan bagi menangani masalah ini. Saya berharap agar BBB ini dapat membantu murid menjawab kesemua soalan tambah dan tolak dengan betul dan pantas dalam tempoh masa yang diberikan. Selain itu juga, diharapkan agar BBB ini dapat membantu saya dalam menjelaskan konsep asas menambah dan menolak dengan lebih berkesan dan cara menambah dan menolak dengan lebih mudah serta tidak membosankan.

Pernyataan Masalah dan Fokus Kajian

Berdasarkan Dokumen Standard Kurikulum Semakan 2017 kemahiran menambah dan menolak dalam lingkungan 100 merupakan salah satu standard kandungan yang terdapat dalam kemahiran operasi dan nombor. Penambahan dan penolakan merupakan satu kemahiran yang perlu dikuasai oleh semua murid bermula dari tahun satu sehinggalah ke peringkat universiti. Kaedah pengajaran guru yang masih berorientasikan kaedah tradisional menyebabkan murid kurang berminat belajar. Sebahagian besar murid akan tertarik untuk belajar jika guru memainkan peranan penting di dalam kelas. Guru amat berperanan meningkatkan minat murid dengan memberikan kaedah tepat dalam melakukan aktiviti pembelajaran di kelas. Guru seharusnya kreatif dan sentiasa mengikuti arus media sosial seperti TikTok, Facebook dan sebagainya dalam memberikan ilmu pada murid. Antara contoh pengajaran tradisional yang sentiasa digunakan oleh guru matematik ialah penggunaan pembilang dilakukan pada peringkat awal, kemudian digantikan dengan pengiraan dengan jari tangan dan mulut. Berdasarkan dua kaedah di atas saya dapati hampir 60% murid tidak dapat menyelesaikan masalah tambah dengan cepat dan betul terutamanya yang melibatkan pengumpulan semula contohnya 13 + 9 dan juga 13 - 9.

Jika keadaan ini dibiarkan berlarutan, pembelajaran matematik bagi murid-murid yang berkenaan akan terjejas kerana operasi penambahan dan penolakan merupakan satu operasi yang perlu dikuasai sebelum murid-murid beralih kepada pembelajaran operasi lain. Operasi penambahan dan penolakan merupakan asas pengiraan dalam pembelajaran matematik atau aktiviti harian mereka. Justeru, saya membuat keputusan untuk mengkaji beberapa orang murid yang gagal itu dengan harapan dapat membantu mereka dan diri saya bagi meningkatkan pencapaian mereka. Kalkulator 2 PETATO diperkenalkan kepada tujuh orang murid Tahun 6 di Sekolah Kebangsaan Keruak untuk mengatasi isu ini supaya minat murid terhadap mata pelajaran matematik dapat dipertingkatkan lagi. Kalkulator 2 PETATO ini berkonsepkan penggunaan Bahan Bantu Mengajar (BBM). Kaedah ini juga lebih berfokus kepada konsep konstruktivisme di mana murid akan membina sendiri soalan. Mereka akan bermain dengan pembaris untuk membina soalan dan mendapat jawapan. Berdasarkan pemerhatian dan latihan bertulis yang dijalankan di dalam kelas, didapati tujuh orang murid tahun enam ini kurang berminat untuk menyelesaikan permasalahan matematik berkaitan dengan penambahan dan penolakan yang melibatkan pengumpulan semula. Rajah 1 dan Rajah 2 menunjukkan tujuh hasil kerja tujuh orang murid yang terlibat dalam kajian ini.

Rajah 1: Pemerhatian suasana di dalam kelas dan hasil kerja murid



Rajah 2: Pemerhatian hasil kerja murid

Jika masalah ini tidak diatasi, saya sebagai guru matematik dan rakan-rakan guru yang lain akan menghadapi kesukaran untuk mengajar topik lain yang lebih kompleks dan murid juga akan menghadapi kesukaran untuk mengikuti pembelajaran bagi topik lain yang memerlukan kemahiran menambah dan menolak. Sekiranya masalah ini berlarutan murid akan menjadi hilang minat untuk mempelajari mata pelajaran matematik.

Fokus Kajian

Kajian ini dijalankan bertujuan untuk menyelidik atau mengkaji sejauh mana penggunaan bahan alternatif Kalkulator 2 PETATO dapat membantu dalam meningkatkan kemahiran menambah dan menolak dengan lebih mudah, berkesan serta menjadikan proses pengajaran dan pembelajaran yang menarik kalangan 7 orang murid Tahun 6 Bijak di Sekolah Kebangsaan Keruak.

Objektif dan Soalan Kajian

Berasaskan fokus kajian, terdapat dua objektif utama untuk meningkatkan penguasaan murid dalam operasi tambah dan tolak menggunakan Kalkulator 2 PETATO iaitu:

1) Mengkaji sejauh mana Kalkulator 2 PETATO dapat meningkatkan kemahiran menambah dan menolak melibatkan pengumpulan semula 7 orang murid 6 Bijak.

2) Mengkaji sama ada Kalkulator 2 PETATO dapat meningkatkan minat 7 orang murid 6 Bijak semasa belajar Matematik terutamanya kemahiran menambah dan menolak melibatkan penumpulan semula.

Berdasarkan objektif kajian yang ditetapkan dua soalan kajian telah diutarakan seperti berikut:

1) Adakah Kalkulator 2 PETATO dapat meningkatkan kemahiran menambah dan menolak melibatkan pengumpulan semula 7 orang murid 6 Bijak?

2) Adakah Kalkulator 2 PETATO dapat meningkatkan minat 7 orang murid 6 Bijak semasa belajar Matematik khususnya kemahiran menambah dan menolak melibatkan pengumpulan semula?

METODOLOGI

Kajian ini adalah kajian tindakan yang mengikuti langkah yang sistematik iaitu: pemerhatian (mengenalpasti isu), refleksi, perancangan, tindakan, pemerhatian semula dan refleksi semula. Kajian ini melibatkan urutan langkah berikut:

a) Mengenalpasti isu ataupun tinjauan masalah
   Bagi mengenal pasti masalah ini, saya telah melakukan beberapa Langkah pemerhatian seperti berikut:
   i. Menganalisis markah Ujian Pra - Data awal
   ii. Temu bual dengan murid-murid
   Saya telah menemu bual semua murid dari kelas yang diajar oleh saya mengenai operasi tambah dan tolak. Didapati tujuh orang murid ini memberitahu bahawa mereka tidak dapat menambah ataupun menolak yang melibatkan nombor yang melebihi tangan yang mereka ada walaupun telah menukar menolak ayat matematik kepada bentuk lazim.
   iii. Memerhati jawapan latihan dalam buku latihan murid
   Semua buku latihan murid telah dikumpulkan dan cara mereka menjawab soalan yang melibatkan gabungan operasi tambah dan tolak telah diperhatikan. Didapati, mereka menulis langkah pengiraan yang betul tetapi operasi tambah dan tolak yang dilakukan tidak betul terutamanya yang melibatkan proses mengumpul semula.
   iv. Data awal melalui Ujian Pra yang melibatkan operasi tambah dan tolak. Mengumpul data awal untuk mengenalpasti tahap penguasaan murid saya mengenai operasi tambah dan tolak. Soalan yang diberikan melibatkan operasi tambah dan tolak. Data awal yang diberikan ini, dinamakan sebagai Ujian Pra.

b) Membuat pemerhatian (I)
   Setelah mengenal pasti permasalahan ini, saya telah merekodkan pemerhatian tinjauan masalah seperti berikut:

   i. Analisis Ujian Pra tujuh orang murid 6 Bijak- Data Awal

Jadual 1: Data Awal Sebelum Pelaksanaan

Bil	Nama Murid	Markah
		Ujian Pra
1	Murid 1	0%
2	Murid 2	0%
3	Murid 3	0%
4	Murid 4	0%
5	Murid 5	7%
6	Murid 6	53%
7	Murid 7	67%

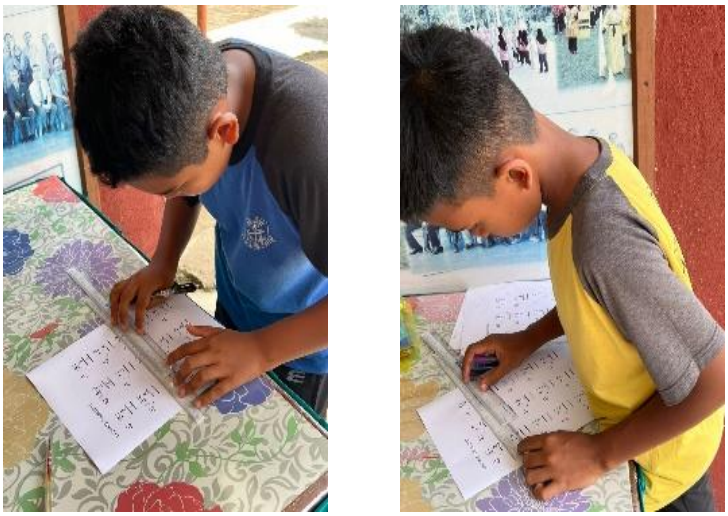
Berdasarkan kepada analisis yang telah lakukan (Berdasarkan Jadual 1 di atas) didapati 4 daripada tujuh orang murid yang terlibat dalam kajian ini mendapat markah 0. Situasi ini telah membuktikan bahawa murid-murid ini memerlukan bantuan untuk menguasai kemahiran menambah dan menolak dengan baik.

c) Refleksi berdasarkan inkuiri kendiri (I)
Maklumat yang diperolehi ini jelas menunjukkan murid yang dipilih menyertai Kajian Tindakan ini amat tidak mampu untuk menjawab soalan yang diberikan walaupun soalan yang diberikan adalah dari tahap kesukaran yang mudah dan sederhana. Kelemahan murid ini tidak boleh dibiarkan dan perlu diberikan pemulihan yang sewajarnya.

d) Membuat perancangan
   i. Intervensi: Menggunakan Kalkulator 2 PETATO
   ii. Indikator /petunjuk kejayaan intervensi:
      - Penilaian prestasi melalui kerja rumah dan ujian topikal.
      - Kurang kesilapan dan markah ujian sekurang-kurangnya 40% dan lulus

e) Melaksanakan Tindakan
Sebelum tindakan intervensi dilaksanakan, guru telah menerangkan kepada semua murid yang terlibat tentang aktiviti-aktiviti yang akan dijalankan sepanjang tempoh kajian ini akan diadakan. Guru menerangkan kembali konsep menambah dan menolak. Berdasarkan kepada tinjauan masalah dan analisis, tindakan berikut telah dirancang dan dilaksanakan.
Aktiviti 1 : Murid diberikan 2 Pembaris 30 cm
Aktiviti 2 : Murid bina soalan melalui kaedah *Play and Learn*
Aktiviti 3 : Murid jawab soalan Ujian Pos dengan menggunakan Kalkulator 2 PETATO





Rajah 4: Pelaksanaan Intervensi

2 - bermaksud dua pembaris yang sama saiz

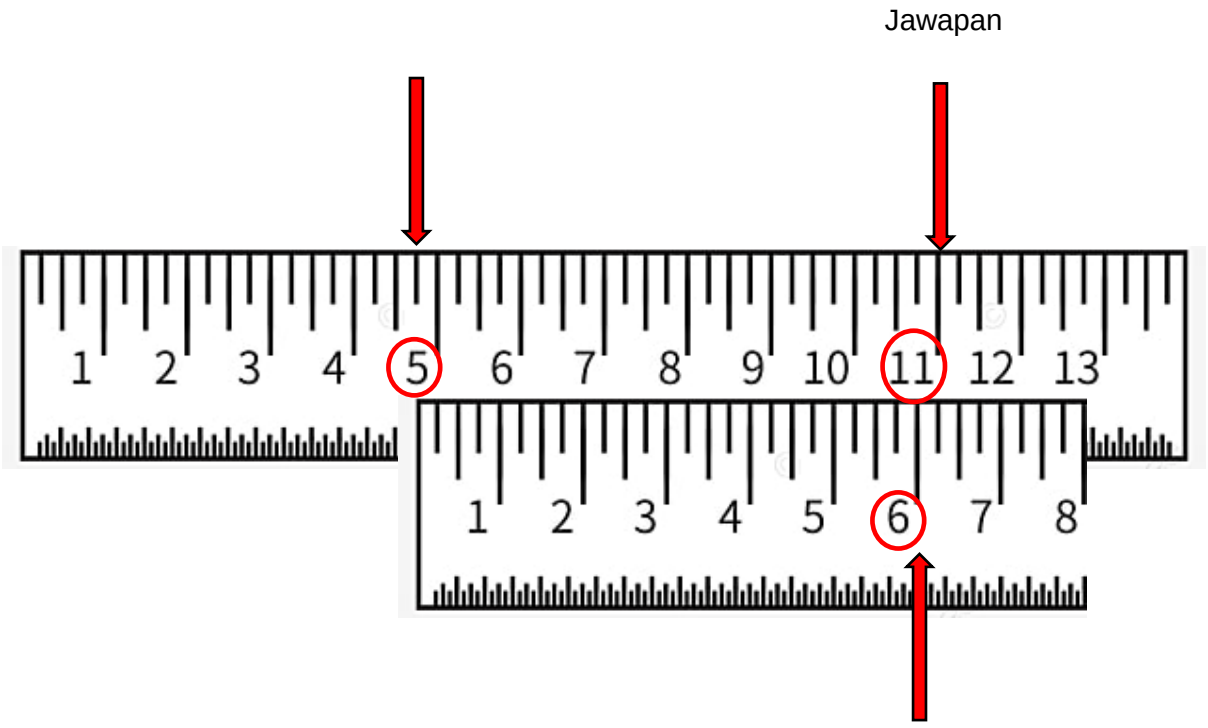
PE - Pembaris

TA - Tambah

TO - Tolak

Contohnya:

1) 5 + 6 = 11

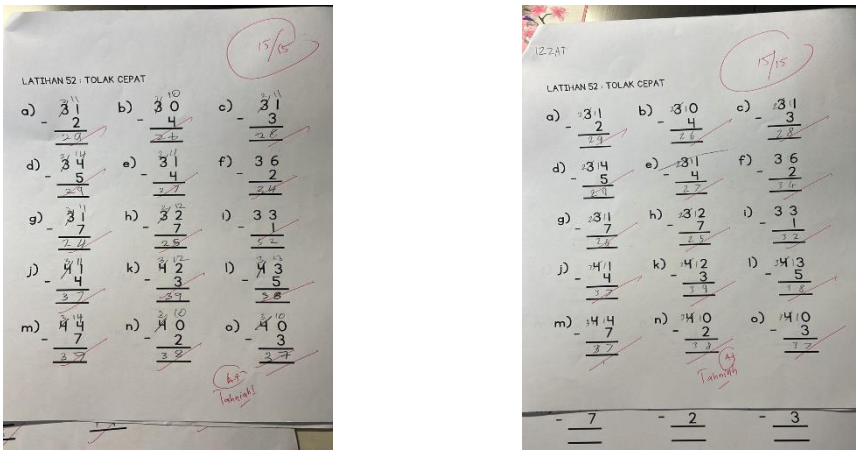


Rajah 5: Produk 2 PETATO

Rajah 6: Produk Kalkulator 2 PETATO dan penggunaannya

f) Membuat pemerhatian semula (II)

Berdasarkan pemerhatian, didapati murid menjadi lebih berminat untuk menyelesaikan permasalahan penambahan dan penolakan menggunakan kaedah 2 PETATO. Soalan yang diberikan dapat diselesaikan dengan begitu mudah dan cepat walaupuan soalan melibatkan nombor yang lebih besar. Murid bertambah yakin untuk menyelesaikan permasalahan penambahan dan penolakan yang melibatkan kepelbagaian nombor. Contohnya seperti gambar di bawah.



Rajah 7: Pelaksanaan Intervensi dan hasil selepas intervensi

g) Membuat refleksi semula (II)

Didapati aktiviti ini mampu menarik minat murid supaya mencuba untuk menjawab soalan dengan tepat. Ini juga dapat membantu mereka menghilangkan rasa bosan semasa belajar kerana mereka perlu bersaing sesama sendiri untuk berjaya dan juga menggunakan bahan bantu belajar untuk menyelesaikan masalah penambahan dan penolakan. Kalkulator 2 PETATO ini sendiri berkonsepkan kepada *Play and Learn* di mana murid boleh mencipta sendiri pelbagai bentuk soalan. Saya mendapati murid amat gembira melakukan latihan melalui kaedah ini dan mereka sudah bersedia untuk melakukan aktiviti yang disediakan. Setiap soalan yang dikemukan diselesaikan dengan betul, cepat dan tepat. Produk ataupun Kalkulator 2 PETATO digunakan untuk menyelesaikan permasalahan yang dihadapi oleh tujuh orang murid Tahun 6 Bijak Sekolah Kebangsaan Keruak berkaitan dengan kemahiran menambah dan menolak.

Peserta Kajian

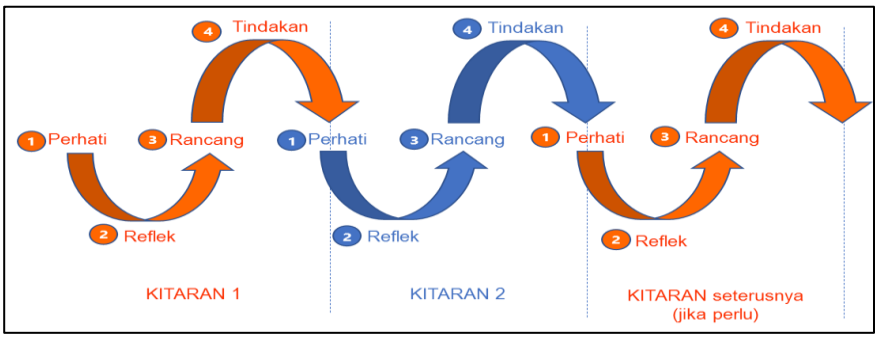
Tujuh orang murid 6 Bijak yang tidak berminat untuk melaksanakan proses penambahan dan penolakan yang melibatkan pengumpulan semula. Murid ini dipilih berdasarkan hasil dapatan data awal iaitu Ujian Pra di mana murid ini memperoleh kurang daripada 70% telah dijadikan peserta kajian Tindakan pengkaji.

Instrumen/Strategi Penilaian

Antara instrumen yang digunakan untuk mendapat maklumat sebelum dan selepas menjalankan kajian tindakan ini ialah melalui analisis data berbentuk dokumen. Kaedah pengumpulan data dilakukan daripada pemerhatian hasil kerja murid selepas proses pengajaran dan pembelajaran, Ujian Pra sebanyak sepuluh soalan diberikan kepada kumpulan sasaran sebelum menggunakan Kalkulator 2 PETATO. Selepas menjalankan proses pengajaran dan pembelajaran menggunakan Kalkulator 2 PETATO kumpulan sasaran diberikan Ujian yang sama ataupun lebih dikenali sebagai Ujian Pos. Data dikumpul dan dibuat analisis untuk menentukan peningkatan pencapaian murid sebelum dan selepas menggunakan Kalkulator 2 PETATO. Selaian pemerhatian, Ujian Pos dan Ujian Pra, kumpulan sasaran juga ditemubual ataupun dikenali sebagai Ujian Minat menggunakan beberapa soalan yang menjurus kepada minat murid terhadap Kalkulator 2 PETATO dan seterusnya meningkatkan pencapaian mereka dalam menyelesaikan permasalahan untuk menambah dan menolak yang melibatkan pengumpulan semula. Saya menggunakan instrumen ujian minat berbentuk temubual untuk mendapatkan maklumat kerana peserta kajian saya tidak boleh membaca atau mempunyai kecerdasan yang sangat terhad.

Pelaksanaan Tindakan

Kajian ini merupakan kajian tindakan. Reka bentuk kajian tindakan ini dilaksana berdasarkan model Kemmis dan McTaggart (1988). Kemmis dan Mc Taggart (1988) mengutarakan empat langkah dalam setiap kitaran kajian yang melibatkan merefleksi, merancang, bertindak, dan memerhati. Menurut model ini, kajian tindakan bergerak dalam satu kitaran yang berterusan melibatkan empat peringkat seperti dalam Rajah 3. Ia merupakan proses kajian tindakan yang mana sesuatu kajian / masalah yang dikaji memerlukan tindakan susulan. Proses kajian tindakan ini bertitik tolak daripada proses refleksi yang dilakukan oleh pengkaji terlibat. Melalui model Kemmis dan McTaggart ini, tinjauan awal dibuat setelah timbul masalah pembelajaran di dalam bilik darjah. Seterusnya penyelidik mengenal pasti masalah yang menjadi punca kelemahan dan masalah pelajar. Setelah itu, perancangan dibuat dan tindakan dijalankan dengan memberi intervensi kepada masalah yang timbul dan melaksanakan perancangan tersebut. Pemerhatian untuk melihat perkembangan yang wujud dan penambahbaikan dibuat untuk menilai kembali serta membuat refleksi untuk melihat adakah intervensi yang dibuat dapat mengatasi kelemahan/masalah yang ada (Kemmis & McTaggart, 1988).



Rajah 3: Model Kajian Tindakan (adaptasi Kemmis & McTaggart 1988)

DAPATAN KAJIAN

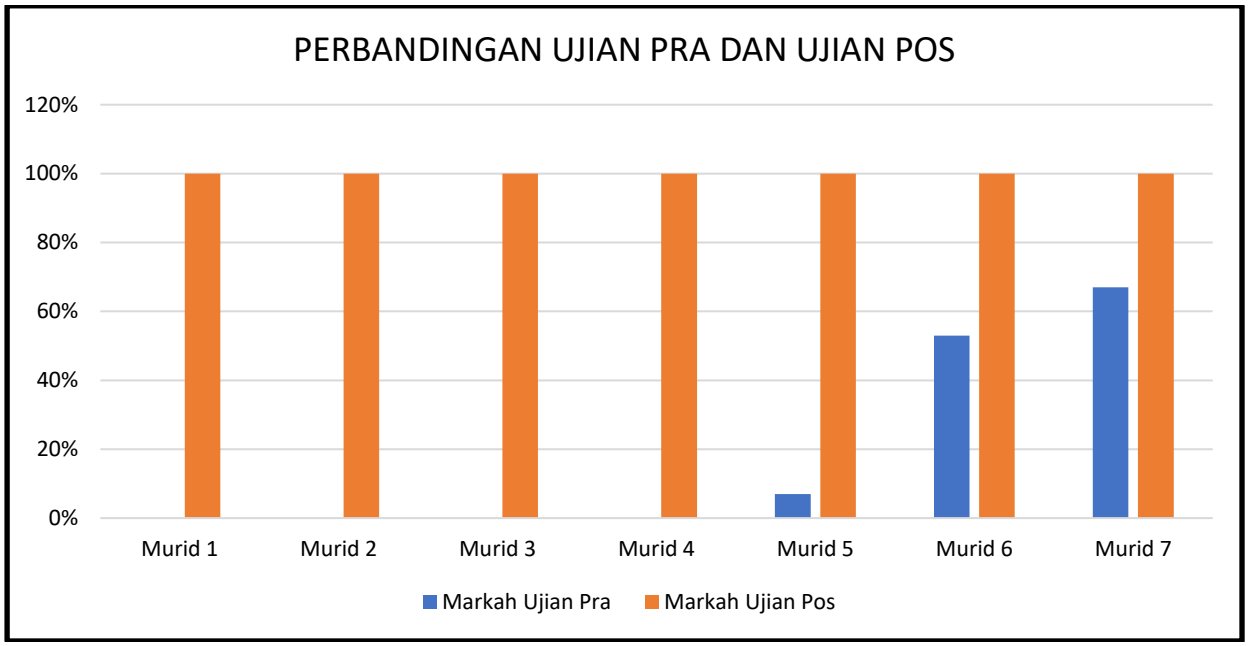
Soalan 1: Adakah Kalkulator 2 PETATO dapat meningkatkan kemahiran menambah dan menolak melibatkan pengumpulan semula tujuh orang murid 6 Bijak?

Pencapaian murid dianalisis berdasarkan kepada rekod Ujian Pra, Ujian Pos dan juga transkrip temubual atau lebih dikenali sebagai Ujian Minat yang dilaksanakan kepada tujuh orang murid kumpulan sasaran. Hasil utama yang saya perolehi ialah skor markah murid telah meningkat secara signifikan selepas intervensi menggunakan Kalkulator 2 PETATO. Mereka telah menunjukkan peningkatan prestasi yang cemerlang dalam menjawab soalan Ujian Pos yang diberikan. Jadual 1 dan Carta 1 di bawah menunjukkan perbandingan keputusan di antara Ujian Pra dan Ujian Pos yang telah dilaksana kepada kumpulan sasaran.

Jadual 1: Ujian Pos dan Ujian Pra

Bil	Nama Murid	Markah	
		Ujian Pra	Ujian Pos
1	Murid 1	0%	100%
2	Murid 2	0%	100%
3	Murid 3	0%	100%
4	Murid 4	0%	100%
5	Murid 5	7%	100%

6	Murid 6	53%	100%
7	Murid 7	67%	100%



Carta 1: Perbandingan Ujian Pra dan Ujian Pos

Soalan 2: Adakah Kalkulator 2 PETATO dapat meningkatkan minat 7 orang murid 6 Bijak semasa belajar Matematik khususnya kemahiran menambah dan menolak melibatkan pengumpulan semula?

Berdasarkan kepada persoalan kajian di atas, terdapat beberapa peningkatkan di kalangan kumpulan sasaran berdasarkan kepada pemerhatian dan juga ujian minat menggunakan kaedah temu bual.Selain aspek peningkatan dalam pencapaian kumpulan sasaran, mereka juga menunjukkan perubahan yang amat ketara dalam aspek minat untuk belajar Matematik. Kumpulan sasaran tidak lagi mengantuk semasa proses pengajaran dan pembelajaran Matematik. Peratus kehadiran juga semakin meningkat kerana mereka tidak lagi takut dan malas untuk ke sekolah kerana disebabkan dapat menyelesaikan latihan Matematik yang diberikan selepas proses pengajaran dan pembelajaran. Kumpulan sasaran juga menunjukkan perubahan yang ketara dalam aspek masa yang diambil untuk menyelesaikan soalan tambah dan tolak walaupun nombor yang diberikan lebih besar dan susah. Dengan adanya Kalkulator 2 PETATO kumpulan sasaran dapat menyelesaikan soalan tambah dan tolak dengan cepat dan tepat bukan sahaja melibatkan topik nombor malahan semua topik termasulah masa dan waktu, wang dan sebagainya. Ibu bapa kumpulan sasaran juga melahirkan rasa bersyukur kerana mereka boleh membantu anak-anak mereka untuk menyelasaikan latihan Matematik tidak kira di mana mereka berada. Tanpa menggunakan pembaris, kumpulan sasaran menggunakan sistem yang dibangunkan di dalam telefon pintar membolehkan mereka menyelesaikan permasalahan tambah dan tolak. Situasi ini menyebabkan kumpulan sasaran menjadi lagi berminat untuk untuk menyelasaikan masalah tambah dan tolak dengan cepat, mudah dan menarik. Setelah hampir sebulan mengguanakan Kalkulator 2 PETATO ini, kumpulan sasaran boleh menyelesaiakan masalah tambah dan tolak tanpa menggunakan Kalkulator ataupun perisisan yang telah dibangunkan kerana mereka boleh membayangkan kedudukan dan

pergerakkan bahan tersebut di dalam minda mereka sendiri. Pembelajaran mereka menjadi lebih bermakna menyebabkan mereka semakin berminat untuk mempelajari Matematik.

Hasil temu bual tidak berstuktur yang dijalankan kepada kumpulan sasaran, menunjukkan bahawa mereka berasa lebih yakin dan bersemangat kerana mereka tidak perlu melukis lidi ataupun bulatan untuk menyelesaikan tambah dan tolak. Melalui temu bual tidak berstuktur yang dijalankan ke atas kumpulan sasaran ini, menujukkan kumpulan sasaran kini lebih memahami konsep tambah dan tolak sehingga ada di kalangan mereka mampu meyatakan konsep tersebut dengan menggunakan ayat sendiri, berbeza dengan sebelum ini di mana mereka hanya mengulang ayat yang diajar oleh guru tanpa memahami maksudnya. Segala perubahan ini amat memberangsangkan dan membuktikan keberkesanan intervensi yang telah dijalankan. Saya berasa amat bersyukur dan semakin bersemangat untuk terus memberikan bimbingan yang terbaik bukan sahaja kepada kumpulan sasaran saya malahan semua murid di SK Keruak dan membolehkan pencapaian murid SK Keruak dalam mata pelajaran Matematik semasa Ujian Akhir Sesi Akademik 2024/2025 dapat ditingkatkan kepada 85%.

Cikgu	: Apa perasaan kamu setelah dapat menyiapkan latih tubi yang cikgu bagi tadi?
Murid 1	: Gembira sangat-sangat cikgu. Tak sampai sepuluh minat saya dah siap cikgu.
Murid 2	: Seronok cikgu, sekarang saya dah tak guna jari dah untuk menambah dan menolak. Macam kalkulator la cikgu 2 PETATO ni. Macam mana cikgu boleh terpikir nak buat Kalkulator 2 PETATO ni ye?
Murid 3	: Senang cikgu Kalkulator 2 PETATO. Saya suka sangat guna benda ni sebab saya tak perlu Lukis lidi untuk menambah dan menolak melibatkan pengumpulan semula. Buku saya pun dah jadi kemas dah.
Cikgu	: Kaedah mana yang kamu lebih suka kalau buat latih tubi menambah dan menolak? Lukis gambar lidi ke Kalkulator 2 PETATO?
Murid 1, 2 dan 3	: Kalkulator 2 PETATO.
Murid 2	: Cikgu bagi soalan banyak lagi, saya nak balik tunjuk kat ibu saya.
Murid 1	: Kalau saya tak nak guna pembaris kat rumah tapi saya nak guna aplikasi yang cikgu bagi kat telefon boleh kan, lagi laju saya boleh selesaikan tambah dan tolak. Aplikasi tu sangat menarik cikgu.
Cikgu	: Ya Murid 1, boleh guna aplikasi itu mengikut keselesaan kamu. Kamu boleh main Teka teki dengan adik kamu di dalam kereta menggunakan aplikasi Kalkulator 2 PETATO.

Rajah 8 : Transkrip Temu Bual Bersama Murid Selepas Intervensi Dijalankan

PERBINCANGAN

Rumusan dan perbincangan mengenai dapatan kajian adalah berdasarkan kepada dua objektif kajian yang telah saya jalankan.

Soalan 1: Adakah Kalkulator 2 PETATO dapat meningkatkan kemahiran menambah dan menolak melibatkan pengumpulan semula tujuh orang murid 6 Bijak?

Setelah saya menjalankan kajian ini kepada tujuh orang murid saya, saya dapati Kalkulator 2 PETATO banyak membantu mereka dalam menyelesaikan masalah menambah dan menolak terutamanya yang melibatkan pengumpulan semula. Kalkulator 2 PETATO merupakan satu idea yang dibina berdasarkan kepada konsep kalkulator yang merupakan salah satu alat yang menggunakan bahan maujud ataupun nyata yang boleh dipegang dan dilihat oleh murid itu sendiri. Perkara ini adalah selari dengan satu kajian yang telah dijalankan oleh Skarky (2020) di mana kajian itu menyatakan bahawa pembelajaran matematik yang berkesan boleh berlaku dengan menggunakan bahan yang nyata.

Kalkulator 2 PETATO yang saya hasilkan ini adalah bertujuan untuk meningkatkan lagi keberkesanan kaedah pengajaran dan pembelajaran matematik dalam menyelesaikan permasalahan menambah dan menolak terutamanya yang melibatkan proses pengumpulan semula. Dengan menggunakan kaedah ini murid hanya menggunakan alat yang nyata untuk mendapatkan jawapan. Murid tidak lagi perlu mengguna jari ataupun melukis lidi untuk mendapatkan jawapan. Masa yang diperlukan oleh murid untuk menyelesaikan permasalahan menambah dan menolak dapat dikurangkan di mana murid dapat menjawab dengan cepat dan pantas, terdapat 3 daripada 7 orang murid ini dapat menjawab 15 soalan yang diberikan dalam masa 7 minit dan semua jawapan yang dikemukan adalah betul. Selain masa, saya dapati juga sikap murid ini terhadap matematik pada peringkat awal telah berubah berbanding sebelumnya. Contoh respon yang saya peroleh adalah "Cikgu tambah la soalan lagi, saya nak jawab lagi". Ini menunjukkan mereka sudah mahir dan berkeyakinan untuk menambah dan menolak nombor yang lebih besar dan lebih sukar. Berdasarkan dapatan kajian yang telah saya jalankan ini juga, murid saya boleh membina sendiri soalan berdasarkan kepada pembaris yang mereka gunakan.

Murid ini bukan sahaja boleh mencari jawapan menggunakan Kalkulator 2 PETATO malahan juga boleh membina pelbagai ayat matematik bersama-sama dengan jawapan. Pengajaran dan pembelajaran matematik akan menjadi lebih bermakna kepada murid sekiranya mereka boleh membina sendiri idea matematik mereka berdasarkan kepada konsep yang betul. Perkara ini selari dengan kajian Zakaria (2015) di mana pendekatan konstruktivisme dapat meransang minda dan membantu murid memperoleh serta menguasai pengetahuan melalui pembelajaran kendiri.

Aktiviti yang saya jalankan sepanjang kajian ini adalah berdasarkan kepada prinsip ansur maju di mana dari asas yang mudah kepada yang lebih sukar. Penilaian yang saya gunakan untuk menguji keberkesanan Kaedah 2 PETATO ini ialah melalui Ujian Pra iaitu untuk dapatkan data awal sebelum melaksanakan proses intervensi dan data akhir selepas melaksanakan intervensi.

Soalan 2: Adakah Kalkulator 2 PETATO dapat meningkatkan minat 7 orang murid 6 Bijak semasa belajar Matematik khususnya kemahiran menambah dan menolak melibatkan pengumpulan semula?

Setelah menjalankan kajian ini saya dapati penggunaan Kalkulator 2 PETATO membolehkan murid menguasai kemahiran menambah dan menolak yang melibatkan pengumpulan semula dengan membina sendiri pelbagai soalan menggunakan alatan tersebut. Berdasarkan beberapa kajian lepas, murid akan menjadi lebih berminat untuk menjalankan sesuatu aktiviti terutamanya proses pembelajaran sekiranya menggunakan bahan maujud ataupun nyata serta aktiviti yang berkonsepkan *Play and Learn*. Proses pembelajaran murid ini akan menjadi lebih bermakna terutamanya melibatkan murid di sekolah rendah. Perkara ini selari dengan satu kajian yang telah dijalankan oleh (Ririn et.al 2018) di mana penggunaan bahan bantu mengajar akan merangsang pemikiran dan menambah baik persekitaran pembelajaran dalam bilik darjah di mana penggunakan bahan tersebut akan menggantikan persekitaran bilik darjah yang monotonus. Dalam situasi sedemikian, murid akan dilatih untuk mengembangkan dan meningkatkan kefahaman kendiri dalam bidang yang dipelajari dan mereka akan lebih berjaya dalam persekitaran pembelajaran yang menyeronokkan.

Kalkulator 2 PETATO yang saya hasilkan ini bertujuan membantu menarik minat murid terhadap matematik dan seterusnya meningkatkan kemahiran menambah dan menolak. Situasi ini boleh menghasilkan suasana yang menyeronokkan dan menghilangkan rasa bosan murid terhadap teknik latihan ulangan yang dijalankan oleh guru-guru untuk murid menguasai kemahiran ataupun konsep matematik yang penting. Sekiranya situasi bilik darjah sedemikian diwujudkan, pembelajaran adalah lebih menyeronokkan (Ririn et. Al. 2018) seterusnya akan meningkatkan kefahaman dalam bidang yang dipelajari.

Aktiviti yang dijalankan melalui Kalkulator 2 PETATO ini juga dapat meningkatkan motivasi dan keyakinan diri murid apabila mereka sendiri yang membina dan menyelesaikan masalah matematik secara individu atau berkumpulan yang lebih menyeronokkan serta mencabar. Dapatan hasil kajian saya ini adalah selari dengan kajian (Adamson & Lewis, 2017) di mana kajiannya menyatakan penggunaan alat bantu mengajar menyebabkan murid terlibat secara aktif semasa pembelajaran berlangsung.

Tujuh orang murid ini memerlukan sesuatu bahan bantu mengajar yang dapat menarik minat mereka untuk mempelajari matematik yang sebelum ini dianggap sukar untuk menguasainya. Setelah melaksanakan kajian ini saya dapati masalah kehadiran murid ke sekolah dapat dipertingkatkan lagi. Mereka juga tidak menunjukkan rasa bosan ataupun mengantuk semasa proses pengajaran dan pembelajaran matematik dijalankan malahan mereka juga terlibat secara aktif semasa proses pdp dijalankan. Semasa tempoh kajian dijalankan, murid ini menunjukkan minat menggunakan Kalkulator 2 PETATO, di mana mereka menganggap pembaris yang digunakan itu adalah kalkulator mereka. Mereka juga kelihatan teruja untuk membina dan menyelesaikan permasalahan matematik dengan menggunakan nombor yang lebih besar dan lebih mencabar. Saya juga banyak menggunakan peneguhan positif seperti pujian, kata-kata galakan dan ganjaran bagi membantu murid ini meningkatkan keyakinan untuk menyempurnakan tugasan yang diberikan. Kumpulan sasaran ini menjadi lebih fokus dalam menyelesaikan tugasan yang diberikan sehingga ada di kalangan mereka mengatakan tidak cukup sebenarnya satu jam untuk belajar matematik. Berdasarkan Ujian Minat yang berbentuk temu bual yang telah pengkaji jalankan , murid menunjukkan minat yang sangat mendalam untuk menambah dan menolak melibatkan pengumpulan semuala menggunakan 2 PETATO.

Berdasarkan Ujian Minat itu, saya dapati murid ini sangat berminat menggunakan Kalkulator 2 PETATO dalam menambah dan menolak sebarang nombor bulat. Antara maklum balas yang saya perolehi daripada kajian ini ialah murid-murid ini sangat berminat dalam menjalankan proses pembelajaran matematik menggunakan Kalkulator 2 PETATO kerana keadah ini boleh menyelesaikan permasalahan matematik yang melibatkan penambahan dan penolakan dengan cepat dan mudah tanpa melibatkan pengiraan walaupun nombor tersebut adalah nombor yang besar nilainya. Murid juga berminat menggunakan Kalkulator 2 PETATO kerana ianya lebih kepada konsep bermain sambil belajar. Menurut kajian Dewey (1991), pengalaman murid mencari sendiri idea mereka untuk menyelesaikan masalah yang diberi melalui kaedah bermain akan menjadi proses pembelajaran yang lebih bermakna. Oleh itu, kajian saya ini sangat menepati saranan kerajaan mahukan pembelajaran berfokuskan murid dan guru adalah pembimbing. Kerajaan banyak memperkenalkan konsep pembelajaran berpusatkan murid antaranya I-Think, KBAT dan juga pembelajaran abad ke 21. Kesemua konsep pembelajaran ini bermula dengan murid manakala guru hanyalah sebagai pembimbing. Oleh itu, Kalkulator 2 PETATO merupakan satu kaedah yang menepati saranan kerajaan. Saya sangat mengharapkan Kalkulator 2 PETATO ini diguna pakai oleh semua guru matematik khasnya di daerah Besut dan seterusnya di Malaysia.

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Cabaran utama dalam melaksanakan pengajaran dan pembelajaran secara bermain adalah ketidakmampuan guru mengawal kelas dan kurang melaksanakannya di sekolah. Penghasilan bahanpengajaran dan pembelajaran seperti 2 PETATO ini amatlah baik dan perlu mengambil kira pelbagai aspek seperti keperluan dan keinginan kanak-kanak untuk terus belajar. Oleh itu, pembangunan 2 PETATO pada peringkat sekolah rendah perlu relevan, mencabar, dan memotivasikan pelajar untuk terus belajar. Kajian ini membuktikan bahawa aktiviti pembelajaran melalui bermain yang diterapkan dalam 2 PETATO berupaya memberikan murid pengalaman pembelajaran matematik yang bermakna. Kajian ini juga membuktikan pembinaan konsep matematik tidak dilihat sebagai sesuatu yang perlu dipindahkan secara pasif, malah perlu dibina sendiri oleh pelajar secara aktif melalui pengalaman konkrit. Secara amnya, kajian ini berjaya menyelesaikan masalah pembelajaran pelajar dari aspek pecahan khususnya dalam operasi penambahan dan penolakan.

Berdasarkan dapatan kajian yang telah saya jalankan ini, saya dapati bahawa pembelajaran matematik akan menjadi lebih bermakna sekiranya kita sebagai guru berjaya menarik minat dan keyakinan mereka mempelajari matematik dalam suasana yang menyeronokkan. Guru perlu lebih kreatif untuk meningkatkan minat murid dengan memberikan kaedah tepat dalam melakukan aktiviti pembelajaran di kelas dan tidak menggunakan semata mata kaedah *chalk and talk*. Guru seharusnya kreatif dan sentiasa mengikuti arus media sosial seperti TikTok, Facebook, dan sebagainya dalam memberikan ilmu pada murid. Saya akan mencari pelbagai bahan dari pelbagai sumber untuk meningkatkan tahap profesionalisme saya bagi mewujudkan suasana pembelajaran yang menyeronokkan seterusnya meningkatkan kemahiran murid saya dalam mata pelajaran matematik.

Melalui pembelajaran berasaskan Kalkulator 2 PETATO ini diharap kesilapan yang sering dilakukan oleh murid semasa menyelesaikan operasi penambahan dan penolakan nombor bulat juga dapat dikurangkan. Interaksi dengan rakan semasa bermain bukan sahaja meningkatkan penguasaan Bahasa Melayu dan matematik, tetapi juga kemahiran berfikir secara kritis dan kemahiran kepimpinan pelajar. Perkara ini mungkin dapat dibuktikan melalui kajian lanjutan berbentuk eksperimen pada masa akan datang. Melalui aktiviti 2 PETATO yang dirancang, murid membina bahasa dan pemahaman matematik secara emergent tanpa bimbingan guru sepenuhnya. 2 PETATO diharapkan memberi implikasi yang positif ke atas misi dan aspirasi pendidikan negara kelak.

Saya percaya dengan adanya penerapan pelbagai kaedah intervensi mampu menarik minat murid tidak kira untuk apa mata pelajaran sekalipun. Pengalaman kali ini akan membantu saya dalam meminimumkan lagi kelemahan yang wujud semasa kajian akan datang untuk sampel yang lebih besar. Berdasarkan dapatan kajian yang telah saya jalankan ini, saya bercadang ingin berkongsi Kaedah 2 PETATO ini bersama rakan-rakan guru matematik di sekolah saya, di sekolah berhampiran serta rakan-rakan di media sosial. Kajian saya ini juga akan ditambahbaik dengan menggunakan sistem komputer bagi memudahkan ibu bapa atau penjaga membantu anak-anak mereka menyelesaikan permasalahan menambah dan menolak di rumah. Sistem komputer yang digunakan juga lebih berfokus kepada konsep bermain sambil belajar.

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LAMPIRAN

Ujian Pra dan Ujian Pos Selepas melakukan Intervensi menggunakan Kaedah 2 PETATO.

Bil	Nama Murid	Markah	
		Ujian Pra	Ujian Pos
1	AMMAD HADIF DANIAL BIN HASRUL IZANI	0%	100%
2	ALYA SYAZWANI BINTI MOHD NOOR	0%	100%
3	AMMAD SHAH NASHRAN BIN MOHD SHAH NIZAM	0%	100%
4	AMAD IZZAT BIN MAT JANI	0%	100%
5	AMMAD SUFYAN BIN RAMLI	7%	100%
6	AMAD ZUL IRFAN BIN ZULKIFLI	53%	100%
7	AMAD FIRDAUS BIN NIK MOHAMAD KHAIRUL	67%	100%

Cikgu	: Apa perasaan kamu setelah dapat menyiapkan latih tubi yang cikgu bagi tadi?
Murid 1	: Gembira sangat-sangat cikgu. Tak sampai sepuluh minat saya dah siap cikgu.
Murid 2	: Seronok cikgu, sekarang saya dah tak guna jari dah untuk menambah dan menolak. Macam kalkulator la cikgu 2 PETATO ni. Macam mana cikgu boleh terpikir nak buat Kalkulator 2 PETATO ni ye?
Murid 3	: Senang cikgu Kalkulator 2 PETATO. Saya suka sangat guna benda ni sebab saya tak perlu Lukis lidi untuk menambah dan menolak melibatkan pengumpulan semula. Buku saya pun dah jadi kemas dah.
Cikgu	: Kaedah mana yang kamu lebih suka kalau buat latih tubi menambah dan menolak? Lukis gambar lidi ke Kalkulator 2 PETATO?
Murid 1, 2 dan 3	: Kalkulator 2 PETATO.
Murid 2	: Cikgu bagi soalan banyak lagi, saya nak balik tunjuk kat ibu saya.
Murid 1	: Kalau saya tak nak guna pembaris kat rumah tapi saya nak guna aplikasi yang cikgu bagi kat telefon boleh kan, lagi laju saya boleh selesaikan tambah dan tolak. Aplikasi tu sangat menarik cikgu.
Cikgu	: Ya Murid 1, boleh guna aplikasi itu mengikut keselesaan kamu. Kamu boleh main Teka teki dengan adik kamu di dalam kereta menggunakan aplikasi Kalkulator 2 PETATO.

Transkrip Temu Bual Bersama Murid Selepas Intervensi Dijalankan

A FEASIBILITY STUDY OF THE DIGITAL GALLERY WALK FLIPPED CLASSROOM FOR STUDENT ENGAGEMENT AMONG DIPLOMA STUDENTS

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ABSTRACT

This paper aims to implement a feasibility study of the Digital Gallery Walk Flipped Classroom (Digital GWFC) for student engagement (SE) among diploma students. The Digital Gallery Walk is a presentation method in which students present their digital works. In the Flipped Classroom, students view online lecture videos or notes before class time, complete their work during class time and attend class discussions. The study utilized a quantitative research methodology to evaluate student engagement in the combination of teaching and learning strategies called the Digital Gallery Walk Flipped Classroom. The sample involved were 25 Animation and 26 TESL diploma students of Kolej Poly-Tech MARA Ipoh. The data was obtained via survey methodology and subjected to an analysis procedure utilizing various statistical techniques including descriptive statistics, Pearson's correlation coefficient, independent t-tests and multiple regression analysis. It is found that the implementation of Digital GWFC has a positive impact on student engagement among diploma students mostly in cognitive skills. The study concludes that as higher student engagement is associated with higher learning outcomes, the Digital GWFC approach can be effective for student learning. Thus, it offers wide market potential for engaging and interactive training experiences. The findings are followed by implications, limitations and directions for future research.

Keywords*: gallery walk, flipped classroom, digital gallery walk, digital gallery walk flipped classroom, student engagement*

INTRODUCTION

The Sustainable Development Goals (SDGs) and 21st-century education are closely linked, as education is fundamental to achieving the SDGs and addressing contemporary global challenges. The SDGs recognize the transformative power of education to foster economic growth, social inclusion and environmental stewardship. Quality Education is dedicated to ensuring that all students acquire the knowledge and skills needed to promote sustainable development (Leal Filho, Simaens, Paço, Hernandez-Diaz, Vasconcelos, Fritzen & Mac-Lean, 2023). Advancements in technology and innovation (Goal 9) are increasingly seen as crucial for achieving the SDGs. There is growing recognition of the role that digital technologies, data, and innovation can play in addressing global challenges and driving sustainable development. The digital revolution of education has been augmented by the COVID-19 pandemic. Digital tools and platforms are increasingly used to enhance learning and broaden access to education (Makinde, Ajani & Abdulrahman, 2024).

21st-century education emphasizes skills necessary for thriving in a complex, rapidly changing world. These skills include critical thinking, creativity, collaboration, and digital literacy. Innovative pedagogical approaches, such as project-based learning, experiential learning, and the flipped classroom model, align with the 21st-century education framework and support the SDGs by fostering deeper

engagement and practical problem-solving skills (Garg & Agarwal, 2023). The integration of 21st-century skills into education is crucial for advancing the SDGs. By focusing on critical thinking, digital literacy, lifelong learning, and global citizenship, education can contribute significantly to sustainable development. The ongoing efforts to align educational practices with the SDGs reflect a commitment to preparing students for a rapidly evolving world and addressing global challenges effectively.

The flipped classroom is an innovative pedagogical approach that has gained prominence in 21st-century education. It represents a significant shift from traditional teaching methods, leveraging technology to enhance student learning and engagement. The flipped classroom model aligns with 21st-century education principles by fostering active learning, collaboration, and personalized instruction (Latorre-Cosculluela, Suárez, Quiroga, Sobradiel-Sierra, Lozano-Blasco & Rodríguez-Martínez, 2021). While it presents opportunities for enhancing student engagement and learning outcomes, the flipped classroom also poses challenges related to technology access, content creation and effective assessment. Continued research and practice are necessary to refine this approach and maximize its benefits in diverse educational contexts.

The Gallery Walk is a dynamic and interactive teaching strategy that promotes active learning and student engagement. It involves students rotating around the classroom to explore and discuss different "exhibits" or stations that display information, ideas, or projects. This approach aligns well with 21st-century education principles, which emphasize collaboration, critical thinking, and hands-on learning. The Gallery Walk is an effective instructional strategy that aligns with 21st-century education principles by promoting active learning, collaboration, and critical thinking (Papasarantou, Alimisi & Alimisis, 2023). Its dynamic, interactive nature makes it a valuable tool for engaging students and enhancing their learning experiences. By thoughtfully implementing and adapting the Gallery Walk, educators can create rich, participatory learning environments that support diverse educational goals.

The Gallery Walk and Student Engagement

Recent studies have proven that the gallery walk has many positive impacts on students' engagement in various educational settings. The gallery walk approach is considered an active learning strategy where students will be actively participating in the lessons. Insani (2020) claimed that this type of learning had significantly increased the students' engagement specifically in complex courses such as science and mathematics. This approach encourages students to collaborate and work together in small groups changing and sharing ideas among them (Satriani,2022). The researcher also claimed that this approach had changed the pattern of passive learning to active learning where students no longer quietly listen to the information given by the educators instead, they become actively involved during the learning experience.

Other than that, the gallery walk approach inspires students to think and process the information analytically and collectively (Vale & Barbosa, 2021). Lanuza, Hilario, Arroyo & Lara (2022) studied the impact of gallery walk exposure on high school students in mathematics settings. The researchers found that this approach had shown a significant improvement in students' problem-solving skills and theoretical comprehension compared to the traditional lecture-based method. The researchers also claimed that students were able to understand the lessons effectively due to the gallery walk's nature which was able to provide multiple visual and interactive representations of mathematical theories.

In the 21st century, critical thinking and creativity are crucial abilities. Sunarti and Septiana (2019) claimed that the gallery walk creates a dynamic environment for students to cultivate essential skills. It prompts them to thoroughly analyze information, challenge assumptions, and cultivate innovative ideas. In addition, the purpose of gallery walks is to elevate creativity, particularly in the arts and humanities. When the students are allowed to present their work using inventive methods like visual displays, posters, and multimedia presentations, the gallery walk promotes thinking in unconventional ways and

the expression of ideas in original ways. This approach may boost students' creativity and also enrich students' comprehension of the subject matter.
Essentially, the gallery walk approach not only caters to different subjects it also caters to different learning styles. Putri, Kartini & Yuanita (2020) stated that for visual students, gallery walks gave them benefits in terms of the visual materials exhibited at each station. The researchers also added that other learning styles students such as auditory students can actively engage in discussion and listen to their peer's presentations.

The Flipped Classroom and Student Engagement

Numerous academic studies have examined the impact of flipped classrooms on various dimensions of student engagement, encompassing behavioural, emotional, and cognitive engagement. According to Alebrahim & Ku (2020), the flipped classroom approach was well-received by students, who found that this method effectively enhanced their engagement, understanding of the lesson, and ultimately led to improved performance and grades. Wong (2024) found the implementation of the flipped classroom model yielded a notable enhancement in calculus proficiency following the intervention, with sustained efficacy observed over time. Consequently, the findings indicate the heightened suitability of the flipped classroom model for the cultivation of cognitive skills. Hence, it is recommended to integrate the flipped classroom model into higher education institutions to enhance students' preparedness for forthcoming challenges in science and technology.

Emotional engagement involves students' attitudes, interests, and emotional responses to learning. A study by Lee and Wallace (2018) found that students in flipped classrooms reported higher levels of interest and motivation, as the in-class activities were more interactive and engaging than traditional lectures. However, the study also noted that the success of a flipped classroom in enhancing emotional engagement depends heavily on the quality of the pre-class materials and the design of in-class activities. The analysis of student responses provides evidence of the enthusiasm exhibited by students towards the learning activities carried out in the flipped classroom. This was attributed to their existing knowledge acquired before the class sessions. Consequently, students demonstrated a heightened readiness to engage in class discussions, eagerly participated in the learning tasks, and showcased the ability to pursue independent study (Sunway, Arapah & Muth'im, 2024).

Cognitive engagement refers to the investment in learning and the willingness to exert the necessary effort to comprehend complex ideas. The research by Say and Yildirim (2020) demonstrated that flipped classrooms encourage deeper cognitive engagement, as students are required to actively process and apply the knowledge, they acquired from the pre-class materials. Hao, Tian, Mohd, Hai, Ge & Cheng (2024) found their study suggested that both project-based learning and flipped classrooms had a substantial influence on enhancing critical thinking and fostering creativity among students. Furthermore, the combination of project-based and flipped classrooms exhibited an even more pronounced effect on promoting critical thinking skills and nurturing creativity, underscoring its potential as a highly effective instructional method for reshaping the current educational curriculum and teaching practices. This comprehensive study adeptly incorporates a variety of engaging and interactive classroom activities, designed to enhance critical thinking, problem-solving, and decision-making abilities among students in the higher vocational education context. Furthermore, it offers comprehensive and practical guidance to educators and instructional leaders, outlining effective strategies to identify, nurture, and develop the diverse talents and aptitudes present within this educational domain.

Problem Statement

The flipped classroom model aims to enhance student engagement and learning outcomes by shifting the focus of classroom time from passive to active learning. However, despite its potential advantages, the implementation of flipped classrooms presents several challenges and barriers that can impact its effectiveness. Studies have highlighted that student motivation and readiness are critical factors influencing the success of flipped classrooms (Zhong, 2024). Also, Assessment and Evaluation of the flipped classroom model can be complex. Traditional assessment methods may not adequately capture the benefits of this approach, such as improved problem-solving skills or a deeper understanding of content. Therefore, developing appropriate evaluation tools and methods is crucial for measuring the impact of flipped classrooms on student learning outcomes (Zhu, Zhu & Hua, 2024). There are some key issues associated with the implementation of the flipped classroom model, highlighting areas where further research and development are needed to maximize its effectiveness.

The gallery walk is an interactive instructional strategy to encourage active participation, critical thinking, and engagement among students. Despite its advantages, the implementation of gallery walks in educational settings presents several challenges that can affect their effectiveness and the overall learning experience. The gallery walks rely on student participation in presenting and discussing their work. However, not all students may equally engage in these activities, leading to uneven contributions and varying levels of interaction. Research has shown that student motivation and engagement can significantly impact the success of the gallery walks, with some students remaining passive or disengaged during the process (Qi, 2023). The gallery walks may inadvertently reinforce existing disparities in student participation and voice. Students with less confidence or those from marginalized groups may struggle to contribute equally, potentially affecting their learning experience and outcomes (Cook-Sather, 2022). There are primary issues associated with the implementation of the gallery walks, emphasizing the need for strategies to address engagement, facilitation, feedback quality and inclusivity. Addressing these challenges is crucial for optimizing the effectiveness of the gallery walks as a pedagogical tool.

The gallery walk can be implemented either physically, with students presenting their work in a physical space, or digitally, using online platforms. Both methods have different characteristics and challenges. Understanding the differences between physical and digital gallery walks can help educators choose the most effective approach for their specific context. Physical gallery walks can foster more personal connections and immediate feedback among peers but the space constraints may limit the number of respondents and the extent of interactions (Noble, 2021). Physical limitations and accessibility issues may affect students with disabilities or those who cannot attend in person. Meanwhile, digital gallery walks allow for broader participation and can be accessible from various locations, overcoming physical space constraints. They also enable asynchronous participation, accommodating different schedules and time zones. Digital platforms facilitate wider access and flexibility, though they also note potential challenges in maintaining engagement and interaction quality (Jiang & Stylos, 2021). This comparison provides a comprehensive view of the strengths and challenges associated with physical and digital gallery walks, helping educators make informed decisions based on their specific needs and contexts.

Research Objective

To implement a feasibility study of Digital Gallery Walk Flipped Classroom (Digital GWFC) for student engagement (SE) among diploma students, the following are the research objectives:

i. To examine the relationship between SE in Digital GWFC influence the Course Learning Outcome 2 (CLO2)
ii. To determine how the dimension of student engagement; behavior, cognitive or emotional influence CLO2

iii. To compare the difference in SE between Semester 1 TESL students and Semester 6 Animation students in CLO2.

Research Question

The following are the research questions implement a feasibility study of Digital Gallery Walk Flipped Classroom (Digital GWFC) for student engagement (SE) among diploma students:

i. What is the relationship between SE in Digital GWFC influence CLO2?
ii. How does the dimension of student engagement; behavior, cognitive or emotional influence CLO2?
iii. Is there any difference in SE between Semester 1 TESL students and Semester 6 Animation students in CLO2?

METHODOLOGY

This feasibility study of the Digital GWFC for student engagement among diploma students is purely quantitative which implements the causal research design. According to Hair, Sarstedt, Ringle and Gudergan (2018), the research design selected will (i) provide relevant information on the research questions and hypotheses and (ii) complete the job efficiently. The formulation phase of the research process is based on the choice of research design. The quantitative research design does not consider the opinion of the researcher, although there is some influence of the researcher in the research question and objective (Hair et al., 2018). The advantage of using quantitative research design over qualitative is that it is more useful in theory testing and has more structured data collection techniques and objective ratings.

Descriptive research describes a situation by providing measures in which descriptive statistics is used for data analysis. Finally, the causal research design. Causal research tests whether one relationship means that a change in one event led to a corresponding change in another. In other words, it tests how a change in x makes a change in y. This type of research design must have theoretical support, require precise decisions and planning, and is the most complex (Hair, Risher, Sarstedt & Ringle, 2019). In the context of this study, a causal research design will be implemented, and data will be collected cross-sectional. This research design is used to answer research questions and achieve the objectives.

Research Framework

According to learning styles theories, individuals' unique learning styles with matching learning experiences enhance academic achievement. Derived from Lewin, Dewey and Piaget, Kolb's theory of experiential learning developed Kolb's model of learning styles (Bishop & Verleger, 2013). Kolb's four learning styles are given by the permutations of two embedded dimensions: perception and processing in a universal learning cycle.

The Triple E Framework measures how technology can help lecturers to select tools and design learning experiences thus further guiding students to the tools to meet and exceed learning goals (Kolb, 2017). The framework is based on three factors that lecturers need to be clear about when using technology to further the goals of the lessons. As an engagement factor, technology allows students to focus on the learning process. As an enhancement factor, technology allows students to develop more understanding of concepts and ideas. Meanwhile, as the extension factor, technology allows students to connect learning and their life experiences.

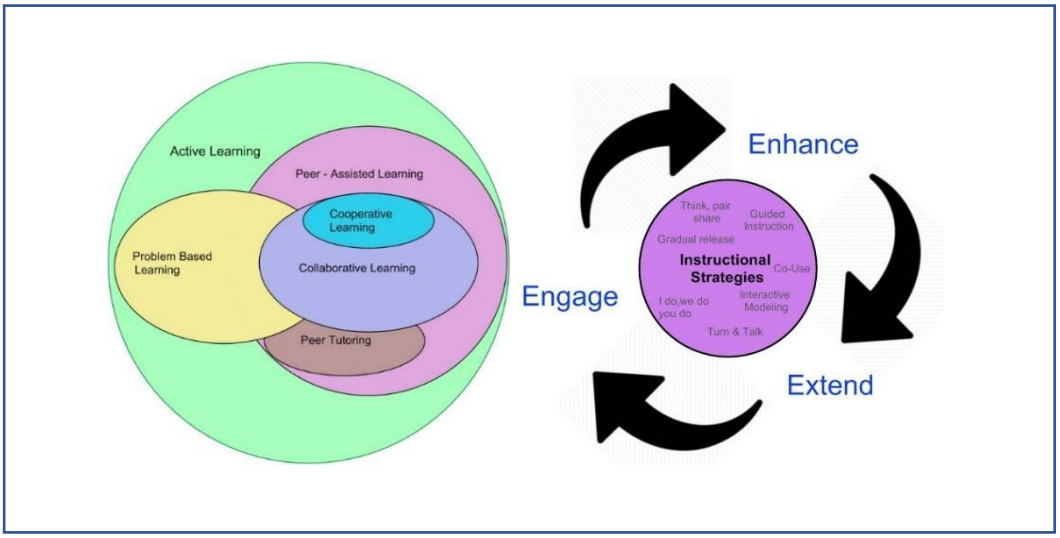

Figure 1: Student-Centered Learning Theories + Triple E Framework. (Bishop & Verleger, 2013; Kolb, 2017)

Thus, this feasibility study of the Digital GWFC examines how student engagement among diploma students influences learning outcomes.

Research Sample

This study utilizes convenience sampling. Convenience sampling is a non-probability sampling technique where respondents are selected based on their easy availability and proximity to the researcher. The researchers surveyed respondents in their class because they are readily available and easily accessible (Doebel & Frank, 2024). Furthermore, it is convenient due to the role of the researchers as the class facilitator, so the access to the respondents is quick, easy and cost-effective.

A total of 51 diploma students of KPTM Ipoh were selected for this study; consisting of 25 Semester 6 students enrolled in Diploma in Animation (DIA) and 26 Semester 1 students enrolled in Diploma Teaching English as Second Language (TESL), taking MPU2183 Penghayatan Etika dan Peradaban course during session April 2024.

Data Collection

Table 1 below indicates how the Digital GWFC was administered. In the Flipped Classroom teaching methods, students were assigned to view online lecture videos and learning modules on Topic 5 which is assessed as Course Learning Outcomes 2 (CLO2) before they come to class. During class time, students were divided into groups and instructed to discuss the given assignment of Topic 5. The group assignment was to upload and present a digital infographic or poster via the Gallery Walk learning strategy under the lecturer's supervision. After class, solutions and feedback were shared for class discussion. For the next sessions, the same method and procedures are followed but with different group members. At the end of the session, the surveys are distributed to the students.

Table 1: Digital GWFC Procedure

Before	During	After
View online instructional videos and refer to learning modules.	Present digital work and view other groups' work under the lecturer's supervision.	Solutions and feedback are shared for class discussion.

The research instrument in this study is developed from the theories in the conceptual framework. The survey is divided into four parts; (i) respondents' details such as class section, program, gender and year of study; (ii) measurement for student engagement and the items are adapted from Suppasetseree, Kumdee & Ho Minh (2023). Student engagement is measured based on three dimensions - behavioural, cognitive, and emotional. The other part of the instruments is; (iii) learning outcome which the measurement is based on CLO2 based on the document syllabus of the MPU2183 course provided by Kolej Poly-Tech MARA. The last one is (iv) measurement for Digital GWFC which is adapted from Keong, Kian & Aquino (2016).

The measurement scale for the research instrument is a 10-point scale. The normal practice for business research uses a 5-point scale or a 7-point scale for construct measurement. However, the use of a 10-point scale is on the rise since the more points there are, the more precise the agreement or disagreement level is recommended (Hair, Celsi, Money, Samouel & Page, 2016). Dawes (2008) proved that the measurement using a 10-point scale has better variance results compared to a 5-point and 7-point scale. It also proved that the 10-point scale provided more variance responses in the study when the respondents were given the more-point scale.

Data Analysis

Data was analyzed through descriptive analysis and inferential analysis. Before the analysis of the data, it went through data screening to weed out the unengaged responses and missing values. Before the data can proceed to the analysis, the normality test and reliability analysis will be implemented. This is to ensure the normality of the data to use parametric statistical analysis. Parametric statistical techniques are chosen due to the normal distribution of variable data (Pallant, 2020). The normality test used the Kolmogorov-Smirnov and Shapiro-Wilk Test, where p-value < .05.

Demographic variables such as class, program and gender were analyzed with simple descriptive analysis for frequency and percentage. Data analyses are represented based on the research objectives. In inferential analysis, Pearson correlation was used to achieve research objective 1, multiple regression analysis to achieve research objective 2 and t-test to achieve research objective 3. All the tests will be analyzed using IBM SPSS 23.

RESEARCH FINDING

Normality Test

Table 2 shows the result of the Normality Test for each construct; SE (.011), CLO2 (0.005) and Digital GWFC (0.002). The significant value is not more than .05 thus data are considered normal.

Table 2: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
SE	.143	51	.011	.934	51	.007
CLO2	.152	51	.005	.935	51	.008
DGWFC	.160	51	.002	.894	51	.000

a. Lilliefors Significance Correction

Reliability Test

Table 3 shows the result of the Reliability Test for each construct; SE (.854), CLO2 (0.918) and Digital GWFC (0.910). Since the Cronbach's Alpha values for all constructs are higher than 0.70, the data has very good internal consistency reliability.

Table 3: Reliability Analysis

	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
SE	.854	.862	10
CLO2	.918	.920	7
DGWFC	.910	.911	10

RESULT AND FINDINGS

Descriptive Statistics

Descriptive statistics were used to analyze the demographic data of respondents in terms of gender and program enrollment. Table 4 shows that the number of male respondents is 16(31.4%) which is less than female respondents, 35(68.6%). Also included, 49% of respondents enrolled Animation diploma program and 51% are from the TESL diploma program.

Table 4: Respondents According to Gender and Program

		Frequency	Percentage
Gender	Male	16	31.4
	Female	35	68.6
Program	Animation	25	49.0
	TESL	26	51.0
	Total	51	100.0

Correlation Analysis

Correlation Analysis was used to examine the relationship between SE in Digital GWFC influence the Course Learning Outcome 2 (CLO2). In Table 5, the r-Pearson Correlation coefficient shows that there was a strong positive correlation between student engagement in Digital GWFC ($r = 0.757$, $p < 0.001$). Also shown is a moderate positive correlation between Digital GWFC influence the Course Learning Outcome 2 (CLO2) ($r = 0.556$, $p < 0.001$)

Table 5: Pearson Correlation Coefficient

		r -Pearson	p
DGWFC	SE	.757	.000
	CLO2	.556	.000

Multiple Regression Analysis

Multiple regression analysis was used to determine how the dimension of student engagement; behavior, cognitive or emotional influence CLO2. The assumptions are normal plots of regression standardized residual shows the normality and data are continuous as explained in the methodology section.

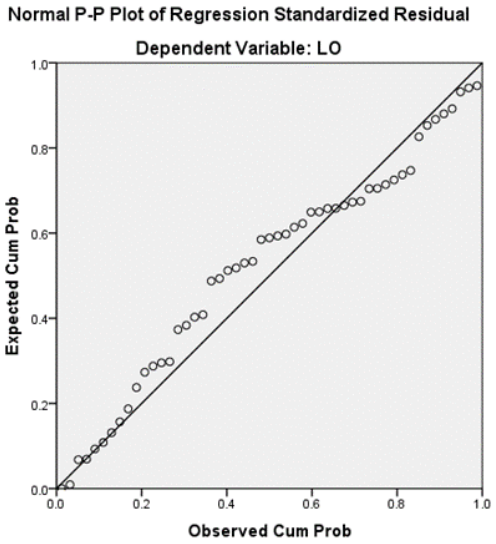

Figure 2: Normality Test for Regression

According to Table 6, the value of the multiple correlation coefficient R is 0.693 can be considered to be one measure of the quality of the prediction of student engagement. R square 0.480 means only 48% of learning outcomes can be explained by the variance Behavior, Cognitive and Emotional.

Table 6: Model Summary of Regression Model

R	R square	Adjusted R square
.693	.480	.447

Table 7 shows the coefficient for the regression model. Based on the result, the p-value of Behavior is 0.373 > 0.05 which is considered insignificant. The p-value for cognitive is 0.007 < 0.05 which is significant. The p-value for emotional engagement is 0.066 > 0.05 is insignificant. The prediction of learning outcome which is explained by Student Engagement dimensions is as follows:

Prediction of LO = 0.219 Behavior + 0.981 Cognitive +0.646 Emotional

This means that a 1 unit increase in Behavior means a 0.219 increase in LO, a 1 unit increase in Cognitive will be a 0.981 increase in LO and a 1 unit increase in Emotional will increase 0.646 in LO.

Table 7: Coefficients for Regression Model

	B	Std error	Beta	t	Sig
Behavior	.219	.243	.124	.899	.373
Cognitive	.981	.347	.409	2.831	.007
Emotional	.646	.343	.263	1.884	.066

Independent Samples t-test is conducted to compare the difference in SE between Semester 1 TESL students and Semester 6 Animation students in CLO2. Table 8 shows the sig value is 0.654 (> 0.05), assuming equal variances among populations. Based on the Independent Sample T-Test, t = -0.685, df =49 where k> 0.05, there is no significant difference between Animation and TESL programs for student engagement.

Table 8: Independent Samples t-Test

	Levene test		T-test			
SE	t	df	Sig (2-tailed)	Mean difference	Lower	Upper
	-.685	49	.497	1.078	-4.242	2.085

DISCUSSION

To answer Research Question 1: What is the relationship between SE in Digital GWFC influence CLO2? Based on the analysis, the Pearson Correlation Coefficient revealed that there was a strong positive correlation between student engagement in Digital GWFC ($r = 0.757$, $p<0.001$). The analysis also pointed out that the correlation between Digital GWFC and Course Learning Outcome 2 (CLO2) is a moderate positive with the value of ($r = 0.556$, $p <0.001$).

The correlation of student engagement in this context involves how actively students interact with the digital content and with each other during the gallery walk. High student engagement typically means students are not just passively consuming information but are critically analyzing, discussing, and reflecting on it. A significant difference from the traditional classroom in four dimensions: freedom of choice, variety of teaching resources, effective learning from peers and a favorable flipped classroom. These findings also indicate that the change in the learning environment affects students' learning attitudes and classmates' relationships (Oh, Chan, Kong & Ma, 2022).

Findings on the Digital GWFC and course learning outcomes are found to be moderately positive. This means that while most of the reviewed studies reported a positive correlation, in a flipped classroom, students are expected to come prepared, which allows for a deeper exploration of topics during class, viewing pre-recorded videos before coming to class enabled students to comprehend course content better and easier (Hava, 2021). The active and reflective learning that DGWFC facilitates engages students in active learning. (Howell, 2021). A digital gallery walk further enhances this by encouraging active engagement with diverse perspectives and materials. Findings also reveal the importance of incentivizing pre-class preparation using infographics and videos, which additionally helped students understand/remember content, and gave confidence about contributing in class.
Next, to answer Research Question 2: How does the dimension of student engagement; behavior, cognitive or emotional influence CLO2? In the examination of the student dimension of student engagement to the CLO2, the variance predetermined are Behavioral, Cognitive and Emotional. It was found that based on the model result of coefficients for regression, the variance of Cognitive is the highest with 0.981 > 0.05 in CLO2.

Cognitive processes play a crucial role in shaping learning outcomes. Innovative approaches such as the Digital GWFC are more effective than the traditional method in terms of using deep learning strategies and increasing the levels of cognitive engagement (Hava, 2021). Cognitive factors such as attention, memory, understanding, metacognition, cognitive load, prior knowledge, and problem-solving skills significantly affect how well individuals learn and apply new information, cognitive

judgments are affected directly by learning environments (Tugtekin & Odabasi, 2022). Addressing these factors through targeted strategies can improve learning outcomes.

It is imperative to deliver high-quality classes using a Digital GWFC learning approach to satisfy students' expectations of improving learning outcomes. The relevance for learning also affected students' perceived usefulness of Digital GWFC classes and indirectly influenced their future intention to use it. The results emphasize that students should be given opportunities to recognize the relevance of innovative cognitive learning approaches based on their expected learning achievement (Doo & Bonk, 2021)

Lastly, to answer Research Question 3: Is there any difference in SE between Semester 1 TESL students and Semester 6 Animation students in CLO2? Based on the Independent Samples t-test, the differences in student engagement between TESL Semester 1 students and Animation Semester 6 students in CLO2 valued at $p = 0.497 > 0.05$, at this value there is no significant difference between Animation and TESL programs for students' engagement.

What this proves is the Digital GWFC approach can be equated as being universal and may be effectively applied to cross-field courses. Regardless of the nature and the technicality of the said courses. The comparative study between a language-based course (TESL) and a meta-cognitive course (Animation) resulted in no significant difference in students' engagement. The flipped classroom instructional model helps students improve their cognitive learning across a wide-reaching synthesis of currently available interdisciplinary subjects (Yinghui, Yanqiong, MacLeod & Hao Harrison, 2020). Understanding this significance can help tailor the digital gallery walk experience to better meet the needs and strengths of each group, ultimately enhancing their learning outcomes.

CONCLUSION

It is found that the implementation of Digital GWFC has a positive impact on student engagement among diploma students mostly in cognitive skills. The study concludes that as higher student engagement is associated with higher learning outcomes, the Digital GWFC approach can be effective for student learning. Thus, it offers wide market potential for engaging and interactive training experiences.

Research Implication

The flipped classroom model, combined with digital gallery walks, is increasingly seen as a powerful tool to enhance learning outcomes. Several studies emphasize its ability to foster higher-order thinking, collaboration, and personalized learning (1). Higher-order thinking and Critical Reflection, research has shown that flipped classrooms can significantly improve higher-order thinking skills (Samadi, Jafarigohar, Saeedi, et al, 2024). Students engage more deeply with the content through pre-class activities, such as instructional videos and quizzes, which prepare them for in-class discussions and peer feedback. This structure promotes the analysis, evaluation, and synthesis of ideas, central components of higher-order thinking, as highlighted by research on flipped learning in various subjects.
The flipped classroom model facilitates more interactive in-class sessions, allowing students to collaborate on projects, such as digital gallery walks. This approach encourages peer feedback, promoting communication skills as students exchange ideas and critique each other's work. Personalized Learning and Retention, studies have found that flipped classrooms, particularly when supplemented with interactive tools like digital gallery walks, cater to different learning paces and styles (Cevikbas & Kaiser, 2022). This personalized approach allows students to revisit difficult topics outside of class and apply their understanding through interactive activities, improving overall retention. Tasks such as revision becomes more manageable for students to perform on their own.

Research Limitation

The Digital Gallery Walk in a Flipped Classroom model offers significant benefits in terms of student engagement and learning outcomes but also presents several limitations. Students' lack of engagement with pre-class content can hinder their participation in subsequent class activities. The success of flipped classrooms depends significantly on students' preparatory work (Meyer & Murrell, 2021). Their study emphasizes the importance of strategies to ensure pre-class engagement, such as formative assessments or interactive content. Introverted students may struggle with active participation in class discussions and activities. Students with introverted tendencies might be less inclined to participate in traditional classroom discussions but may engage more effectively through alternative digital tools or smaller group interactions (Molloy, 2021). Digital formats can facilitate distractions and off-task behavior, reducing overall engagement the use of digital devices in educational settings is linked to increased off-task behavior. Their research suggests that integrating structured, interactive activities can help maintain student focus and mitigate distractions (Ravizza, 2021).

The quality of peer contributions can be affected as the effectiveness of a digital gallery walk can be compromised if students produce content of varying quality. Research highlights that inconsistent or inaccurate peer-generated content can propagate misconceptions and negatively affect overall learning outcomes. The quality of student contributions in collaborative settings significantly impacts educational outcomes, especially when the content is shared among peers (Wang, Zheng & Li, 2022). With limited lecturer guidance, the flipped classroom model, which underpins digital gallery walks, shifts some of the instructional responsibilities to students. This reduction in direct lecturer-led teaching can be problematic for students who rely on structured guidance. Students who need more structured support may struggle in flipped environments where real-time lecturer interaction is minimal (Chen & Wu, 2023).

Difficulty in assessing engagement accurately as gauging student engagement during digital gallery walks can be problematic. Some students might superficially engage with content without deep cognitive involvement, which can be hard for educators to detect. Assessing the depth of student engagement remains a significant challenge, and traditional metrics may not fully capture the quality of interaction (Johnson & Moore, 2023). The steep learning curve for digital tools for both educators and students may struggle with the technology required for digital gallery walks. Lecturers may need to dedicate time to training students, and technical issues can interrupt the learning process, potentially reducing engagement and effectiveness. Preparation to create and organize materials for a flipped classroom and digital gallery walk can be very time-intensive. Effective preparation is crucial to align these activities with learning goals, as inadequate planning might lead to misalignment and missed opportunities for in-depth learning.

Directions for Future Research

Future research on the Digital Gallery Walk in a Flipped Classroom should explore its effectiveness across different disciplines, as teaching strategies may vary by subject. Investigating the impact on various student types, including those with different learning styles and abilities, will help assess the model's inclusivity. Comparative studies should be conducted to analyze student responses to this model in different fields. For example, a study might compare how students in STEM disciplines (such as biology or engineering) and those in the humanities or arts (such as literature or visual arts) engage with and benefit from this model. Key metrics for evaluation would include engagement levels, learning outcomes, and overall satisfaction with the learning experience. Longitudinal studies are needed to determine how well knowledge retention compares to traditional methods. Comparative studies between STEM and humanities students reveal significant differences in engagement and learning outcomes with interactive teaching models (Lee & Kim, 2024).

Research should also examine the role of student motivation and autonomy, as well as challenges related to technology access and digital literacy. Additionally, exploring the impact of peer feedback quality, lecturer facilitation styles, and the model's influence on collaborative skills can provide insights into optimizing this approach. Finally, understanding how cultural and contextual factors affect the model's effectiveness across diverse educational settings will be crucial for refining and implementing the Digital Gallery Walk more broadly.

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ISU DAN CABARAN MELAKSANAKAN INOVASI DALAM KALANGAN PENSYARAH IPGM KAMPUS SULTAN MIZAN

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ABSTRAK

Kajian ini bertujuan untuk meneroka isu dan cabaran dalam melaksanakan amalan pembudayaan inovasi dalam kalangan pensyarah IPGM Kampus Sultan Mizan. Kajian ini merupakan kajian kualitatif menggunakan reka bentuk kajian kes. Tiga orang pensyarah IPGMKSM yang dipilih secara persampelan bertujuan sebagai peserta kajian. Data dikumpul melalui kaedah temu bual dan dianalisis menggunakan perisian nvivo 14.0 untuk mencari tema dan dikod. Analisis data kualitatif menunjukkan bahawa terdapat empat tema yang ditemui menjadi cabaran kepada para pensyarah IPGMKSM untuk mengamalkan amalan pembudayaan inovasi. Antaranya kekangan kewangan, kekangan masa, kekurangan pengetahuan pensyarah dan kurang kerjasama daripada rakan sejawat. Kajian ini memberi sumbangan dalam menyediakan maklumat empirikal tentang cabaran melaksanakan amalan pembudayaan inovasi dalam kalangan pensyarah IPGMKSM dan seluruh IPG.

***Kata Kunci**: Isu, Cabaran, Melaksanakan, inovasi, pensyarah IPGMKSM*

PENGENALAN

Inovasi dalam pendidikan menggalakkan guru menggunakan pelbagai strategi dan kaedah pengajaran dalam bilik darjah. Oleh yang demikian, guru perlu diberi pendedahan yang bersesuaian berkaitan inovasi dalam pendidikan. Hal ini demikian kerana kaedah pengajaran yang sistematik dan relevan dengan abad ke-21 dapat mempengaruhi kefahaman dan penglibatan pelajar dalam proses pembelajaran. Oleh itu, pengetahuan guru sangat penting dalam penghasilan sesuatu inovasi. Dalam menghasilkan inovasi pengajaran, guru perlu mempunyai pengetahuan tertentu yang pelbagai bagi menarik minat murid-murid untuk belajar dengan lebih berkesan (Nor Amalina & Zanaton , 2018; Wan Ali Akbar et al., 2020)

Oleh yang demikian, peranan seorang pendidik dalam inovasi pendidikan ini sangat penting kerana para pendidik mampu membawa sebuah perubahan dalam proses pembelajaran melalui inovasi yang dapat meningkatkan kualiti pengajaran dan pembelajaran. Selain itu, para pendidik juga mampu mengembangkan dan memecahkan permasalahan pendidikan yang dialami pada masa sekarang dan dengan adanya teknologi informasi ini memudahkan seseorang pendidik menyampaikan pengajaran secara berkesan kepada para pelajar (Akhbar Hidayat, 2021)

KAJIAN LITERATUR

Kajian Saharia Ismail et al (2021) yang bertujuan untuk mengenalpasti kemahiran penggunaan komputer dan tahap penggunaan inovasi teknologi maklumat dan komunikasi (ICT) dalam pengajaran dan pembelajaran (PdP) pensyarah Koleh Universiti Islam Melaka. Kajian ini berbentuk tinjauan yang melibatkan 132 orang responden pensyarah Kolej Universiti Islam Melaka. Alat kajian ialah satu set soal selidik yang terdiri daripada tiga bahagian. Data dianalisis menggunakan statistik deskriptif untuk

mendapatkan kekerapan, peratusan, min dan sisihan piawai. Hasil utama kajian ini mendapati bahawa tahap kemahiran komputer secara keseluruhannya adalah berada pada tahap tinggi iaitu min=3.82. Manakala penggunaan inovasi ICT dalam pengajaran adalah pada tahap sederhana iaitu min = 2.73. Justeru itu dicadangkan pelbagai latihan ICT diadakan atau dihadiri oleh para pendidik agar dapat mempelbagaikan penggunaan inovasi ICT dalam PdP.Penggunaan ICT dalam PdP membantu menjimatkan masa dalam pencarian maklumat. Oleh yang demikian, para pendidik harus memainkan peranan sebagai agen pendidik dan penyebar maklumat yang sentiasa menggunakan inovasi ICT sebagai bahan sumber pengajaran yang menarik disamping menyuburkan budaya kreatif dan inovatif dalam kalangan pelajar.

Namun demikian, menurut Carless (2012), terdapat cabaran dalam menghasilkan inovasi dalam kalangan pendidik. Hal ini demikian kerana terdapat para pendidik yang mempunyai sikap negatif apabila diberi bebanan tugas yang banyak. Selain itu, pendidik juga kurang berminat menghasilkan inovasi kerana kemudahan sumber yang terhad, kurangnya pembangunan profesionalisme kepada pendidik dan tiada sistem sokongan yang baik serta kurang mengamalkan budaya inovasi dalam persekitaran mereka. Begitu juga, pendidik menghadapi masalah terutamanya dari segi kekangan masa, pengetahuan para pendidik terhadap sesuatu ilmu belum mencukupi dan resos serta kemudahan Teknologi Maklumat dan Komunikasi (TMK) adalah terhad. Cabaran lain pula ialah para pendidik sendiri masih belum menguasai kreativiti dan pemikiran kritis dengan baik serta lebih selesa dengan kaedah pengajaran berbentuk tradisional (Norazlin Mohd Rusdin & Siti Rahaimah, 2019).

Oleh itu, kajian-kajian yang menerangkan tentang aspek inovasi dalam PdPc menunjukkan perkaitan yang signifikan terhadap kreativiti dan sikap kreatif yang perlu ada dalam diri seorang pendidik. Penjanaan idea sehingga ke fasa penghasilan produk sememangnya memerlukan daya kreativiti dan sikap yang kreatif dalam kalangan para pendidik hari ini agar pelaksanaan PdPc abad ke-21 dapat mencapai objektif pembelajaran yang ditetapkan(Muhammad 'Aizat Anwar & Khadijah Abdul Razak, 2022).

METODOLOGI

Reka bentuk kajian ini merupakan kajian kes yang melibatkan pengumpulan data menggunakan kaedah kualitatif sepenuhnya bagi mendapatkan data yang lebih mendalam dan terperinci. Pengkaji mengumpulkan maklumat dan data dengan menemu bual para peserta kajian. Pengkaji dan peserta kajian merupakan sumber utama bagi pengumpulan data berdasarkan protokol yang telah ditetapkan (Cresswell & Poth, 2018).

Kajian ini melibatkan tiga orang pensyarah IPGK Sultan Mizan yang dipilih sebagai peserta kajian. Pengkaji memilih peserta kajian berdasarkan tujuan dan persoalan yang ditetapkan dalam kajian. Oleh itu, teknik persampelan bertujuan *(purposive sampling)* dipilih berdasarkan anggapan bahawa pengkaji ingin meneroka dan memahami secara lebih mendalam maklumat berkaitan dengan cabaran dalam melaksanakan inovasi dalam kalangan pensyarah IPGK Sultan Mizan. Oleh yang demikian, pengkaji memilih peserta kajian yang boleh memberikan kefahaman yang mendalam dan maklumat yang terperinci khususnya berkaitan dengan cabaran dalam melaksanakan inovasi dalam kalangan pensyarah IPG Sultan Mizan. Oleh itu, pengkaji memilih tiga orang peserta kajian yang mempunyai pengetahuan, kemahiran dan pengalaman dalam bidang pengajaran dan inovasi di IPGMKSM (Merriam & Tisdell, 2016). Untuk memilih tema yang bersesuaian, pengkaji menggunakan perisian Nvivo 14.0 untuk mengekodkan dan mengkategorikan tema-tema.

OBJEKTIF KAJIAN

Kajian ini bertujuan untuk meneroka isu dan cabaran dalam melaksanakan amalan pembudayaan inovasi dalam kalangan pensyarah IPGMKSM.

DAPATAN KAJIAN

Latar Belakang Peserta Kajian

Ketiga-tiga peserta kajian merupakan para pensyarah dari Institut Pendidikan Guru Sultan Mizan. Tiga orang pensyarah yang menjadi peserta kajian akan dirujuk sebagai P1, P 2 dan P3 manakala TB mewakili temubual.

Pensyarah 1

Beliau merupakan seorang pensyarah perempuan. Berumur 53 tahun. Beliau mendapat pendidikan awal di peringkat diploma di maktab perguruan Temenggung Ibrahim dalam bidang Bahasa Melayu. Kemudian beliau menyambung pelajaran dalam bidang ijazah sastera, Bahasa dan Linguistik Melayu. Seterusnya beliau menyambung pelajaran di peringkat sarjana dalam bidang Pendidikan Awal Kanak-Kanak dan menyambung pengajian di peringkat Phd juga dalam bidang Pendidikan Awal Kanak-Kanak. Beliau berkhidmat dalam Kementerian Pendidikan Malaysia selama hampir 30 tahun dan mempunyai pengalaman dalam bidang inovasi selama 13 tahun.

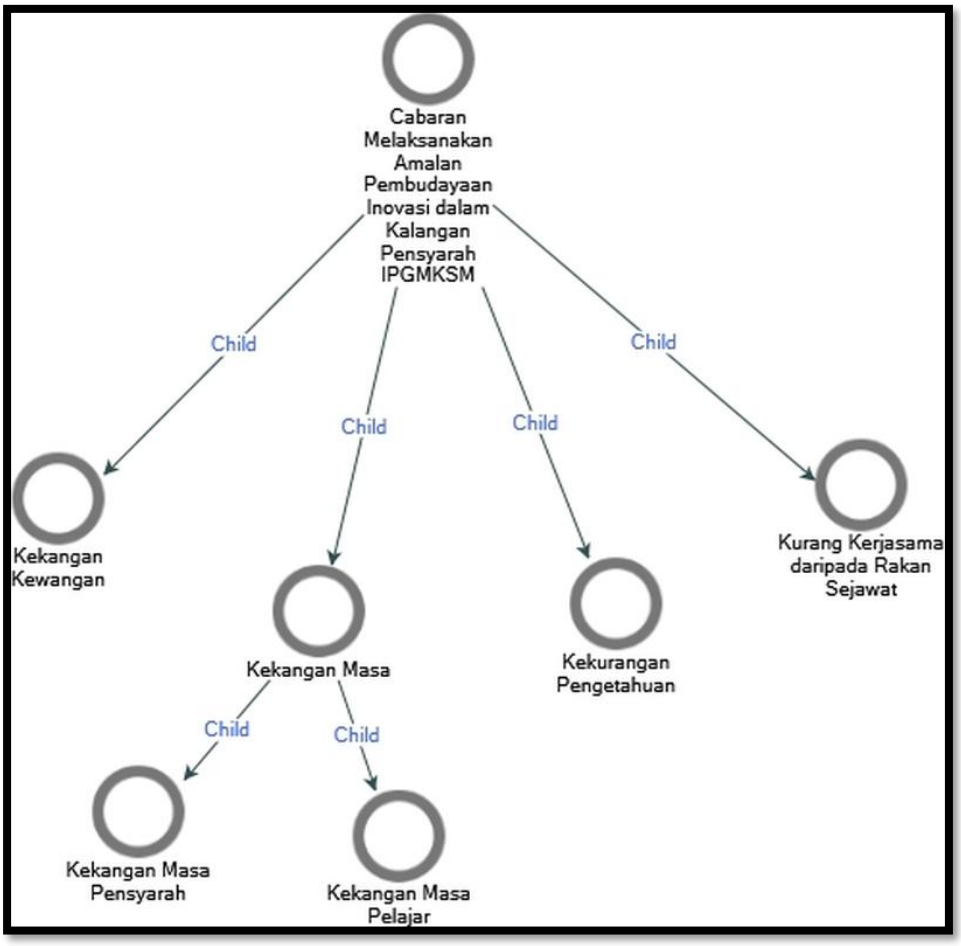
Pensyarah 2

Beliau merupakan seorang pensyarah perempuan. Berumur 52 tahun. Beliau mendapat pendidikan awal di peringkat Ijazah dam bidang ikhtisas komputer/matematik dan mendapat diploma pendidikan dalam bidang ikhtisas komputer/matematik.Seterusnya beliau menyambung pelajaran di peringkat sarjana dalam bidang sains komputer dan menyambung pengajian di peringkat Phd juga dalam bidang pendidikan Phd Sains Maklumat spesifik kepada komputer algebra system. Pengalaman berkhidmat selama 21 tahun dan mempunyai pengalaman dalam bidang inovasi selama 21 tahun.

Pensyarah 3

Beliau merupakan seorang pensyarah perempuan. Berumur 50 tahun. Beliau berkelulusan Sijil Perguruan Asas Muzik elektif Seni dan seterusnya menyambung pengajian di Universiti Pendidikan Sultan Idris dalam bidang Muzik dan Geografi. Beliau seterusnya menyambung peringkar sarjana di UPSI dan bidang Pengkhususan pendidika awal kanak-kanak dan sekarang menyambung pelajaran ke peringkat Phd dalam bidang pendidikan awal. Beliau berkhidmat dalam Kementerian Pendidikan Malaysia selama hampir 22 tahun dan mempunyai pengalaman dalam bidang inovasi selama 10 tahun.

DAPATAN KAJIAN



Amalan pembudayaan inovasi dalam kalangan pensyarah IPGMKSM mempunyai impak yang positif dalam membangunkan profesionalisma pensyarah Institut Pendidikan Guru. Namun begitu, ianya mempunyai cabarannya yang tersendiri. Cabaran-cabaran ini sedikit sebanyak telah mengganggu proses pengembangan profesionalisma dan kualiti pensyarah IPGMKSM. Hasil daripada analisis data kualitatif menunjukkan bahawa cabaran yang dikenal pasti menjadi halangan kepada para pensyarah IPGMKSM mengamalkan amalan pembudayaan inovasi adalah a) Kekangan kewangan b) Kekangan masa iaitu pensyarah dan pelajar c) Kekurangan pengetahuan dan d) Kurang kerjasama daripada rakan sejawat.

Kekangan Kewangan

Kajian juga mendapati peserta kajian kedua menyatakan bahawa faktor masalah kewangan dalam melaksanakan amalan pembudayaan inovasi kerana ianya memerlukan perbelanjaan yang agak besar. Beliau menyatakan bahawa semua ini tidak berlaku di Universiti kerana pensyarah Universiti diberi geran untuk melaksanakan penyelidikan dan inovasi. Selain itu juga, peserta kajian kedua juga menyatakan bahawa bayaran my IPO yang agak mahal menjadikan masalah kewangan menjadi semakin terbeban untuk melakukan inovasi. Pensyarah 2 menyatakan:

"Kekangan duit kan. Ha kita nak bawa lebih jauh ke depan tapi kekangan sebenarnya buat inovasi banyak pakai duit. Kadang-kadang jaelous dengan universiti, Dia ada geran dan boleh buat benda

hebat. Buat research, buat inovasi. Kalau kita guna duit sendiri. my IPO, 250, 300 lebih sedangkan dulu kan RM 200, 300 gitu dah pitih. Tok kiro lagi benda-benda lain. Kita tok leh".

(TB/P2: 44*)*

Hasil analisis dapatan kajian juga mendapati bahawa pensyarah IPGMKSM menghadapi masalah kekangan kewangan apabila menjadi pensyarah pembimbing dan memberi bimbingan kepada para pelajar yang masuk bertanding dalam satu-satu inovasi. Hal ini kerana yuran pendaftaran untuk pertandingan inovasi agak mahal dan terhad untuk satu penyertaan satu jabatan. Oleh yang demikian, pelajar sanggup mengeluarkan duit perbelanjaan sendiri untuk menyertai inovasi atas faktor minat yang mendalam dalam inovasi.

"Bila kata IPG sponsor ni akan ramailah yang akan nak masuk kan? Haaa, jadi dia akan limitlah satu jabatan satu wakil haaa macam tulah. Haaa jadi, tapi kalau setengah pelajar tu dia berminat kan? Bila kita dapat yang berminat ni memang sangat untung tau sebab dia sanggup keluarkan duit haaa. Ada pelajar tu dia kata dia puasa, dia bukan bulan Ramadhan ni. Dia pikir macam mana cara nak jimat duit dia kata sebab nak masuk inovasi, dia begitu bermotivasi haa. Siap beli bahan dia kata, lepastu nak bayar yuran dia kata.

(TB/P1: 60*)*

Kekangan Masa

Kekangan Masa Pensyarah

Kajian juga mendapati peserta kajian menghadapi masalah kekangan masa kerana pelaksanaan inovasi memerlukan komitmen yang tinggi dan masa yang banyak dengan tugasan yang rencam. Namun begitu, pensyarah tetap meluangkan masa untuk membimbing para pelajar agar mereka rasa dihargai dan pensyarah menghargai mereka. Pensyarah juga memberi makluman dan gambaran awal kepada para pelajar tentang persediaan untuk melaksanakan inovasi dan mlakukannya dengan bersungguh-sungguh.

Dari segi kekangan masa, sebab kita ada tuntutan kita juga kan? Nak buat itu nak buat ini sedangkan nak buat inovasi ini memang memerlukan suatu komitment yang, yang tinggilah hmm sebab kepala acuan dia akan…kak banyak sebut pasal pelajar sebab kak banyak berkolaborasi dengan pelajar, bukan bersama pensyarah okay. Pukul dua tiga pagi dia mesej kita,haaa dia tak kira dah haa terutama kalau dah dekat-dekat dah dengan pertandingan tu. Dia pun, kita pun faham dia pun banyak tugasan haaa tapi bila dia dah sanggup nak masuk tu akak terasa satu yang akak tak boleh nak lepaskan. Bila dia kata dia datang jumpa kan, doktor saya nak buat inovasi haaa rasa situ dah kena kena hargai dia.

(TB/P1:19**)**

Hasil analisis dapatan kajian juga mendapati bahawa pensyarah IPGMKSM menghadapi masalah kekangan masa kerana mempunyai jam kredit mengajar yang agak banyak dan perlukan kekuatan dan ketahanan mental yang tinggi untuk melaksanakan inovasi. Selain itu, jika menjadi pensyarah pembimbing maka pelajar perlu dimaklumkan lebih awal supaya mereka lebih bersedia untuk bekerja lebih masa dan lebih tekun daripada orang lain.

Dari segi pensyarah pun kita juga ada kekangan pun sebenarnya sebab kalau kita mengajar dengan jam kredit aa banyaklah macam saya 12 jam kan, so saya terpaksa betul-betul kena struggle lah macam mana nak buat inovasi tu. Yang ketiga cabaran kita kalau kita nak aaa bimbing pelajar kita kena pastikan yang pertama kita kena bagitahu pelajar tu inovasi ni adalah ekstra work. Dia maksudnya aa awak betul-betul kena buat kerja, buat kerja yang lebih dari orang lain. Haa kalau orang yang tak buat inovasi dia mungkin menyiapkan pb sekadar macam tulah. Tapi bila kita nak menyertai inovasi, kita kena bekerja lebih, bekerja lebih tekun, lebih dari orang-orang yang lain. Itu cabaran dia.

(TB/P3:39**)**

Kekangan Masa Pelajar

Kajian juga mendapati bahawa kekangan masa pelajar untuk melaksanakan inovasi juga menjadi satu faktor cabaran dalam melaksanakan amalan pembudayaan inovasi kerana ianya memerlukan para pelajar menghasilkan produk yang boleh diketengahkan untuk memasuki sesebuah pertandingan inovasi. Namun demikian, faktor kekangan masa pelajar yang menjadi cabaran kerana pelajar mempunyai banyak tugasan sama ada tujuh atau lapan tugasan pentaksiran yang perlu disiapkan dalam satu semester. Hal ini menjadi satu cabaran besar kepada para pelajar untuk menghasilkan inovasi. Pensyarah 3 menyatakan:

So dari sini aa bila saya bagi tugasan dekat pelajar, aa lepas tu salah satu tugasannya pelajar dia perlu hasilkan produk dan sepatutnya produk yang dihasilkan tu dia boleh pergi bertanding tapi mereka tak boleh pergi sebab apa, hmmm cabarannya adalah kekangan masa sebab pelajar dia punya tugasan pentaksiran tu sangat banyaklah tujuh ataupun lapan dalam satu semester. Jadi itu cabaran yang pertama kekangan masa pelajar,

(TB/P3:19***)***

Kekurangan Pengetahuan Pensyarah

Hasil analisis dapatan kajian juga mendapati bahawa pensyarah IPGMKSM menghadapi masalah kekurangan pengetahuan khususnya dari sudut teknologi maklumat (ICT) disebabkan oleh umur pensyarah dan keupayaan mempelajari cara mengendalikan penggunaan perisian ICT yang terhad dan mengaplikasikan google classroom dengan baik. Hal ini menyebabkan pensyarah tidak mempunyai pengetahuan yang baik dalam mengendalikan ICT dan tidak mahu terbeban dan mengalami stres dalam mengaplikasikan ICT di dalam pengajaran. Hal ini dinyatakan oleh pensyarah 1:

"Cabaran dari segi haaa tulah tadi yelah tak pandai IT kan? Tak pandai IT, lepastu bila dah tua-tua ni kalau macam ustazah kata suruh belajar tu tak boleh terima dah. Nak itu nak mahirkan google classroom pun jenuh, hahahaha kan? Haaa. Jadi tak nak, tak nak buat yang menyebabkan kita dah tua-tua ni bukan kita lah, zaman dah tua-tua ni kan, haaa jadi tak nak stress-stress sangat"'.

(TB/P1:40***)***

Kurang Kerjasama daripada Rakan Sejawat

Kajian juga mendapati bahawa kurang kerjasama daripada rakan sejawat merupakan cabaran kepada pensyarah dalam melaksanakan inovasi. Hal ini kerana para pensyarah agak kurang melaksanakan inovasi kerana sibuk dengan urusan masing-masing. Hal ini menjadi satu cabaran besar kepada para pensyarah untuk menghasilkan inovasi. Pensyarah 1menyatakan:

"mmm, ada jugak. Cuma sekarang ni agak kurang sebab haaa kak tengok masing-masing pensyarah dia ada dah haluan dia masing-masing".

(TB/ P1: 4)

Hasil analisis data kajian juga mendapati bahawa kurang kerjasama daripada rakan sejawat kerana terdapat pensyarah tidak menyumbang apa-apa dalam melaksanakan inovasi secara berkumpulan. Oleh yang demikian, ahli-ahli yang menyumbang kepakaran masing-masing sangat diperlukan dalam menjayakan pelaksanaan inovasi pengajaran sama ada dalam mereka bentuk aplikasi pengajaran, membuat kajian dan menghasilkan produk. Oleh yang demikian, semangat kerjasama dalam pasukan sangat penting untuk menghasilkan inovasi.Pensyarah 3 menyatakan :
"aaa yang ini pun masalah. Sebabnya kalau nak buat inovasi ni kita perlu menghasilkan produk ke, semua sebabnya memang kita tahu kalau teamwork tu sangat pentinglah".

(TB/P3: 92)

PERBINCANGAN

Inovasi dalam pendidikan menggalakkan para pendidik dan pelajar untuk meneroka, menyelidik dan menyalarasa semua bahan untuk membuat penemuan baharu. Pengaplikasian inovasi akan merangsang para pendidik dan pelajar untuk memupuk kemahiran berfikir aras tinggi. Pendidik, pengajaran dan pembelajaran serta kurikulum menjadi lebih fleksibel dengan adanya inovasi dalam pengajaran. Para pendidik dan pelajar dapat berfikir secara luar kotak dan menyelesaikan masalah dengan pelbagai cara yang efektif dan fleksibel (Noor Hanin Rahmat, 2020).

Namun demikian, dapatan kajian ini menunjukkan para pendidik menghadapi beberapa cabaran antaranya masalah kewangan. Hal ini bertepatan dengan kajian Wan Ali Akbar (2022) mendapati beberapa kekangan yang didapati dalam kajian beliau yang bertajuk guru Inovatif Pendidikan Islam dalam Inovasi pengajaran menyatakan kekangan seperti masa, tugas, kos, pengetahuan dan kemudahan yang sentiasa menghantui para pendidik daripada memberikan kualiti pengajaran terbaik untuk para pelajar dengan menggunakan medium yang berkualiti setanding dengan negara maju (Firdaus Abdul Fatah 2021; Muhammad Talhah Ajmain @ Jima'ain et al. 2018; Salbiah Mohamed Salleh 2018).

Selain itu, hasil analisis kajian juga mendapati kekangan masa merupakan cabaran kepada para pendidik untuk melaksanakan inovasi dalam pengajaran. Hal ini kerana pelaksanaan inovasi memerlukan komitmen yang tinggi dan masa yang banyak dengan tugasan yang rencam. Dapatan ini selari dengan Andrews (2007) dan Wan Ali Akbar (2022) dan juga mendapati kekangan masa dan kewangan yang terhad menjadi halangan untuk para pendidik melaksanakan inovasi kerana penyertaan dalam pertandingan inovasi adalah satu bebanan tambahan kepada tugasan hakiki sedia ada. Hal ini disebabkan oleh isu bebanan tugas dan masa. Ianya menyebabkan kegagalan dalam memanfaatkan inovasi untuk disebarluaskan walaupun ianya merupakan hasil inovasi yang berkualiti (Serdyukov, 2017).

Oleh yang demikian, beberapa cabaran ini perlu diatasi dan ditangani agar kecemerlangan dan kemenjadian murid mampu dihasilkan. Oleh itu, aspek kreativiti dan inovasi ini perlu ada dalam diri setiap para pendidik supaya kekal relevan dan signifikan dalam arus pendidikan abad ke-21 di Malaysia, demi melahirkan kemenjadian murid yang berilmu, beradab dan berkualiti (Muhammad 'Aizat Anwar Apandi &Khadijah Abdul Razak, 2022) .

RUMUSAN

Dalam meneliti dan memahami proses penghasilan inovasi, cabaran para pendidik dalam mengamalkan amalan pembudayaan inovasi perlu dititikberatkan bagi memastikan inovasi yang berkualiti memberi impak yang positif kepada kesempurnaan pembelajaran di dalam bilik darjah. Hasil dapatan kajian ini mendapati beberapa cabaran kepada pendidik untuk mengamalkan amalan pembudayaan inovasi antaranya kekangan kewangan, kekangan masa, kekurangan pengetahuan pensyarah dan kurang kerjasama daripada rakan sejawat. Oleh yang demikian, cabaran-cabaran ini perlu diatasi agar pengajaran pendidik sesuai dengan arus pembelajaran yang lebih menekankan kepada pengapikasian inovasi digital bagi melahirkan kemenjadian para pelajar yang lebih dinamik dan progresif sesuai dengan abad ke-21 masa kini.

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IMPAK DAN CABARAN PEMBELAJARAN BERASASKAN PROJEK (PBP) MENGGUNAKAN APLIKASI VIRTUALISASI BAGI MENGURUS PELAYAN *DOMAIN NAME SYSTEM* (DNS)

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ABSTRAK

Reka bentuk pembelajaran dibangunkan untuk memudahkan proses pembelajaran supaya matlamat pembelajaran dapat dicapai seperti yang ditetapkan. Pelaksanaan reka bentuk pembelajaran menitikberatkan hasil pembelajaran yang diinginkan dan ianya haruslah bertujangkan kurikulum kursus yang diajar. Kaedah pengajaran dan pembelajaran dalam reka bentuk pembelajaran perlu dipelbagai mengikut keperluan sesuatu kursus agar pelajar memperolehi kompetensi yang ingin dicapai setelah berakhir kursus terbabit. Pembelajaran Berasaskan Projek (PBP) merupakan salah satu kaedah pembelajaran yang bertujuan meningkatkan kemahiran dan pencapaian akademik pelajar. Pembelajaran Berasaskan Projek menggunakan senario masalah yang berkaitan dengan fenomena dunia sebenar untuk menggalakkan pelajar mengambil bahagian dalam proses pembelajaran melalui tugasan individu atau secara kolaboratif. Kaedah Pembelajaran Berasaskan Projek telah diterapkan melalui kursus DFN 50223: Windows Server Administration, yang merupakan kursus yang ditawarkan kepada pelajar semester empat, program Diploma Teknologi Maklumat (Teknologi Digital) di mana salah satu topik yang terkandung adalah Domain Name System (DNS). Aplikasi virtualisasi telah digunakan bagi membantu proses pembelajaran dalam mengurus pelayan Domain Name System (DNS). Kajian yang dijalankan berbentuk deskriptif bagi mengenalpasti impak dan cabaran kaedah Pembelajaran Berasaskan Projek (PBP) menggunakan aplikasi virtualisasi bagi mengurus pelayan Domain Name System (DNS). Sampel bagi kajian ini terdiri dari 25 orang pelajar semester empat, program Diploma Teknologi Maklumat (Teknologi Digital) yang telah melalui kaedah Pembelajaran Berasaskan Projek (PBP) dalam mengurus Domain Name System (DNS). Instrumen yang berbentuk borang soal selidik digunakan bagi perolehan data berdasarkan item yang dikaji. Hasil kajian menunjukkan terdapat dua belas impak positif yang dikenalpasti dari aspek peningkatan kefahaman dan kompetensi pelajar dalam menjayakan Pembelajaran Berasaskan Projek (PBP). Kajian juga mendapati terdapat empat cabaran yang dikenalpasti khususnya melibatkan penggunaan aplikasi virtualisasi dalam menjayakan tugasan projek. Pembelajaran Berasaskan Projek (PBP) memberi penekanan terhadap kemahiran praktikal berpusatkan pelajar bagi menghasilkan pelajar yang kompeten, namun begitu pelbagai cabaran yang dihadapi oleh pelajar perlu ditangani dengan sebaik mungkin agar pembelajaran menjadi lebih berkesan di masa akan datang.

***Kata Kunci**: Impak, cabaran, Pembelajaran Berasaskan Projek (PBP), virtualisasi, Domain Name System (DNS)*

PENGENALAN

Pendidikan yang berkesan memerlukan reka bentuk pembelajaran yang sempurna (Garvey & Krug, 2015). Reka bentuk pembelajaran yang dibangunkan dengan baik dapat meningkatkan kualiti pembelajaran (Dwiyogo, 2018). Seseorang pendidik perlu menentukan reka bentuk pembelajaran yang harus digunakan dalam pembelajaran (Pernantah, 2018). Pelaksanaan reka bentuk pembelajaran akan mempengaruhi keupayaan pelajar (Joyce, et al., 2011). Di institusi pendidikan tinggi, reka bentuk pembelajaran dapat dilihat melalui rancangan pengajaran yang disediakan oleh pensyarah. Pensyarah perlu menyediakan rancangan pengajaran dan bahan pengajaran bagi aktiviti pembelajaran (Wicaksono, et al., 2017).

Pembelajaran Berasaskan Projek (PBP) merupakan salah satu kaedah pembelajaran yang memfokuskan kepada pelajar dan guru hanya bertindak sebagai fasilitator (Nguyen, 2011). Menurut Danajaya (2013) Pembelajaran Berasaskan Projek PBP) dilaksanakan melalui aktiviti bersiri. Ianya juga merupakan model pembelajaran yang membolehkan pelajar melaksanakan tugasan secara berdikari bagi menghasilkan produk akhir (Hosnan, 2016). Oleh itu, pengajaran dengan Pembelajaran Berasaskan Projek (PBP) akan mewujudkan situasi yang menarik dan bermakna, sekaligus meningkatkan minat pelajar (Febrina, 2017); (Sucipto, 2017).

Kursus DFN 50223: *Windows Server Administrartion* merupakan kursus yang ditawarkan kepada pelajar semester empat, program Diploma Teknologi Maklumat (Teknologi Digital) di mana salah satu topik yang terkandung dalam pengajaran bertajuk *Domain Name System* (DNS). Ianya memerlukan pelajar mengkonfigurasi dan menguruskan pelayan (*server*) DNS berdasarkan topologi rangkaian yang diberikan. Pemahaman terhadap topologi rangkaian dan pengurusan pelayan DNS amat diperlukan dalam menghasilkan suatu projek rangkaian yang lengkap. Justeru itu bagi memudahkan pembelajaran dan menyelesaikan masalah pelayan fizikal yang terhad penggunaan aplikasi virtualisasi *Oracle VM VirtualBox* telah digunakan. Aplikasi virtualisasi telah menjadi agen perubahan dalam bidang teknologi maklumat khususnya dalam bidang pendidikan dimana ianya merubah alatan fizikal pengkomputeran seperti pelayan, peranti storan dan peranti rangkaian yang lain dalam bentuk maya dan setiap peranti maya terbabit dapat dikonfigurasi seperti mana menggunakan alatan fizikal yang sebenar (Sharon, 2023).

Kajian yang dijalankan adalah untuk mengenalpasti impak dan cabaran yang dihadapi oleh pelajar dalam menjayakan Pembelajaran Berasaskan Projek (PBP) menggunakan aplikasi virtualisasi bagi mengurus pelayan *Domain Name System* (DNS). Menurut (Karyawati & Ashadi, 2018; Limeranto & Bram, 2022; Sari & Prasetyo, 2021; Sirisrimangkorn, 2018). pelaksanaan Pembelajaran Berasaskan Projek (PBP) telah menimbulkan cabaran dan masalah yang boleh dikendalikan dan diselesaikan.

KAJIAN LITERATUR

Putri, et.al. (2017) dalam kajiannya mengatakan bahawa Pembelajaran Berasaskan Projek (PBP) mempunyai kesan yang signifikan terhadap kemahiran produktif pelajar. Di samping itu, PBP dapat meningkatkan kualiti pembelajaran pelajar dari segi semangat, keyakinan diri, kreativiti, dan pembelajaran kendiri dan kolaboratif.

Siti Juleha et, al, (2019) dalam kajian jurnal yang dijalankan berpendapat bahawa Pembelajaran Berasaskan Projek (PBP) boleh digunakan untuk membina literasi saintifik pelajar. Pencapaian literasi saintifik dalam bidang pengetahuan mata pelajaran, keupayaan saintifik, dan sikap selepas pembelajaran telah meningkat ke tahap yang sangat memuaskan. Ini kerana Pembelajaran Berasaskan Projek menggunakan senario masalah yang berkaitan dengan fenomena dunia sebenar untuk menggalakkan pelajar mengambil bahagian dalam proses pembelajaran bersama rakan kolaboratif.

Cabaran paling ketara yang dihadapi oleh pelajar dalam melaksanakan PBP adalah bekerja secara berpasukan dalam menjayakan projek yang diberikan (Staffacher et al., 2006). Kesukaran bekerja dalam berkumpulan mungkin disebabkan oleh kekurangan pengalaman dan kefahaman tentang nilai-nilai kerja kolaboratif. Ini mungkin disebabkan oleh faktor budaya yang mempengaruhi dinamik pasukan. Selain itu, kekurangan latihan terdahulu dan saiz kumpulan yang lebih besar menyebabkan komunikasi yang rumit dan kesukaran dalam pembahagian kerja dikalangan ahli kumpulan. Habok dan Nagy (2016) berpendapat bahawa PBP merupakan aktiviti yang mengambil masa yang lama dan memerlukan perhatian yang besar. Pelajar yang kurang berkemahiran dalam bekerja dalam kumpulan mungkin menghadapi cabaran dalam menyelesaikan tugasan yang diberikan.

Konsep virtualisasi adalah untuk membenarkan persekitaran pengkomputeran tunggal menjalankan beberapa sistem secara serentak dengan berkongsi sumber perkakasan yang sama (Corbi dan Burgos, 2017). Menurut Vollrath dan Jenkins, (2004) teknologi *virtual machine* bukan sahaja dapat mengurangkan kos operasi makmal tetapi juga simulasi dengan berbilang komputer pada satu mesin fizikal dapat dilaksanakan. Namum begitu penggunaannya mempunyai beberapa kelemahan seperti pelajar kurang memberi tumpuan bagaimana untuk mengkonfigurasi sistem komputer kerana aplikasi virtualisasi membenarkan replikasi ke atas sistem komputer dengan sangat mudah.

PERNYATAAN MASALAH

Pembelajaran berkaitan pengurusan pelayan *Domain Name System* (DNS) memerlukan kemahiran praktikal. Kebanyakan pelajar tidak dapat menyiapkan tugasan yang diberikan disebabkan keupayaan sistem komputer sedia ada kadang-kadang tidak dapat menjalankan fungsi-fungsi tertentu dalam pengurusan *Domain Name System* (DNS) dan terdapat lengah masa yang lama dalam melaksanakan sesuatu arahan. Konsep yang kompleks perlu diterjemahkan melalui pembelajaran praktikal dan setiap topik adalah saling berkaitan. Kaedah pembelajaran semasa perlu ditambahbaik dan dipelbagaikan bagi meningkatkan kecekapan dan kemahiran yang menyeluruh bagi menghasilkan pelajar yang kompeten. Pelajar perlu diterapkan Pembelajaran Berasaskan Projek mengikut kesesuaian kurikulum kursus agar masalah berkaitan pengurusan DNS dapat diselesaikan dengan lebih berkesan.

Virtual machine yang merupakan aplikasi virtualisasi telah digunakan dalam pembelajaran pengurusan pelayan *Domain Name System* (DNS) bagi menampung ketidakupayaan sistem komputer sedia ada disamping menjimatkan kos pembelian sistem komputer yang baru. Namum begitu penggunaan *virtual machine* tidak dapat memberi pengalaman yang sebenar seperti mana menggunakan pelayan (server) fizikal bagi mengurus *Domain Name System* (DNS).

Objektif Kajian

i. Mengenalpasti impak Pembelajaran Berasaskan Projek (PBP) menggunakan aplikasi virtualisasi bagi mengurus pelayan *Domain Name System* (DNS).
ii. Mengenalpasi cabaran Pembelajaran Berasaskan Projek (PBP) menggunakan aplikasi virtualisasi bagi mengurus pelayan *Domain Name System* (DNS).

Persoalan Kajian

i. Apakah impak Pembelajaran Berasaskan Projek (PBP) menggunakan aplikasi virtualisasi bagi mengurus pelayan *Domain Name System* (DNS).
iii. Apakah cabaran Pembelajaran Berasaskan Projek (PBP) menggunakan aplikasi virtualisasi bagi mengurus pelayan *Domain Name System* (DNS).

Kepentingan Kajian

Hasil kajian ini dapat membantu Pensyarah kursus di Politeknik Kuala Terengganu menangani dan menambahbaik proses pembelajaran pelajar dengan berkesan.

Skop Kajian

Kajian ini hanya dijalankan di Politeknik Kuala Terengganu (PKT) yang melibatkan pelajar semester empat yang mengambil kursus DFC20143: *Windows Server Administration.*

METODOLOGI

Metodologi merupakan kaedah sistematik yang digunakan untuk menjalankan kajian dengan tujuan untuk menjawab persoalan kajian yang dinyatakan.

Sampel

Sampel bagi kajian ini terdiri dari 25 pelajar semester empat yang mengambil kursus DFC20143: *Windows Server Administration*.

Instrumen Kajian

Borang soal selidik digunakan bagi mengenalpasti impak dan cabaran Pembelajaran Berasaskan Projek menggunakan aplikasi virtualisasi bagi mengurus pelayan *Domain Name System* (DNS). Skala Likert dengan skor 1, 2, 3, 4, dan 5 digunakan bagi mendapatkan data mentah untuk dianalisa.

Kaedah dan Analisis Data

Kajian adalah berbentuk deskriptif dimana nilai min dan sisihan piawai yang dianalisa akan dibahagikan kepada empat julat iaitu 1.0 hingga 1.89 dinyatakan sangat rendah, 1.90 hingga 2.69 dinyatakan sederhana rendah, 2.70 hingga 3.49 dinyatakan sederhana 3.50 hingga 4.29 dinyatakan tinggi dan 4.30 hingga 5.00 dinyatakan sangat tinggi (Haron & Mohamed, 2016). Perisian *Statistical Package for Social Science (SPSS)* versi 28.0. digunakan bagi menganalisa data.

ANALISA DATA

Analisis Impak Pembelajaran Berasaskan Projek menggunakan aplikasi virtualisasi bagi mengurus pelayan Domain Name System (DNS).

Jadual 1: Analisis Min Dan Sisihan Piawai Bagi Mengenalpasti Impak Pembelajaran Berasaskan Projek menggunakan aplikasi virtualisasi bagi mengurus pelayan Domain Name System (DNS).

Bil.	Item	Min	Sisihan Piawai	Tafsiran Min
1.	Tugasan projek dapat meningkatkan kemahiran saya untuk mengurus pelayan DNS dalam persekitaran maya.	3.53	0.79	Tinggi
2.	Aplikasi virtualisasi menyediakan simulasi realistik bagi menjayakan tugasan projek dengan berkesan.	3.57	0.73	Tinggi
3.	Tugasan projek dapat merapatkan jurang antara teori dan praktikal dalam pengurusan DNS.	4.13	0.87	Tinggi
4.	Saya boleh mengaplikasikan konsep DNS melalui tugasan projek bagi mengukuhkan pembelajaran saya.	3.73	0.77	Tinggi
5.	Saya berasa lebih yakin untuk mengurus pelayan DNS selepas menyelesaikan tugasan projek.	3.66	0.72	Tinggi
6.	Kemahiran dan pengetahuan yang diperolehi dari tugasan projek adalah relevan dan boleh digunakan dalam dunia pekerjaan sebenar.	3.54	0.71	Tinggi
7.	Tugasan projek menyumbang kepada kefahaman saya terhadap infrastruktur rangkaian.	3.67	0.85	Tinggi
8.	Saya dapat meningkatkan kemahiran kerja berpasukan apabila bekerjasama dengan rakan sebaya dalam menjayakan tugasan projek.	3.93	0.82	Tinggi
9.	Tugasan projek telah memberi peluang kepada saya untuk meningkatkan keupayaan menyampaikan konsep teknikal dengan berkesan.	3.69	0.77	Tinggi

10.	Saya dapat meningkatkan kemahiran penyelesaian masalah berkaitan DNS melalui tugasan projek.	3.40	0.72	Sederhana
11.	Saya mempunyai kefahaman yang lebih baik tentang penggunaan aplikasi virtualisasi dalam mengurus pelayan DNS.	3.79	0.85	Tinggi
12.	Saya memperolehi kefahaman yang lebih mendalam tentang keperluan keselamatan pengguna melalui tugasan projek.	3.43	0.64	Sederhana
13.	Pembelajaran Berasaskan Projek (PBP) meningkatkan kemahiran saya dalam pelbagai aspek pengurusan pelayan DNS.	3.41	0.61	Sederhana
14.	Penyepaduan penggunaan aplikasi virtualisasi memberi kesan positif kepada hasil pembelajaran saya.	3.85	0.79	Tinggi
15.	Pembelajaran Berasaskan Projek (PBP) merupakan pengalaman pembelajaran yang dapat meningkatkan kemahiran teknikal dan pencapaian akademik saya.	3.68	0.75	Tinggi

Jadual 1 menujukkan dapatan dari penilaian item yang dikaji bagi mengenalpasti impak Pembelajaran Berasaskan Projek (PBP) menggunakan aplikasi virtualisasi dalam mengurus pelayan Domain Name System (DNS). Diantara impak yang dikenalpasti adalah pelajar akui tugasan projek yang dilaksanakan dapat meningkatkan kemahiran mereka untuk mengurus pelayan DNS dalam persekitaran maya (min = 3.53). Pelajar juga bersetuju bahawa aplikasi virtualisasi yang digunakan dalam tugasan projek telah menyediakan simulasi realistik bagi menjayakan tugasan projek dengan berkesan (min = 3.57). Ini menujukkan penggunaa aplikasi virtualisasi dapat menggantikan peralatan fizikal yang sebenar dalam keadaan tertentu. Hampir keseluruhan pelajar berpendapat Pembelajaran Berasaskan Projek (PBP) dapat merapatkan jurang antara teori dan praktikal dalam pengurusan DNS (min = 4.13). Konsep DNS merupakan konsep yang sukar difahami jika pembelajaran berasaskan teori semata-mata. Penyelesaian tugasan projek secara terperingkat dari langkah penyelesaian masalah hingga ke pertukaran pengetahuan akan menghasilkan dapatan projek yang sempurna. Ini, secara tidak langsung menunjukkan pelajar dapat mengaplikasikan konsep DNS melalui tugasan projek bagi mengukuhkan pembelajaran sedia ada (min = 3.73). Pelajar mengakui lebih yakin untuk mengurus pelayan DNS selepas menyelesaikan tugasan projek yang diberikan (min = 3.66). Tugasan projek yang mengandungi siri tugasan berasaskan mini projek dapat melengkapkan objektif pembelajaran yang diinginkan. Pelajar mengambil maklum dan bersetuju bahawa kemahiran dan pengetahuan yang diperolehi dari tugasan projek adalah relevan dan boleh digunakan dalam dunia pekerjaan sebenar apabila mereka memasuki alam pekerjaan. (min = 3.54). Secara keseluruhannya, tugasan projek menyumbang kepada kefahaman pelajar terhadap infrastruktur rangkaian (min = 3.67). Kefahaman terhadap infrasturuktur rangkaian penting bagi mengolah lingkaran rangkaian komputer yang dapat berfungsi dengan baik. Penggunaan virtualisasi telah dapat membantu melengkapkan pembelajaran pelajar dalam mengurus rangkaian. Tugasan projek yang dilaksanakan secara kolaboratif dapat meningkatkan kemahiran kerja berpasukan pelajar apabila mereka bekerjasama dengan rakan sebaya dalam menjayakan tugasan projek (min = 3.93). Pelajar bersetuju bahawa tugasan projek telah memberi peluang kepada mereka untuk meningkatkan keupayaan menyampaikan konsep teknikal dengan berkesan (min = 3.69). Secara kesimpulannya pelajar bersetuju bahawa nereka mempunyai kefahaman yang lebih baik tentang penggunaan aplikasi virtualisasi dalam mengurus pelayan DNS (min = 3.79). Penyepaduan penggunaan aplikasi virtualisasi juga memberi telah kesan positif terhadap hasil pembelajaran mereka (min = 3.85). Secara keseluruhannya pelajar bersetuju Pembelajaran Berasaskan Projek (PBP) merupakan pengalaman pembelajaran yang dapat meningkatkan kemahiran teknikal dan pencapaian akademik mereka (min = 3.68).

Analisis Cabaran Pembelajaran Keselamatan Rangkaian Tanpa Wayar Melalui Kolaborasi Bersama Industri

Jadual 2: Analisis Min Dan Sisihan Piawai Bagi Mengenalpasti Cabaran Pembelajaran Keselamatan Rangkaian Tanpa Wayar Melalui Kolaborasi Bersama Industri

Bil.	Item	Min	Sisihan Piawai	Tafsiran Min
1.	Saya dapati proses menyiapkan tugasan projek melalui aplikasi virtualisasi bagi pengurusan DNS adalah mencabar.	2.53	0.71	Rendah
2.	Aplikasi virtualisasi yang digunakan bagi tugasan projek adalah sukar untuk dikonfigurasikan dan diurus.	2.44	0.73	Rendah
3.	Penyelesaian tugasan projek dalam persekitaran maya adalah lebih kompleks daripada yang dijangkakan.	1.80	0.82	Sangat Rendah
4.	Sistem komputer yang tersedia bagi menjalankan aplikasi virtualisasi mempunyai keupayaan spesifikasi yang diperlukan untuk melaksanakan tugasan projek.	3.65	0.85	Tinggi
5.	Penggunaan aplikasi virtualisasi menjadi halangan kepada kerja kumpulan yang berkesan bagi pengurusan pelayan DNS.	1.93	0.74	Rendah
6.	Penggunaan aplikasi virtualisasi bagi pengurusan pelayan DNS memerlukan kemahiran teknikal yang kompleks.	1.95	0.69	Rendah
7.	Saya sering menghadapi masalah teknikal dengan penggunaan aplikasi virtualisasi apabila menyiapkan tugasan projek.	3.69	0.81	Tinggi
8.	Perkongsian dan penyelesaian masalah projek dalam kumpulan adalah mencabar kerana perbezaan tahap kemahiran.	4.11	0.87	Tinggi
9.	Penggunaan aplikasi virtualisasi adalah merumitkan dan sukar untuk saya memahami konsep pengurusan DNS.	2.33	0.76	Rendah
10.	Persekitaran virtualisasi adalah tidak stabil sepanjang tugasan projek dilaksanakan.	2.34	0.83	Rendah
11.	Saya menghadapi isu keserasian yang ketara antara aplikasi virtualisasi dan aplikasi pengurusan DNS.	2.46	0.77	Rendah
12.	Saya dapat menggunakan kemahiran penyelesaian masalah dengan baik dalam menyiapkan tugasan projek	3.67	0.79	Tinggi
13.	Bekerja dalam kumpulan membawa kepada masalah penyelarasan, seperti pencanggahan pendekatan dalam menyelesaikan projek yang diberikan.	3.64	0.80	Tinggi
14.	Masa dan sumber maklumat tambahan merupakan cabaran bagi saya untuk mahir menguruskan pelayan DNS dalam persekitaran maya.	3.74	0.87	Tinggi
15.	Garis panduan tugasan projek disediakan dengan jelas untuk menyepadukan aplikasi virtualisasi dengan pelayan DNS.	3.85	0.82	Tinggi

Jadual 2 menujukkan dapatan dari penilaian item yang dikaji bagi mengenalpasti cabaran Pembelajaran Berasaskan Projek (PBP) menggunakan aplikasi virtualisasi dalam mengurus pelayan Domain Name System (DNS). Hasil kajian mendapati pelajar sering menghadapi masalah teknikal dengan penggunaan aplikasi virtualisasi apabila menyiapkan tugasan projek (min = 3.69). Ketidakstabilan pengurusan ingatan dalaman komputer berkemungkinan menjadi faktor kearah masalah teknikal yang wujud. Kumpulan kolaboratif yang diwujudkan dalam Pembelajaran Berasaskan Projek (PBP) menyebabkan

perkongsian dan penyelesaian masalah projek dalam kumpulan adalah mencabar kerana wujudnya perbezaan tahap kemahiran (min = 4.11). Masalah penyelarasan, seperti pencanggahan pendekatan dalam menyelesaikan projek juga sering berlaku antara ahli kumpulan (min = 3.64). Penerapan terhadap kemahiran bekerja secara berkunpulan perlu diterapkan dan dipertingkatkan dari masa ke semasa. Disamping itu pelajar menghadapi cabaran dari aspek masa dan sumber maklumat tambahan untuk mereka mahir menguruskan pelayan DNS dalam persekitaran maya (min = 3.74).

PERBINCANGAN

Model Pembelajaran Berasaskan Projek merupakan salah satu model pembelajaran terbaik dalam pembelajaran kendiri pelajar (Febrina, R., 2017). Model ini berkesan untuk membangunkan kecekapan pembelajaran mendalam yang diperlukan untuk berjaya mencapai sesuatu kemahiran. Pada asasnya (Zaremba et al, 2017) model pembelajaran PBP mampu membina semula pengetahuan pelajar melalui rekabentuk projek, penyiasatan pelbagai kandungan realistik, kerja kolaboratif yang membolehkan pelajar menyampaikan idea mereka dan menghasilkan dapatan mengikut hasil penyiasatan. Kajian yang dijalankan adalah untuk mengenalpasti impak dan cabaran Pembelajaran Berasaskan Projek (PBP) menggunakan aplikasi virtualisasi bagi mengurus pelayan *Domain Name System* (DNS). Hasil kajian menunjukkan Pembelajaran Berasaskan Projek dapat memberi impak yang signifian dalam pembelajaran pelajar. Secara keselurhannya ia dapat mengukuhkan kefahaman pelajar dalam pengurusan *Domain Name System* (DNS) dan meningkatkan kemahiran dalam mengaplikasikan konsep DNS dalam bentuk projek melalui latihan praktikal dengan menggunakan aplikasi virtualisasi. Selain dari itu, pelajar juga merasa lebih yakin untuk mengurus pelayan DNS dan akhirnya membawa kesan positif kepada hasil pembelajaran mereka dimana ianya dapat meningkatkan kemahiran teknikal dan pencapaian akademik mereka. Namum bagitu terdapat beberapa cabaran yang perlu ditangani segera agar pembelajaran pelajar menjadi lebih kondusif. Diantara cabaran yang dihadapi oleh pelajar dalam melaksanakan Pembelajaran Berasaskan Projek (PBP) adalah masalah teknikal dengan penggunaan aplikasi virtualisasi apabila menyiapkan tugasan projek. Sokongan tambahan dari pensyarah adalah amat penting bagi menyelesaikan masalah terbabit seberapa segera. Pelajar juga menghadapi masalah akibat ketidaksamaan dari segi tahap kemahiran dan pencanggahan pendekatan dalam menyelesaikan projek dalam suatu kumpulan kolaboratif. Justeru itu, tugas pensyarah sebagai fasilitator perlu meningkatkan kemahiran kolaboratif pelajar apabila bekerja sebagai satu kumpulan bagi menghasilkan pembelajaran yang bermakna diantara ahli kumpulan. Aspek masa dan sumber maklumat tambahan untuk mereka mahir menguruskan pelayan DNS dalam persekitaran maya merupakan cabaran yang memerlukan pensyarah memberi tempoh masa dan sokongan terhadap sumber maklumat bagi membolehkan pelajar meningkatkan kemahiran mereka dari masa ke semasa.

KESIMPULAN DAN CADANGAN

Kaedah Pembelajaran Berasaskan Projek (PBP) bukanlah sesuatu yang baru, tetapi ia merupakan diantara kaedah pembelajaran yang paling efektif dalam bidang pendidikan. Kajian berkaitan Pembelajaran Berasaskan Projek (PBP) telah banyak dijalankan dan telah diterima oleh kebanyakan institusi pendidikan di seluruh dunia. Pembelajaran Berasaskan Projek (PBP) merupakan pendekatan pengajaran yang dibina melalui siri aktiviti pembelajaran berasaskan situasi sebenar yang memberi cabaran kepada pelajar untuk menyelesaikannya. Ianya juga merupakan kaedah pembelajaran yang berkesan dimana pelajar dapat mengaplikasikan teori yang dipelajari melalui tugasan praktikal. Di dalam Pembelajaran Berasaskan Projek (PBP), pelajar akan melibatkan diri dalam pelbagai aktiviti penyelesaian masalah untuk menghasilkan output akhir melalui perancangan pembelajaran, penyelidikan, pelaksanaan pelbagai strategi pembelajaran dan penilaian terhadap output yang dihasilkan. Kajian yang dijalankan adalah untuk mengenalpasti impak dan cabaran Pembelajaran Berasaskan Projek (PBP) menggunakan aplikasi virtualisasi bagi mengurus pelayan *Domain Name System* (DNS). Dapatan kajian menunjukkan Pembelajaran Berasaskan Projek (PBP) dapat menghasilkan pelbagai impak khususnya ke arah peningkatan kemahiran dan pencapaian akademik pelajar. Cabaran yang dihadapi oleh pelajar seperti masalah teknikal sewaktu penggunaan aplikasi

virtualisasi, isu pembelajaran kolaboratif dan aspek masa dan sumber maklumat tambahan perlu ditangani segera bagi membolehkan pelajar memperolehi kemahiran penuh melalui Pembelajaran Berasaskan Projek (PBP). Bagi memastikan kesinambungan terhadap kajian yang dijalankan, kajian berkaitan penggunaan teknologi *Artificial Intelligence* (AI) dalam membantu Pembelajaran Berasaskan Projek (PBP) boleh dilaksanakan di masa depan bagi melihat keberkesanannya dalam membantu meningkatkan pencapaian akademik pelajar.

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THE EFFECTIVENESS OF SCAFFOLDING IN IMPROVING MALAYSIAN ESL STUDENTS' PRONUNCIATION IN WORD READING

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ABSTRACT

English has become a vital language in various fields, including economics, politics, technology, and education. In Malaysia, English is recognised as a second language, but Malaysian English as a Second Language (ESL) students often struggle with English pronunciation due to the influence of their first language, Bahasa Malaysia. This research aims to investigate the effectiveness of scaffolding in improving pronunciation in English word reading among a group of secondary school students in Kelantan. Using a quasi-experimental design with a one-group pre-test post-test approach, 14 Form 3 students from a public school in Kelantan were selected for the research. A pre-test was administered to assess their initial pronunciation skills, followed by a scaffolding intervention. Subsequently, a post-test measured any improvements in their pronunciation during a word reading task. The qualitative data were gathered through an open-ended questionnaire to triangulate the data and gain deeper insights into the students' experiences with the scaffolding technique. The results indicated a significant improvement in pronunciation scores—21.7% higher average marks following the intervention. The qualitative data also revealed that students had a positive perception of the scaffolding approach, noting that it helped them perform better in the test. The study concludes that scaffolding is an effective strategy for enhancing pronunciation skills in ESL students. Future research should opt to investigate the long-term effects of scaffolding and its applicability to different aspects of language learning. This study provides valuable insights for educators aiming to improve pronunciation skills for Malaysian ESL students.

***Keywords**: ESL, pronunciation, scaffolding, secondary school, word reading*

INTRODUCTION

Pronunciation is a critical element of language learning, especially within the realm of speaking skills. However, it remains under-researched, particularly in contexts involving Non-Native Speakers (NNS) of English (Derwing & Munro, 2015; Thomson & Derwing, 2018). Among English as a Second Language (ESL) learners, effective communication skills, especially in speaking and pronunciation, pose substantial challenges. This issue is particularly acute in Malaysia, where students' English proficiency is a matter of national concern, with studies highlighting a persistent struggle in achieving the desired levels of fluency and accuracy (Tan, 2020; Wong, 2018).

Mastering English pronunciation is critical for students' academic and social success, especially given the role of English as a core subject in Malaysia's education system. The inclusion of the speaking test in the Sijil Pelajaran Malaysia (SPM) examination, which aligns with the Common European Framework of Reference for Languages (CEFR), further emphasizes the need for accurate pronunciation (Ministry of Education Malaysia, 2020). Research indicates that learners with more accurate pronunciation tend to perform better in assessments and exhibit greater confidence in their English language use (Levis & Moyer, 2014).

Several factors contribute to the poor pronunciation skills of Malaysian students. One of the most significant is the interference of their mother tongue, which influences how English words are articulated (Hamzah, 2019). Additionally, insufficient focus on pronunciation in English language classrooms remains a widespread issue. As Pillai (2008) and more recently Ibrahim et al. (2020) point out, the Malaysian curriculum tends to prioritize grammar, reading, and writing over pronunciation, often leaving the latter sidelined. Moreover, many teachers lack the training or resources necessary to effectively teach pronunciation, further exacerbating the problem (Rahim, 2021).

Complaints about the pronunciation of English by Malaysians, including the use of "Manglish," are well-documented (Hashim & Tan, 2020). This phenomenon is not surprising given Malaysia's rich linguistic diversity, where local dialects and languages influence English usage. In this complex environment, the need for explicit pronunciation instruction becomes even more critical. Recent studies indicate that although there is awareness of the importance of pronunciation, it continues to receive inadequate attention in formal education settings (Sundararajan & Pillai, 2021).

Given these challenges, scaffolding has emerged as a promising pedagogical approach to enhance students' pronunciation. Scaffolding, defined as "the temporary support provided by a teacher to help learners achieve tasks they cannot complete independently," can be applied to language learning, including pronunciation improvement (van de Pol, Volman, & Beishuizen, 2010, p. 274). The application of scaffolding strategies, such as providing corrective feedback, modelling pronunciation, and using visual aids, has shown positive results in improving ESL learners' speaking abilities (Nassaji & Fotos, 2011; Zhang, 2021). Recent research highlights how scaffolding fosters gradual improvements by guiding learners through increasingly complex tasks (Shabani, 2020).

In Malaysian ESL classrooms, the integration of scaffolding has been explored with positive outcomes in areas like grammar and reading comprehension (Rahman et al., 2022). However, its potential in pronunciation teaching remains underexplored. By utilizing scaffolding techniques tailored to pronunciation, educators can help students overcome the phonological barriers posed by their first language and develop more accurate English pronunciation. Thus, understanding how scaffolding can enhance pronunciation skills is vital for curriculum designers, teachers, and researchers seeking to improve English proficiency among Malaysian learners (Rahim, 2021).

This study seeks to investigate the effectiveness of scaffolding in improving Malaysian ESL students' pronunciation during word reading tasks. By examining how specific scaffolding strategies influence pronunciation, the research aims to provide insights into practical approaches for strengthening pronunciation instruction in Malaysian schools, ultimately helping students become more proficient and confident English speakers.

Objective of the research

In the Malaysian context of English education, students are expected to attain proficiency in both English and Bahasa Malaysia, aligning with one of the key shifts outlined in the Malaysian Education Blueprint 2013-2025 (MEB). This shift aims to produce bilingual individuals who can excel in both languages. Among the many components that contribute to English language proficiency, pronunciation plays a crucial role in ensuring clear and effective communication.

Correct pronunciation not only enhances students' ability to communicate but also boosts their confidence in using the language. Given the importance of this skill, it is essential to explore teaching strategies that can facilitate its improvement. One such strategy is scaffolding—a teaching method that provides support and guidance tailored to students' current abilities, helping them progress toward independent mastery.

This research, therefore, aims to investigate the effectiveness of scaffolding in improving students' pronunciation when reading English words. By examining how structured support influences pronunciation development, this study hopes to provide insights into how educators can better assist students in overcoming pronunciation challenges, ultimately contributing to their overall language proficiency.

Research Question

This research was conducted to answer the following research question:

1. What is the effect of the applied scaffolding in improving pronunciation in word reading of ESL students in Malaysian context?

2. What is students' perception towards the implementation of scaffolding in pronunciation lesson?

LITERATURE REVIEW

Theoretical Framework: Zone of Proximal Development (ZPD)

Vygotsky (1978) introduced the theory of the Zone of Proximal Development (ZPD), a foundational concept in educational psychology that emphasizes the role of social interaction and guidance in learning. According to Vygotsky, the ZPD is "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). This theory suggests that learners can achieve higher cognitive functioning with appropriate support, particularly when they are guided by adults or more knowledgeable peers.

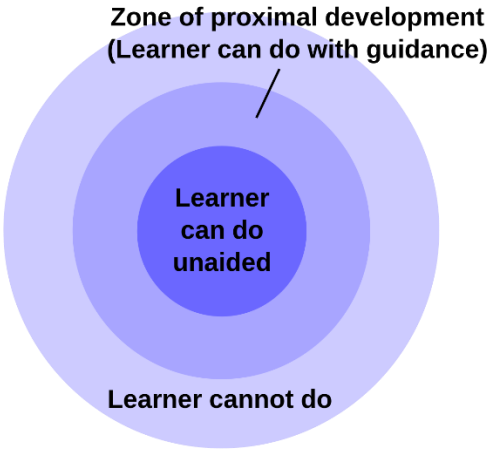

Figure 1: Zone of Proximal Development Theory

In the Malaysian ESL context, the ZPD framework is particularly relevant as it highlights the critical role of teachers in supporting students who may struggle with specific aspects of language acquisition, such as pronunciation. Teachers serve as facilitators, providing scaffolding that helps learners bridge the gap between their current level of proficiency and their potential for improvement. In pronunciation, this assistance might include corrective feedback, modeling accurate pronunciation, or structured practice, which are vital in overcoming common challenges faced by Malaysian ESL students.

Scaffolding in ESL Learning

The concept of scaffolding, first introduced by Wood, Bruner, and Ross (1976), extends Vygotsky's ZPD by emphasizing the role of support structures that enable learners to accomplish tasks they would be unable to complete independently. Scaffolding, as defined by Graves and Fitzgerald (2003), involves the gradual removal of support as learners become more proficient, allowing them to take control of their learning. This method is crucial for ESL learners, particularly in tasks requiring complex cognitive skills like pronunciation, which involves understanding not only individual sounds but also intonation, stress, and rhythm.

In Malaysian ESL classrooms, scaffolding can take many forms, such as providing explicit pronunciation instruction, using visual aids (e.g., phonetic symbols), or incorporating technology (e.g., language learning apps) to supplement traditional teaching methods. Research by Hammond and Gibbons (2005) further elaborates that effective scaffolding combines pre-planned strategies with contingent support that responds to the learner's immediate needs. For instance, a teacher might first provide a structured guide to English pronunciation rules and then adjust their teaching approach in real-time based on the learner's progress, offering additional support as needed.

Recent studies suggest that scaffolding is particularly effective in pronunciation teaching when it is tailored to the learner's ZPD. Ruan (2021) notes that scaffolding in pronunciation teaching helps learners overcome anxiety associated with speaking in a second language, particularly when combined with peer collaboration. Similarly, Rahman and Rashid (2023) emphasize that scaffolding pronunciation instruction, when integrated into communicative tasks, helps Malaysian students not only improve their pronunciation but also build confidence in oral communication.

Pronunciation Challenges in the Malaysian ESL Context

Pronunciation is a fundamental aspect of oral language skills, but it is often one of the most challenging areas for ESL learners to master. In the Malaysian context, where English is taught as a second language, students face various challenges in pronunciation due to factors such as linguistic interference from their first language, limited exposure to native English speakers, and the lack of emphasis on pronunciation in the curriculum (Varasarin, 2007; Nair, Krishnasamy, & de Mello, 2006).

One of the key challenges is that many Malaysian students tend to transfer phonetic rules from their first language (e.g., Malay or Mandarin) into their English pronunciation, which can lead to errors such as incorrect vowel sounds or stress patterns (Abdullah & Wong, 2021). As noted by Varasarin (2007), pronunciation skills take time to develop, and students often become demotivated when they struggle to achieve native-like pronunciation. This is exacerbated by the fact that teachers in Malaysia often feel underprepared to teach pronunciation, as noted in Nair et al.'s (2006) study, where ESL instructors reported having limited training in pronunciation pedagogy and insufficient time to incorporate it into their lessons.

Additionally, the lack of explicit focus on pronunciation in the Malaysian ESL curriculum poses a barrier to improving students' oral skills. Despite the importance of pronunciation for clear communication, it is often sidelined in favour of grammar and vocabulary. This lack of emphasis results in students being inadequately prepared for pronunciation-heavy tasks, such as the speaking test in the SPM English examination (Ministry of Education, 2021). Limited pronunciation skills can negatively impact learners' confidence, restrict social interactions, and hinder their overall language development (Morley, 1998).

The Role of Scaffolding in Improving Pronunciation in Malaysia

Given the challenges outlined above, scaffolding provides a viable solution for improving pronunciation in the Malaysian ESL context. By offering structured support and progressively moving learners toward autonomy, scaffolding can address the gaps in both student ability and teacher preparedness. For instance, peer-assisted learning can be a useful form of scaffolding, where more proficient students

support their peers in practicing pronunciation. This aligns with Vygotsky's (1978) notion of learning through interaction with more capable others.

Technology can also play a significant role in scaffolding pronunciation instruction. Tools such as language learning apps, speech recognition software, and online pronunciation resources allow for individualized learning and immediate feedback, which are critical for mastering pronunciation (Lee, 2020). These tools can supplement classroom instruction and provide learners with opportunities for additional practice outside of the limited class hours available for pronunciation teaching.

In addition, Rahman and Rashid (2023) argue that integrating pronunciation scaffolding into communicative language tasks—such as role-plays or debates—can help students apply their pronunciation skills in real-life contexts, making the learning process more meaningful and effective. This not only improves students' pronunciation but also boosts their confidence in speaking English, thereby addressing one of the key barriers to effective pronunciation learning in Malaysia.

However, the teaching of pronunciation is less accentuated in Malaysian ESL teaching due to some faced challenges. For instance, Nair et al (2006), in a study comprising 12 ESL instructors in Malaysia, found that the respondents felt that they did not have enough time to teach pronunciation and that they had little knowledge on how to implement it in the lessons effectively. Despite the attested importance of pronunciation in English Language Teaching (ELT), there is a lack of research in the area of teaching and learning pronunciation as well as the role of scaffolding in Malaysia, and the current research attempts to help fill this research gap. Educators and researchers may use this research as a foundation in connecting the missing dots within scaffolding and pronunciation teaching context in the literature.

METHODOLOGY

Research Design

This study employed a quasi-experimental one-group pre-test post-test design to assess the effectiveness of scaffolding in improving ESL students' pronunciation during word reading tasks. In this design, data were collected through both pre-tests and post-tests to evaluate any changes in performance resulting from the treatment. The use of quasi-experimental designs allows for the examination of causal relationships between variables, even when random assignment is not feasible (Marsden & Torgerson, 2012). By employing this method, the researcher could observe the impact of scaffolding on pronunciation improvement, enabling the research questions to be addressed effectively.

Quasi-experimental designs are particularly suited for educational contexts, where true experimental designs may not be practical due to the constraints of classroom environments (Cook & Campbell, 1979). This approach enabled the researcher to measure the effects of the scaffolding intervention while accounting for the natural setting of the school environment, providing meaningful insights into the effectiveness of the instructional techniques applied.

Respondents

The research was conducted in Kelantan, Malaysia, involving participants from a local public secondary school. Fourteen ESL students, all first-language speakers of Malay, were selected to participate in the study. This purposive sampling was chosen to allow the researcher to focus on a specific group of learners whose experiences and linguistic background could provide insights into the role of scaffolding in improving pronunciation during word reading tasks.

These students were chosen based on their availability and willingness to participate in the study, aligning with ethical considerations for research in educational settings (Cohen, Manion, & Morrison, 2018). The selection of participants who share a common first language (Malay) provided a controlled context for assessing the effects of scaffolding in a consistent linguistic environment.

Instruments

Word Reading Test
The primary instrument for data collection was a word reading test adapted and modified from Burt's (1974) Word Reading Test. This test comprised 30 English words, grouped into three levels of difficulty: Beginner-level, Intermediate-level, and Advanced-level. The test items were designed to assess the students' ability to pronounce words across a range of complexity. The first ten words were considered Beginner-level, the next ten were Intermediate-level, and the final ten were Advanced-level words.

The test format was designed to ensure that a range of phonological challenges were presented, thus enabling a comprehensive assessment of students' pronunciation abilities. The selection of items was based on word frequency and phonological complexity, which are known to affect pronunciation acquisition in ESL learners (Munro & Derwing, 2008).

Semi-Structured Interview
In addition to the word reading test, a semi-structured interview was conducted to gain qualitative insights into students' perceptions of scaffolding in pronunciation lessons. This set of questions was designed to explore the participants' experiences and perceptions of the instructional scaffolding provided during the lessons. The semi-structured format allowed for flexibility in responses while ensuring that key themes related to the research questions were covered (Kvale & Brinkmann, 2015).

The interview questions were carefully curated to probe students' views on how scaffolding techniques—such as modelling, feedback, and repetition—contributed to their pronunciation improvement. The responses provided qualitative data that complemented the quantitative findings from the word reading tests.

Data Collection Procedures
Data collection involved both quantitative and qualitative methods. For the quantitative aspect, data were collected through the administration of pre-tests and post-tests. The pre-test was conducted to assess students' initial pronunciation ability, after which the researcher provided a pronunciation lesson designed to scaffold students toward better performance. Scaffolding techniques included explicit modelling of word pronunciation, immediate feedback, and guided practice with difficult words (Wood, Bruner, & Ross, 1976). Following the intervention, the post-test was administered to evaluate improvements in word pronunciation.

Prior to the test, participants were briefed on the research's objectives, procedures, and ethical considerations, including the right to withdraw from the study at any time. The anonymity and confidentiality of participants were ensured, with all test results being labelled anonymously to protect the students' identities (British Educational Research Association, 2018).

For the qualitative aspect, the semi-structured interviews were conducted face-to-face with selected students after the post-test. The selection of students for the interview was based on purposive sampling to ensure that a diverse range of opinions and experiences could be captured (Creswell & Poth, 2017). The interview questions were designed to provide a deeper understanding of the participants' perceptions of the scaffolding strategies employed during the pronunciation lessons.

Data Analysis Procedures
Quantitative data from the pre-test and post-test were analysed using Microsoft Excel 2016. The results were presented in tables and graphs to illustrate changes in pronunciation performance before and after the intervention. Descriptive statistics, including means and standard deviations, were calculated to measure the overall improvement in students' pronunciation abilities.

Qualitative data from the interviews were transcribed and analysed thematically. Thematic analysis was used to identify recurring themes and patterns in students' responses regarding their perceptions of the scaffolding techniques applied during the pronunciation lessons (Braun & Clarke, 2006). The themes were categorized based on key concepts such as perceived effectiveness of scaffolding, specific techniques that aided pronunciation, and challenges faced during the lessons.

By employing both quantitative and qualitative analysis, the study provided a comprehensive understanding of the effectiveness of scaffolding in improving ESL students' pronunciation. This mixed-method approach allowed the researcher to triangulate findings and offer a more nuanced interpretation of the data.

RESULTS

The pre-test and post-test results were tabulated after the experiment was conducted. The collected data were summarised and addressed in two parts. The first part presents the average score and marks of both tests. Secondly, the average marks of both tests according to word level are presented and discussed. At the end of this section, the excerpt from the interview was presented and analysed.

Part A: Participants' Scores and Marks of the Word Reading Test

The first section looks at the results of the word reading test. The participants' average score and marks of pre-test and post-test are analysed in this section

Table 1: Average score and marks of the tests.

	N	Average score (/30)	Average marks (%)
Pre-test	14	21.7	72.4
Post-test	14	28.2	94.1

Table 1 indicates the information in terms of average score and marks of the tests. Before the pronunciation lesson which implement scaffolding was conducted, the group of ESL students had an average score of 21.7/30 which contributes to the average marks of 72.4% for the word reading test which aims to assess participants' prior knowledge of the word pronunciation. After the implementation of scaffolding in the pronunciation lesson, it was found that the group recorded better post-test scores – where average score is 28.2/30 and the average marks is 94.1%, a huge improvement compared to the scores of pre-tests.

Part B: Participants' Marks of the Word Reading Test According to Word Level

In this part of the analysis, participants' marks of the word reading test according to word level are analysed. Table 2 indicates the average marks for Beginner-level words which consists of the first ten words included in the test.

As recorded in Table 2, the section of Beginner-level words had the average marks of 94.3% prior to the administered pronunciation lesson, After the researcher provided relevant scaffolds in the lessons, the participants recorded the average marks of 99.3% in post-test. Participants performed better in this section compared to Advanced-level words pronunciation.

Table 2: Average marks of Beginner-level words

	N	Average marks (%)
Pre-test	10	94.3
Post-test	10	99.3

Table 3: Average marks of Intermediate-level words

	N	Average marks (%)
Pre-test	10	94.3
Post-test	10	95.7

Table 3 displays the average marks of participants' performance in pronouncing ten Intermediate-level words. The findings indicate that the students recorded an improvement in average marks from 94.3% to 95.7%. A minimal growth (1.3%) was recorded after researcher provided relevant scaffolds in the pronunciation lesson.

Table 4: Average marks of Advanced-level words

	N	Average marks (%)
Pre-test	10	27.9
Post-test	10	87.1

As shown in Table 4, the average marks for the word reading test improved significantly compared to Beginner and Intermediate-level words. The section of Advanced-level words had the average marks of 27.9% in pre-test and much better marks (87.1%) was recorded in the post-test, indicating the effectiveness of scaffolding in improving students' performance in pronouncing Advanced-level words.

Students' Perception Towards the Implementation of Scaffolding

After participating in the word reading test, five students were selected to be interviewed regarding their perceptions on the implementation of scaffolding in pronunciation lessons. The findings show that the majority of students agreed with the fact that scaffolding improved their pronunciation skills. Some stated that:

> "The instructor provided necessary helps in aiding me to pronounce English words better" *Student A and C*
>
> "After the pronunciation lesson, I performed better in the word reading test" *Student B*
>
> *and D*
>
> "The instructor is very helpful while conducting the pronunciation lesson." *Student E*

.All five interviewed students agreed that the pronunciation lesson which implemented necessary scaffolding helped them to improve their pronunciation and word reading test. According to the excerpt above, it shows that the result of the post-test complements with the students' responses regarding the effectiveness of scaffolding

DISCUSSION

The primary objective of this study was to investigate the effectiveness of scaffolding in enhancing Malaysian ESL students' pronunciation during word reading tasks. The findings address both research questions: first, to determine the impact of scaffolding on improving ESL students' pronunciation in word reading, and second, to examine students' perceptions of the role of scaffolding in pronunciation lessons. The data analysis reveals that the students showed marked improvement in word reading tests following the pronunciation lessons. Prior to the intervention, a significant number of students struggled with pronouncing advanced-level English words. However, after the scaffolding techniques were applied, their performance improved substantially, suggesting that scaffolding had a positive effect on their pronunciation skills.

This finding is consistent with previous research, such as Al-Eissa and Al-Bargi (2017), who also found that scaffolding positively influenced students' linguistic performance. The students in this study demonstrated a clear improvement in their pronunciation of more complex words after receiving guided support from their instructor. The scaffolding techniques employed, such as modelling correct pronunciation and providing targeted feedback, were instrumental in helping students refine their word reading abilities.

Furthermore, students reported positive perceptions of the scaffolding strategies implemented during the pronunciation lessons. This is aligned with the results of earlier studies which suggest that scaffolding not only improves academic performance but also enhances student motivation and confidence (Gibbons, 2015; Rahimi & Katal, 2012). Participants in this study expressed that the scaffolding techniques made the lessons more accessible and helped them feel more confident in their ability to pronounce difficult English words. This supports the assertion by Safadi and Rababah (2012) that scaffolding can be highly effective in promoting language learning, particularly in pronunciation.

The overall improvement in test scores (as shown in Table 1) further highlights the effectiveness of scaffolding in enhancing pronunciation skills among ESL students. These results suggest that incorporating appropriate scaffolding techniques into ESL lessons has the potential to significantly improve pronunciation and overall language competency. Studies by Hosseini et al. (2020) and Zhang (2021) echo these findings, emphasizing that scaffolding in pronunciation lessons can lead to measurable improvements in language proficiency among secondary school students.

However, it was also found that many students struggled with the pronunciation of advanced-level English words, even after scaffolding was applied. This suggests that more emphasis should be placed on teaching the pronunciation of difficult words, as students may have little to no prior knowledge in this area. The scaffolding provided in the classroom should be designed to address the students' needs and fit within their Zone of Proximal Development (ZPD) to avoid frustration or demotivation (Vygotsky, 1978; Safadi & Rababah, 2012). In cases where scaffolding techniques do not align with the students' ZPD, there is a risk of overwhelming students, which could lead to disengagement from the learning process.

CONCLUSION

In conclusion, the findings from this research indicate that scaffolding is an effective instructional strategy for improving ESL students' pronunciation during word reading tasks. The semi-structured interviews conducted during the study also revealed students' positive perceptions of the scaffolding techniques used. Students expressed that the scaffolding helped them improve their pronunciation and perform better in their word reading tests, corroborating the effectiveness of such instructional strategies in pronunciation lessons.

Future studies should focus on identifying the most effective scaffolding techniques for improving pronunciation, as the teaching of pronunciation is often neglected in Malaysian ESL classrooms (Rahim, 2021; Sundararajan & Pillai, 2021). Although scaffolding has been shown to be effective in improving pronunciation, further research is needed to develop a more comprehensive understanding of which scaffolding methods work best for various proficiency levels and linguistic challenges.

One limitation of this study was the small sample size, which consisted of only 14 participants from a single secondary school. As such, the results may not be generalizable to the broader population of Malaysian ESL students. A larger sample size would enhance the accuracy of the findings and allow for a more representative understanding of the effects of scaffolding on pronunciation improvement. Additionally, expanding the sample to include students from multiple schools and varying proficiency levels would provide a more comprehensive picture of how scaffolding impacts word reading across different contexts.

Despite these limitations, this small-scale study shows promise in exploring the potential of scaffolding in pronunciation instruction. The findings suggest that future research should extend this experiment to a larger and more diverse sample in order to validate the effectiveness of scaffolding in improving ESL students' pronunciation and other language skills. Such studies would contribute to the ongoing development of more effective pronunciation teaching strategies in Malaysian ESL classrooms.

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A REVIEW ON THE EXPERIENCES FACED BY ESL TRAINEE TEACHERS DURING TEACHING PRACTICUM

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ABSTRACT

Good and high-quality tertiary education is crucial to ensure that learners can compete globally and achieve high employability. Sustainable Development Goal 4 (SDG 4) emphasizes good quality education where the learners must be equipped with all the necessary skills and abilities needed by the industries. In line with SDG 4, the Ministry of Education of Malaysia also greatly emphasises the ESL students' skills and competencies. Thus, teaching practicum becomes necessary to produce well-equipped future teachers in learning institutions. Past works of literature revealed mixed perceptions among the teacher trainees' expectations and the reality they face during their practice. Students often have different expectations from the actual experience. This shows that there is a gap between theory and practice. Additionally, practicum teachers discovered challenges that had huge implications for their teaching performance. Entering a teaching practicum, students are often filled with anticipation and expect to apply their learned strategies in the classroom. Yet the reality often challenges these expectations, showing how complex teaching can be. A review that included previous articles related to teacher trainee experiences revealed an in-depth investigation of their various expectations and realities. Findings based on this review benefit the Ministry of Education, the administrators of universities, and educators in terms of implementing appropriate adjustments for a better practicum experience, particularly for trainee teachers. In conclusion, the contrast between what practicum students expect and what they experience in the classroom highlights the unpredictable nature of teaching. However, these challenges are invaluable for long-term success in education.

***Keywords**: Training teachers, Teaching Practicum, ESL, Experiences, Review*

INTRODUCTION

Sustainable Development Goal 4 places greater emphasis on good quality education in learning institutions all over the world (Marshall, 2019). It is very crucial to provide good and high-quality education to the students so that they would have high employability and they would be able to compete globally. In line with the fourth Sustainable Development Goal, the Ministry of Higher Education of Malaysia also focuses on providing high-quality education to the students, and this includes ESL education (Ministry of Education Malaysia, 2015). This can be clearly seen in the Roadmap for English Language Education 2015-2025. This roadmap emphasises English language education based on the multiple perspectives of the teachers. An effective English language education is significant as it can directly affect the calibre of English language instructors as well as the calibre of English language instruction and learning occurring throughout the education systems. The entire English language education process must be in line with worldwide standards for English language competency and proficiency in order to enhance the level of English to meet global standards. A steady stream of qualified English language instructors who engage in planned, ongoing professional development throughout their careers is necessary to provide high-quality English education.

Tertiary institutions play an important role in producing good and qualified ESL teachers who will be teaching in primary and secondary schools after the completion of their studies. An essential component for a good education and a major factor in determining students' success is teacher quality (Pushpanadham, 2020). Teachers who are highly proficient in English and who possess the linguistic, pedagogical, and professional knowledge and skills necessary to produce a new generation of English-speaking Malaysians. Thus, it is imperative that English language education remains of the highest quality. This is the reason why higher learning institutions provide courses and teacher trainings to the students so that it will help and guide the students to equip themselves with all the necessary skills and qualities to deliver the knowledge to the students in primary and secondary schools.

Teaching practicum is one of the trainings that need to be joined and completed by the tertiary students so that they would be able to deliver lessons in schools. Past literature revealed mixed perceptions among the teacher trainee teachers' expectations and the reality that they face during their actual practice (Noordin et al., 2019; Yusof et al., 2023). Findings from the current literature indicate trainee teachers have different expectations as compared to their actual experiences that they encounter when they are doing their practicum. Massari et al., (2021) stated that trainee teachers frequently have difficult experiences in order to make sure the students' learning progresses and the continuance of curriculum-based education. Deocampo (2020), on the other hand, stated that among the problems and difficulties the trainees faced were the teacher's voice, classroom management, teaching tactics, learning strategies, and impediments to English communication. In addition, Maharani and Fithriani (2023) mentioned that trainee teachers were facing challenges in strengthening their ability to select instructional strategies based on students' abilities and needs. Hence, it is vital to examine the experiences faced by ESL trainee teachers during practicum, as this would assist in shedding light on the aspects that need to be focused on and improved during the students' practicum.

Several review papers have been done regarding teacher education, such as possibilities of integrating ICT to develop teacher trainees' skills in collaborative and critical analysis of literature in English texts (Nambi, 2018), general review on the practicum among the pre-service teacher education (Pratiwi, 2020), and issues related to pre-service teachers in Malaysia (Ag-Ahmad et al., 2023). Nevertheless, review papers documenting the latest issues and challenges experienced by teacher trainees during their practicum are still insufficient. Hence, there is a need for this review to be conducted. The development of committed and competent trainee teachers is considered essential in the Malaysian context to promote lifelong learners. Furthermore, it is crucial to ensure trainee teachers enjoy their practicum experience and are well-prepared to meet obstacles. During the teaching practicum, pre-service teachers are supposed to be able to critically think and assess themselves. This would be beneficial for them to work as professional instructors in the future. On top of that, it is also vital for the teachers to equip themselves with the soft skills needed to teach future learners, such as digital literacy and technologies, metacognition, communication, and others. These abilities are crucial because they enable 21st-century learners to be self-directed and able to interact with various categories of individuals. The findings from this review paper provide practical implications for the stakeholders in education. The Ministry of Education, the administrators of universities, and educators will benefit from this review and implementation of appropriate adjustments for a better practicum experience, particularly for trainee teachers.

The authors organised this review paper by providing the background of ESL education and teachers in Malaysia. Following this, the authors provide a comprehensive discussion on the experiences of ESL trainee teachers during their practicum, covering the challenges they face, their expectations, and the realities they encounter while teaching. Then, the authors discussed ESL trainee teachers' experiences, which includes the challenges, expectations and realities during teaching practicum. The following is the research question of this review.

Research question: What are the experiences faced by the teacher trainees during their practicum?

Teaching Practicum in Higher Education

The teaching practicum is a structured course of study or curriculum designed to provide students with practical experience in applying the knowledge and skills they have acquired. In order to establish a strong resonance between pedagogical knowledge acquired at the university and practical teaching skills, it is essential to have well-designed teacher education programs (V. Sathasivam et al., 2024). The author further discussed that the curriculum for teacher education aims to cultivate the competencies of pre-service teachers to facilitate their transition into the teaching profession. This curriculum is designed to provide in-depth knowledge of educational theory (pedagogical knowledge) and hands-on experience in pedagogical practices (teaching practical), aimed at preparing future educators for the challenges they will face in the teaching profession. In the national education system, Martín-Romera et al. (2022) have identified a varied distribution of credits for this component. This distribution stems from the Ministry of Education's mandate for universities and educational institutions to allocate 8 out of the 60 credits. However, the distribution of credits may vary for educational institutions in different countries, as it depends on the specific guidelines set by the Ministry of Education in each respective country. Therefore, credit distributions for courses taken at international educational institutions may differ from those at local institutions.

In addition, various educational institutions will have different arrangements for teaching practicum within their program structure. These arrangements could include opportunities for student teachers to engage in classroom observations, lesson planning, teaching under supervision, and receiving feedback from experienced educators. Each institution's approach to teaching practicum may vary based on factors such as curriculum requirements, partnerships with local schools, and the specific goals of the teacher education program. Some institutions schedule it during the second year of the semester, while others plan it for the third year of the semester. For example, students from the International Islamic University Malaysia complete their teaching practicum during the final semester of their traineeship. This marks the conclusion of their three-and-a-half years of training and competency development. The first year of the program establishes the essential groundwork for trainee teachers, providing them with comprehensive knowledge and understanding of the fundamental principles and theories that underpin the teaching profession (Ismail et al., 2024).

Additionally, teaching practicum offers students many advantages that help students to progress in the teaching profession, as well as offering the opportunity to observe and document the professional practices and responsibilities of educators in a real-world setting. As noted by García-Noblejas et al. (2023), practicums are essential components of initial teacher training, providing exposure to real-life educational settings. In the realm of education, the teaching practicum holds significant importance as it offers a pivotal platform for both current and prospective educators to amass knowledge and practical experience prior to their immersion into the professional sphere of pedagogy. Sasson & Malkinson (2021) highlighted that teaching practicum can furnish teachers with different views and deepen their understanding of the teaching profession. This invaluable opportunity permits the application of theoretical expertise acquired from years spent in tertiary educational institutions while simultaneously cultivating a cohort of adept and astute educators equipped to cater to the needs of successive generations. This aligns with the findings of Entika Fani Prastikawati et al. (2024), who concluded that integrating a teaching practicum into the curriculum offers valuable opportunities, especially for English trainee teachers, to improve their teaching skills, enhance their ability to assess student learning, and gain exposure to authentic teaching environments, thus improving their assessment literacy. This shows that besides providing opportunities to improve teaching skills, teaching practicum bridges the gap between theory and practice.

Moreover, Ferraz et al. (2020) noted the significance of the teaching practicum in enabling students to integrate theoretical knowledge with real-world teaching experiences. They observed that engaging in the practicum allowed students to actively apply and expand upon the theoretical concepts they had acquired during their academic studies. This hands-on experience provided them with the

opportunity to deepen their understanding and proficiency in applying these concepts in real-world situations. On the other hand, Lestari (2020) revealed the significance of teaching practicum from the students' perspective, and it was found that the students agreed that teaching practicum helps them build pedagogical knowledge, one of which is understanding the teaching preparation a teacher should have before teaching. This involves preparing lesson plans and teaching materials for class lessons. It is evident that the teaching practicum provides numerous advantages by enabling students to gain authentic teaching experiences in real-life settings. Furthermore, Ismail et al. (2024) asserted that experiencing real school environments helps them build confidence in their teaching abilities and refine their skills in an authentic setting through a supportive and step-by-step process. As a result, trainees are steered toward mastering not just theoretical knowledge but also practical skills crucial for effective teaching.

In conclusion, the teaching practicum is a vital component of teacher education, serving as a bridge between theoretical knowledge and practical application. This structured experience not only reinforces the pedagogical principles learned in academic settings but also equips future educators with the essential skills and confidence needed to navigate real-world teaching environments (Zhou R et al., 2024). The varied approaches to teaching practicum across institutions underscore its adaptability to different educational contexts, yet its core purpose remains consistent: to prepare pre-service teachers for the complexities of the teaching profession. By immersing trainees in authentic classroom settings, the practicum fosters a deeper understanding of educational practices and ensures that future educators are not only theoretically sound but also practically adept, ready to contribute meaningfully to the education system.

Esl Trainee Teachers' Experiences During Teaching Practicum

Teaching is a systematic approach that is evidence-based practice which involves planning and delivering instructions in an impactful way. In addition, the teaching profession requires aspiring teachers to cultivate a variety of essential skills throughout a complex and intricate venture. Teachers are not only perceived as knowledge transmitters but also as mentors and role models who can influence the attitudes, values, and behaviours of the students (Berkovich & Eyal, 2020; Bandura, 1977). During teaching practicum, trainee teachers, including ESL trainee teachers, often face a range of experiences, which serves as a critical phase in their professional development. This period allows them to apply theoretical knowledge in real classroom settings, but it also presents challenges, as described in the next section.

CHALLENGES

During their teaching practicum, ESL trainee teachers often confront a wide range of challenges that can greatly influence their professional development and effectiveness in the classroom. These challenges can encompass aspects such as classroom management, lesson planning, language barriers, and adapting to diverse learning styles. According to trainee teachers' experiences in Malaysia (Khusniyah et al., 2023), one of the main difficulties is classroom management, where they frequently struggle to maintain discipline and manage a variety of student behaviours. Additionally, the tension between theoretical knowledge and practical application is a significant obstacle, as pre-service teachers find it difficult to translate their subject-matter knowledge into effective teaching practices (Fithriani, 2023; Gan & Yang, 2018).

The lack of standardised English language norms further complicates this, as trainee teachers must navigate various accents and dialects without a clear standard to follow (Asikin & Ibrahim, 2020). Cultural differences and the need to adapt to a multicultural classroom environment also pose substantial challenges, especially for those teaching in an ESL context while being trained in an EFL setting (Gan & Yang, 2018). Moreover, the shortage of teaching technology and resources, coupled with limited time for practicum, exacerbates these difficulties, making it hard for trainee teachers to deliver effective lessons and receive adequate feedback (Fithriani, 2023; Khusniyah et al., 2023).

Pronunciation teaching is another area where novice teachers face internal challenges such as a lack of confidence and pedagogical knowledge, as well as external challenges like insufficient teaching materials and time constraints (Asikin & Ibrahim, 2020). The COVID-19 pandemic has introduced additional hurdles, with pre-service teachers struggling to adapt to online teaching environments and lacking the necessary skills for online assessments (Gan & Yang, 2018). Furthermore, the mentoring process itself can be problematic, with issues such as lack of feedback, mentee exploitation, and insufficient guidance from mentors that hinder the professional growth of trainee teachers (Khusniyah et al., 2023).

Another challenges as discussed by Coellho and Freitas (2012) as cited in Farah Ilyani et al. (2020) who have questioned the effectiveness of education and teaching programs in changing practicum teachers' learning environment and their previous trusts are still controversial. In this matter, teaching courses offered by the institutions have not fulfilled the needs of practicum teachers, in which the issue where practicum teachers' teaching courses are considered obsolete, traditional and even contradicted with the preparation for their practicum. (Farah Ilyani et.al. 2020; Watzke 2007). The findings indicated that the participants expressed dissatisfaction with the practical applicability of the pedagogical theories taught in academic institutions. The participants demonstrated a tendency to merely comprehend and memorize these theories for examination purposes, yet struggled to implement them in authentic classroom settings.

Moreover, in Malaysia, the Ministry of Education (MOE) emphasizes 21st century education (PAK-21), which aims to equip students with a diverse set of skills including communication, collaboration, and problem-solving abilities to prepare them for real-life scenarios. To attain these goals, teachers widely employ information technology and multimedia in the teaching and learning process (Nur Afiqah et al., 2020). However, there were challenges in making the lifelong learning process happen due to COVID-19 pandemic which restricted people of moving around due to the risk of getting infected. Based on the research from Fatimah (2023), practicum students have problem in implementing teaching and learning from home (Pengajaran dan Pembelajaran dari Rumah;PdPR) due cost in preparing teaching materials and internet data. The research also stated that students' commitment in attending online classes along with punctuality and poor internet network contributed to the challenge of teachers in PdPR. (Fatimah, 2023; Mahathir Yahya and Wardatul Adnan, 2021) On the other hand, the challenge which practicum teachers face is students' motivation in teaching and learning session (PDP). According to Fatimah (2023), students' motivation level in learning decreases due to no encouragement from teachers and the students' peer who are not serious in class.

Finally, the overall perception of the teaching practicum varies, with some practicum teachers finding the observation period beneficial while others face significant challenges related to classroom teaching skills and school environments (Gan & Yang, 2018). These multifaceted challenges underscore the need for comprehensive support systems, including better integration of multicultural elements in teacher education programmes, enhanced mentoring practices, and improved collaboration between universities and schools to bridge the gap between theoretical knowledge and practical application (Khusniyah et al., 2023; Fithriani, 2023; Asikin & Ibrahim, 2020; Gan & Yang, 2018).

EXPECTATIONS

The expectations of ESL trainee teachers during their practicum are both varied and critical for their professional growth, as they represent a significant step in bridging the gap between theory and practice. These expectations are shaped by multiple factors, including the theoretical knowledge gained from their teacher preparation programs, the pedagogical approaches they are trained to apply, and the specific needs of the diverse learners they encounter. Moreover, their expectations are influenced by the mentoring they receive from cooperating teachers, feedback from university supervisors, and the overall school environment. For many, the practicum serves as a testing ground where they hope to

implement best practices, manage classroom dynamics, and refine their instructional strategies. Understanding the personal expectations of ESL trainee teachers is crucial in designing effective and supportive training experiences (Mitka, 2011). Key expectations include opportunities for professional growth, teaching readiness and continuous constructive feedback.

The practicum trainees expected the practicum to provide them with several opportunities to develop their self-identity, meaningful learning experiences, and participate in concrete teaching experiences, which are essential for their growth as educators (Kanwal, 2023; Nissim & Naifield, 2019; Gourgiotou, 2018). The authors highlighted that the practicum trainees anticipated engaging in meaningful learning experiences, such as observing and participating in classroom activities, and gaining exposure to diverse teaching methods and strategies. They also expected to have the chance to apply theoretical knowledge in real teaching situations, which they believed would be essential for their growth and development as future educators. Trainee teachers perceive the practicum as a transformative phase whereby they are able to integrate theoretical knowledge with practical application (Gráf, 2023; Nordin et al, 2019). This integration is crucial for their professional growth as educators.

Additionally, ESL trainee teachers expected that the practicum will enhance their readiness for the teaching profession, simultaneously increasing their self-efficacy and allowing them to collaborate with colleagues and administrators effectively (Ismail, 2024). Practicum experiences offer invaluable hands-on experience, allowing trainee teachers to apply theoretical knowledge in real classroom settings, thereby boosting their teaching efficacy and confidence (Nissim & Naifield, 2019). Furthermore, practicum assists trainees to navigate the complexities of classroom management and instructional strategies, preparing them to meet the demands of diverse students' needs and fostering their adaptability in the educational environment (Gina et al, 2023).

ESL trainee teachers have high expectations when it comes to receiving feedback. They anticipate specific, timely, and actionable input that can directly contribute to improving their teaching methods. This feedback is vital for their professional development and growth as educators. According to Richards and Farrell (2021), formative feedback is crucial because it can assist the trainee teachers in refining their teaching practices by providing them with constructive feedback that is tailored to their requirements. This type of feedback allows trainee teachers to successfully address specific challenges and enhance their pedagogical approaches effectively. Moreover, regular and thorough feedback helps trainee teachers become more competent and confident in the classroom and guarantees successful addressing diverse demands of the students (Kim & Kim, 2022). Furthermore, the continuous exchange of ideas and insights enabled by constructive feedback nurtures a culture of introspection, creating a conducive environment for constant professional development and the evolution of teaching approaches (Gina et al, 2023).

By taking into account and actively addressing these specific expectations, teacher education programmes will be better equipped to prepare and enhance students' teaching practices with a deeper understanding and clearer guidance. To better address the diverse needs and potential challenges encountered by ESL trainee teachers, teacher education programs should enhance their curricula and instructional methods (Gina et al, 2023; Richards & Farrell, 2011). This means that in order to provide comprehensive support for ESL trainee teachers, teacher education programs should carefully review and update their curricula and instructional methods to ensure they are equipped to address the diverse needs and potential challenges faced by these educators. This may involve incorporating specialised training, resources, and strategies tailored to the unique circumstances of ESL teaching. This strategic focus not only ensures trainee teachers are equipped with essential skills and competencies but also aligns their training programmes with real-world demands and expectations.

REALITIES

During their teaching practicum, trainee teachers often find that the reality of classroom teaching is quite different from the theoretical knowledge they acquired during their studies. As mentioned by Perrow, M. (2013), practicum teachers sometimes experience a gap between best practices that they learn in teacher preparation programs and actual practices that they encounter in classrooms as student teachers. The author further elaborated that there are consistent complaints from distressed student teachers who encounter a disparity between the teaching practicum they expect to see during their classroom placements and the actual practices observed in the classes taught by their cooperating teachers or school mentors. While educational theory provides a strong foundation in pedagogy, classroom management, and instructional strategies, it cannot fully prepare them for the dynamic, unpredictable nature of real-life teaching environments. These experiences often reveal gaps between theory and practice, highlighting the complexity of teaching and the need for flexibility, creativity, and resilience. Sands and Goodwin (2005) provided further support for this idea by emphasising that trainee teachers frequently express dissatisfaction with the disparity between their university learning expectations and the actual realities they encounter. Hence, this matter emphasises the need for better alignment between teacher training programs and the practical demands of the classroom.

In addition, the mismatch between what trainee teachers experience during their practicum and the reality of the teaching profession often became the topic of interest for many researchers. Sutherland et al., (2010) highlighted that making sense of what it means to be a classroom teacher takes time, which means that the discrepancy between training and practice reinforces the notion that becoming a skilled, effective teacher is a gradual process, requiring continuous learning, adaptation, and time to fully comprehend the multifaceted responsibilities of the profession. Furthermore, Gilad and Alkalay (2014) highlighted those new teachers often find themselves in a challenging and demanding environment, as they strive to adapt to a reality that differs from their experiences during their teaching practice. This is even more overwhelming, as mentioned by the authors, when new teachers come to school where the staff is more experienced than themselves. So, exposure to real school environment should be started not only during practicum in which to be taken during the final year of study but also during the early year by structuring courses involving schools.

On top of that, Fenwick (2011) argued that it is common for teachers in the initial years of their teaching careers, following their training, to experience transition and change. This is further complicated by curriculum adjustments, as noted by the author. Additionally, Sabar Ben-Yehoshua (2001) suggested that new teachers' adjustment stages resemble those of immigrants. When transitioning from the teaching practicum to actual teaching in their first year, new teachers experience intricate processes of re-socialisation and de-socialisation while assimilating aspects of the school's organisational culture. Thus, Sabar Ben-Yehoshua (2001) drew a parallel between this adjustment period and the experiences of immigrants, suggesting that the stages of adjustment for new teachers are similar to those of individuals moving to a new country.

After all, the discrepancies between what is learnt in teacher preparation programs and what is experienced during practicum placements highlight the complexities of the teaching profession. Researchers like Perrow (2013), Sands and Goodwin (2005), and Sutherland et al. (2010) emphasise the need for continuous learning and adaptation as trainee teachers transition into professional educators. As they navigate these challenges, the practicum becomes a crucial phase in their development, requiring resilience, creativity, and the ability to reconcile theory with the realities of classroom teaching. Ultimately, this process underscores the importance of aligning teacher education with practical classroom demands, as well as the gradual nature of becoming an effective, skilled teacher.

CONCLUSION

In summary, practicum teachers that had undergone various challenges left them with an impactful experience throughout their journey as a teacher trainee. The experience made them realize their growth professionally and enabled them to understand their strength in classroom experience. Practicum also serves as an essential bridge between theoretical knowledge and practical application for ESL trainee teachers, offering a unique opportunity for these future educators to immerse themselves in real-world teaching environments. The practicum experience, though invaluable, is fraught with challenges that range from classroom management issues and adapting to diverse student needs to navigating resource constraints and aligning theoretical knowledge with practical realities. These challenges highlight the existing gap between teacher education programs and the dynamic nature of actual classroom settings. Despite these difficulties, the practicum is a crucial phase for professional growth, equipping trainee teachers with the resilience, adaptability, and skills needed to navigate the complexities of the teaching profession.

For stakeholders in education, including the Ministry of Education, university administrators, and teacher educators, it is imperative to recognise these challenges and work towards providing better support systems and practical training environments. This can be achieved through enhancing the curriculum, improving mentoring practices, and fostering closer collaboration between universities and schools. Universities can always make sure that the curriculum used in the programme structure is always up to date and can cater to the students' needs and capabilities. Before going out to the real world, trainee teachers must be given ample opportunities to actually experience the real setting so that they will not be culture shock upon arriving at the real world. The realities of classroom teaching often slightly deviate from expectations, revealing gaps in preparation. Trainee teachers frequently express dissatisfaction with the differences between their training and actual classroom practices. This stresses the need for better alignment between teacher education programs and real-world classroom demands, along with ongoing support systems to aid their transition into professional roles. Addressing these areas will help bridge the gap between theory and practice, ensuring that trainee teachers are well-prepared to face the realities of the classroom.

Ultimately, the teaching practice is not just about preparing trainees to teach. These teachers went through several challenges, had numerous expectations when diving into the world of teaching and also went through the harsh realities in becoming a true educator. The experience that they gained shaped them into becoming reflective, competent, and confident educators who are capable of contributing meaningfully to the education system. By understanding and addressing the challenges faced during the practicum, we can ensure that trainee teachers are better equipped to inspire and educate future generations, thereby fulfilling the broader goals of quality education as outlined in Sustainable Development Goal 4. Safe to say that the experiences, the challenges and realities faced by the trainee teachers are crucial for them to endure so that they can be an individual that is resilient, adaptive to any situations and will continuously learn to improve themself once they are in this complicated but lovable profession.

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PERCEIVED FUNCTIONS AND PERSPECTIVES OF CODE-SWITCHING IN ESL CLASSROOMS AMONG ENGLISH TEACHERS: A CASE STUDY AT A LOW-PERFORMANCE SCHOOL

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ABSTRACT

Code-switching is a pedagogical practice that has long been a subject of debate among educators especially pertaining to the ESL classroom in Malaysian education. Over the years, there are conflicting views regarding the implementation of code-switching in teaching English- some view it as an erroneous method for it stifles language development while others have praised the practice to assist the students master the L2 more effectively. The research on code-switching is found to be lacking among low-performance schools in the country due to the emerging research focus on higher education practice. Henceforth, this study aims at answering two objectives. The first is to investigate the English teachers' perceived functions of code-switching in ESL classrooms at a low-performance secondary school. The second objective is to analyse the perspectives of English teachers towards code-switching. Four English teachers of the school were purposively selected for this study. A case study with the use of semi-structured interviews were first administered with the teachers to discover their perceived functions of code-switching and perspectives towards code-switching. Next, classroom observations were conducted to observe the actual functions of code-switching practiced in the classrooms. The data collected from the interview was analysed using thematic analysis while the data from the observations was analysed via SPSS. The findings show that the teachers believe code-switching functions to facilitate language acquisition, promote meaningful learning and cultivate positive engagement and communication and their perspectives towards code-switching are mostly positive although some concerns were raised on the possible negative effects. In conclusion, code-switching should be utilized as a teaching tool especially in teaching ESL to students of low-proficiency. It is also important for the pre-service teachers to be exposed and guided to integrate code-switching in ESL lessons.

***Key Words**: Code-switching, ESL Classrooms, Teachers' Perceived Functions, Teachers' Perspectives*

INTRODUCTION

Code-switching is a linguistic phenomenon that arises from bilingualism and multilingualism, where learners mix their first language with a second language during speech (Myers, 2008). Milroy and Muysken (1995) describe it as the use of two or more languages in the same conversation, while Gumperz (1982) refers to it as the juxtaposition of speech from different grammatical systems. Although there are various definitions, code-switching remains a debated topic in education, especially in Malaysian ESL classrooms, where it has been widely discussed (Lin, 2013).

Malaysia, as a multilingual and multiracial country, naturally integrates code-switching into everyday life, including education. The use of multiple languages, such as Malay, Mandarin, and Tamil, has made code-switching common, especially in Malaysian ESL classrooms. Macaro (2005) highlights that code-switching helps students better understand English due to their limited language proficiency. However, some believe that English should be taught solely in the target language, a view reinforced by the Malaysian education curriculum, which discourages integrating the learners' L1 in English lessons (Martin, 2005). The struggle to balance language use dates back to the British colonial era and continued

through the shifts in policy, such as the implementation of the Razak Reports, the switch to Bahasa Malaysia as the medium of instruction, and the introduction of programs like PPSMI in 2003 (Yamat et al., 2011).

Over the years, various policies aimed at improving English proficiency have been introduced, including the Malaysian Education Blueprint (2013-2025) and the English Education Roadmap (2015-2025). These efforts sought to establish a bilingual education model with English as a key focus. However, despite these changes, reports like Pemandu (2016) show that many graduates still struggle with English proficiency. In classrooms, particularly with low-proficiency students, teachers often use code-switching as a pedagogical tool, though negative perceptions of the practice persist (Ibrahim et al., 2013).

Problem Statement

In classrooms where two languages coexist, particularly when students share the same linguistic background, code-switching frequently occurs (Jacobson, 2004). Code-switching is often used as a communicative strategy due to its facilitative role in encouraging student participation, especially among those with low proficiency (Selamat, 2014). However, the advantages of code-switching are often overshadowed by concerns about its potential drawbacks. Critics argue that overreliance on code-switching may hinder students from fully mastering the target language, as it fosters dependence (Selamat, 2014).

Numerous studies have explored teachers' attitudes and perspectives on code-switching, though many recent findings remain inconclusive. For example, Narasuman et al. (2020, 2021) examined code-switching in multilingual classrooms and found that most teachers favoured its use. Their results align with Roslan et al. (2023) where most teachers acknowledged the effectiveness of code-switching in ESL lessons. Azlina and May (2020) reported mixed feelings among teachers—some highlighted its benefits, while others expressed concerns about overuse. In contrast, Ooi (2017) found that all four teachers in her study, conducted in national secondary schools, were reluctant to use code-switching, with some resorting to it only due to the low proficiency of their students. These mixed results prompt further investigation, particularly in the context of low-performing, rural schools.

Based on the researcher's observations and a review of the literature, there is a gap in research on code-switching in low-performing secondary schools. Muthusamy et al. (2020) noted that most recent studies on code-switching have focused on universities and colleges. Although there is substantial research on code-switching in secondary schools, much of it focuses on national schools, with little attention given to low-performing schools, even though students in these schools, who are mostly low-proficient in English, face greater challenges in learning the language (Ler, 2012). Farah and Abu Bakar (2019) pointed out that students from rural and low-performing schools are more likely to fail English exams due to limited exposure, lack of practice, and low motivation, as many do not see English as relevant to their lives. Therefore, the key research question is whether code-switching plays a more vital role in ESL classrooms at low-performing schools. Will it be used more frequently in these contexts? And will the views gravitate towards positive or negative spectrum or both views are recorded?

Research Objectives

1. To investigate the English teachers' perceived functions of code-switching in ESL classrooms at a low-performance secondary school.
2. To analyse the perspectives of English teachers towards code-switching.

Research Questions

1. What are the English teachers' perceived functions of code-switching in ESL classrooms at a low-performance secondary school?
2. What are the perspectives of English teachers towards code-switching?

LITERATURE REVIEW

This literature review seeks to explore the use of code-switching in Malaysian ESL classrooms, focusing on its functions and teachers' perspectives. To observe the phenomenon, it utilises two relevant theories linked to code-switching in ESL, followed by an analysis of its general functions. The exploration then shifts to examine both positive and negative teacher views on code-switching in classroom settings, hoping to provide a strong foundation for understanding and applying code-switching in low-performance Malaysian schools in ESL context.

Theoretical Framework

The study utilizes two major theories of education as its foundation; Krashen's Theory of Second Language Acquisition and Vygotsky's Social Constructivism Theory.

Krashen's Theory of Second Language Acquisition

Krashen's Theory of Second Language Acquisition (1984) offers five hypotheses that are key to understanding language development, with particular relevance to code-switching in education. The first, the Acquisition-Learning Hypothesis, distinguishes between the subconscious acquisition of language and conscious learning, emphasizing that fluency develops more through acquisition (Tricomi, 1986). The Monitor Hypothesis suggests that learners use their acquired knowledge to plan, edit, and correct language use, once they have a sufficient grasp of L2. The Input Hypothesis stresses the need for comprehensible input, where educators provide language slightly beyond the current level of the learner ("i+1") to promote understanding. Krashen also highlights the Affective Hypothesis, which links successful language learning to factors like motivation and confidence, and the Natural Order Hypothesis, which proposes that language structures are acquired in a predictable sequence.

In the context of code-switching, Krashen's Input and Affective Hypotheses are particularly relevant. Teachers can use code-switching as a tool to provide comprehensible input when students struggle with English, especially in low-proficiency classrooms (Muthusamy et al., 2020). By offering explanations in the students' first language (L1), teachers bridge comprehension gaps and enhance learning. Furthermore, the Affective Hypothesis underscores how code-switching can boost students' motivation and engagement, especially when dealing with challenging material like literature. Alleviating students' anxiety through code-switching can improve their satisfaction, attention, and confidence in mastering the L2 (Nawaz et al., 2023; Al-Mahrooqi & Al-Wahaibi, 2012).

Vygotsky's Social Constructivism Theory

Lev Vygotsky's Social Constructivism theory emphasizes learning through social interaction, positioning the teacher as a mediator rather than an organizer (Lindqvist, 1999). In this context, teachers are seen as key facilitators, encouraging learners to engage with real-world language use (Tornbull & Arnett, 2002). Central to this theory is the Zone of Proximal Development (ZPD), which refers to tasks that learners can accomplish with support from teachers or more-skilled peers (Santrock, 2018). Scaffolding, a key strategy, involves adjusting support to match students' performance levels, promoting independent learning and critical thinking (Santrock, 2018).

When applied to code-switching, Social Constructivism suggests that teachers should nurture students' language development by using scaffolding, such as code-switching to fill comprehension gaps (Ooi,

2017). This support helps students gain confidence in their L2 learning. However, teachers must also ensure that code-switching is used in moderation to prevent overdependence on L1 (Naha & Nkengbeza, 2018). Encouraging social interaction through code-switching fosters an inclusive learning environment, allowing students to express themselves freely, which ultimately enhances their English proficiency (Then, 2009).

Code-switching in Malaysian ESL Classroom Contexts

In Malaysian ESL classrooms, code-switching remains a widely-used pedagogical strategy due to the multilingual environment of the country. Teachers often rely on code-switching to support students who face challenges in mastering English, particularly in schools where proficiency levels are low. Recent research (Azman, 2021; Majid, 2020) has shown that code-switching helps to make content more comprehensible, allowing students to understand complex concepts and instructions in English by drawing on their native languages. This practice is especially prevalent in low-performing schools, where teachers use it as a tool to enhance students' engagement and facilitate learning.

Research from the past five years has identified various functions of code-switching in Malaysian classrooms, including aiding curriculum access, managing classroom behavior, and fostering interpersonal relationships. Studies by Raman et al. (2022) and Mahdi et al. (2019) found that teachers frequently switch between languages to explain difficult terms, clarify grammar points, and maintain discipline in low-performing schools. These findings are consistent with the idea that code-switching promotes greater participation and motivation in students, making them feel more comfortable and capable of contributing in an English-language environment. This practice fosters an inclusive learning atmosphere, particularly for students with low English proficiency.

Functions of Teacher Code- switching

Ferguson (2003) identified three main functional categories of code-switching: curriculum access, classroom management discourse, and interpersonal relationships. Code-switching for curriculum access helps low-proficiency students understand texts and instructions in a familiar language, allowing teachers to explain concepts more effectively. For classroom management, code-switching is used to motivate, discipline, and praise students, as well as maintain attention and negotiate instructions. Selamat (2014) also highlighted its role in classroom discipline. Code-switching for interpersonal relationships fosters rapport between teachers and students, promoting participation and reducing stress through humour and warmth, as noted by Ooi (2017) and Mareva (2016).

Additionally, ten specific functions of code-switching in the classroom include explaining difficult words, grammar, instructions, managing discipline, building relationships, promoting understanding, praising, saving time, repeating explanations, and supporting low-proficiency students. The researcher agrees that code-switching enriches the ESL learning experience and aids in achieving learning objectives (Modupeola, 2013; Ariffin & Husin, 2011). It provides essential language support, especially for low-proficiency students, encouraging them to develop intrinsic motivation to learn English (Patrick et al., 2011).

Teachers' Perspectives towards Code-switching

Several studies have highlighted that many teachers view code-switching as an effective tool for enhancing language comprehension and classroom engagement in Malaysian ESL contexts. Teachers often use it to explain difficult concepts, clarify instructions, and maintain student motivation, especially in low-proficiency classrooms (Azman, 2021; Majid, 2020). This pedagogical approach helps bridge the gap between students' native languages and English, fostering a more supportive learning environment. Raman et al. (2022) also observed that teachers believe code-switching promotes a deeper understanding of lesson content, especially in subjects that require critical thinking and technical vocabulary.

However, some scholars warn of potential drawbacks to over-reliance on code-switching. According to recent studies (Abdullah et al., 2023), excessive use of the students' first language might impede their long-term English language development. If teachers frequently code-switch, students may become dependent on translation and less motivated to practice English independently. Azlina (2019) stated that interference from L1 and L2 might occur due to code-switch as students begin to construct English sentences using their L1. This would completely hinder their acquisition, as their English is already weakened by the excessive use of L1 (Dykhanova, 2015). Despite these concerns, most researchers agree that when used judiciously, code-switching is a valuable tool, particularly in Malaysian classrooms with low-proficiency students, as it enables smoother communication and more effective teaching of English.

RESEARCH METHODOLOGY

This study employs qualitative method with the research design of a case study. According to Crossman (2020), the qualitative research design is characterized by its inductive and flexible approach to gathering data, allowing for the capture of detailed and comprehensive descriptions and explanations of experiences, behaviours, and beliefs. Since this study seeks to investigate the issue of code-switching, this method would extract rich data regarding functions of code-switching and teachers' perspectives (Chua, 2020). Five teachers of the selected school were involved in a semi-structured interview and classroom observation to answer the research questions and to triangulate the results, ensuring reliability and validity of the study.

Population and Sampling

This study involved five English teachers of SMK Padang Kala, a low-performance school in the Kota Bharu district. Utilizing a non-probability sampling that is purposive sampling, semi-structured interviews and classroom observations were supervised to gauge the teachers' perspectives of the practice of code-switching as well as analysing the actual functions of code-switching in their lessons.

This research employs two types of research instruments which are semi-structured interview and classroom observation to answer the two Research Questions posited.

Table 1: Summary of Research Questions and Methodology

Research Question	Methodology
What are the English teachers' perceived functions of code-switching in ESL classrooms at a low-performance secondary school?	Semi-structured interview and classroom observation
What are the perspectives of English teachers towards code-switching?	Semi-structured interview

The interview items are adapted from Simasiku (2016), Islam & Ayfer (2021) as well as the researcher's own items. There are 12 items for the interview instruments. The questions are divided into three sections which are Section A, Section B and Section C. Section A consists of three demographic questions while Section B consists of four questions posed to seek the teachers' perceived functions of code-switching. Finally, Section C consists of five questions in relation to teachers' perspective towards code-switching.

The teachers participated in interviews first to discover their perceived functions and perspectives of code-switching. After the completion of the interviews, in order to observe the practical functions of code-switching in real-life classroom scenario, classroom observations were conducted, using the items adapted from Zainil & Arsyad's (2016) research. The classroom observations were conducted for 30 minutes or 1 period for each teacher. To assist the process, the classroom observation checklist was

designed to record notes during the classroom observations as it helps in organizing the data better and ensuring the consistency of the notes (Creswell (2012). The interview data were analyzed using thematic analysis, while the data obtained from classroom observations were processed using SPSS for statistical analysis.

Moreover, reliability and validity are important features of empirical research. Nora et al. (2019) defined validity is the degree to which a measure gives the correct answer. To ensure reliability and validity of the items, the researcher consulted several content and language experts as well as conducting pilot study with one of the teachers prior to the actual interview. As a result of the pilot test and expert consultations, several questions were rephrased for better clarity.

FINDINGS AND DISCUSSION

The participants in this study, who come from various backgrounds and have different levels of experience and academic qualifications, offered valuable and extensive perspectives on the use of code-switching in ESL classrooms. Table 4.1, Demographic Profiles of Teachers illustrates academic backgrounds, teaching experiences and form teaching of each informant.

Table 2: Demographic Profiles of Teachers

Informants	Teacher 1	Teacher 2	Teacher 3	Teacher 4
Academic Background	• Bachelor of Law, IIUM • Diploma in Education (TESL)	• Bachelor in Translation and Interpretation, USM • Diploma in Education (TESL)	• Bachelor in Education (TESL), UKM	• Bachelor in Business Administration, IIUM • Diploma in Education (Accounting and Economy)
Teaching Experience	More than 20 years	22 years	More than 20 years	25 years
Form Teaching	Lower forms and upper forms classes	Lower forms and upper forms classes	Lower forms classes.	Lower forms and upper forms classes

The English Teachers' Perceived Functions of Code-Switching in ESL Classrooms

From the interview findings, three themes emerged; facilitates language acquisition, promotes meaningful learning and cultivates positive engagement and communication. The findings of the interview are presented in thematic analysis tables.

Theme 1: Facilitates Language Acquisition

In the interview, the researcher posited the question "*When you code-switch in your class, what changes have you noticed, if any, in the lesson? Can you elaborate with any specific instance?"* and *"When you code-switch, how do you ensure the students' understanding of the lesson?".* These questions seek to unearth the teachers' perceived functions of code-switching in ESL classes. Based on the findings, it is clear that teachers view code-switching as a helpful tool for language acquisition in ESL lessons. Teacher 3 explained, "*I would speak English then I would ask them to listen carefully. I would code-switch it. At least they know the meaning of this word*," indicating that she believes code-switching enhances students' vocabulary by linking English words to their mother tongue. Teacher 4 also noted

that after code-switching, "*after every lesson, they can do the exercises better"* and they could *"understand the instructions*." Similarly, Teacher 3 remarked, "*Once I code-switch, they can answer the question… they can get the keyword."* The English teachers of SMK Padang Kala collectively observed code-switching to function in facilitating the students' language learning. Code-switching can clarify and ensure understanding with regards to instruction and the lessons as whole. Students' vocabulary repository can also be improved with the practice of code-switching. This is the aligned with Simasiku et al. (2016) who noted that teachers saw code-switching to enhance students' academic achievement as it enriches students' learning of the English language.

Theme 2: Promotes Meaningful Learning

The second theme that emerged from the interviews is the promotion of meaningful learning, particularly in internalizing vocabulary. Teacher 2 noted, "*They now know the word 'submit.' And you have to hand in your essay. They know the word 'hand in.*' *Submit means hantar. First of the year we explain. And at the end of the year, they know, they understand.*" Additionally, she encourages students to use English in real-life situations, stating, "*If you want to go to the canteen, you say 'I want to go to the canteen, I want to buy rice.'"* This approach highlights the importance of rote learning as a foundation for students with low English proficiency. Teacher 2 employs repetition to help students retain information, explaining, "*So I speak again in English. And then repeat again. They have to do some repetition."* Although students may initially find this burdensome, such methods lead to successful vocabulary acquisition by the end of the year.

Furthermore, Teacher 2 emphasizes drilling to foster real-life English practice. She stated, *"Normally, I do drilling. Drilling on speaking."* To encourage students to move away from speaking Malay, she uses code-switching during drills, saying, *"adik (referring to her students), please use proper English. If you couldn't say, you cannot go out."* By implementing both punishment and reward, she motivates students to use English in practical scenarios. Even if they do not fully grasp the meanings, this method helps them take initial steps toward understanding the language. The teachers agree that code-switching is essential for effective rote learning and for internalizing knowledge.

The English teachers viewed code-switching as a tool for promoting meaningful learning, as it allows students to absorb vocabulary and knowledge at their own pace, with teacher support. This process helps students internalize and retain information, leading to deeper learning. Wijaya's (2021) study in Indonesia supports this, showing that code-switching can foster critical thinking and more outgoing behavior, enhancing the overall learning experience. Similarly, Ooi (2017) and Patrick et al. (2011) found that code-switching strengthens teacher-student relationships, motivating students to master the second language, which ultimately leads to lifelong learning.

Theme 3: Cultivates Positive Engagement and Communication

Teachers perceive code-switching as an effective tool for fostering positive engagement and communication in the ESL classroom. One significant sub-theme is that code-switching enhances student participation. Teacher 1 noted, "*they (the students) are more confident to give response and participate*," while Teacher 2 observed that most students improved their written responses after code-switching. Such participation is crucial in language learning, as it helps to cultivate a passion for the subject.

Another important aspect is that code-switching enhances students' interest in learning. Teacher 3 reflected, "*So by code-switching, at least you are provoking their eagerness to learn English*," adding that increased interest leads to greater motivation. Furthermore, code-switching is seen as a confidence booster; Teacher 1 remarked, "*Sometimes before this, like they are afraid to give opinion. But after I do code-switching, they are able to give their opinions."* Teacher 3 also noted, *"Even though most of them don't really understand the meaning of the whole text, once I code-switch, they can definitely answer the question."* This indicates that, despite low mastery levels, code-switching helps students gain the confidence to engage with the material and participate more effectively. This is because when code-

switching is employed it leads to less-threatening learning environment which then in turn allows the students' positive relationship with the teachers and fellow students. This positive environment will support them to improve their language competencies to the fullest. Studies by Mareva (2016) and Younas et al. (2020) seem to echo the same finding as the present study. Both of the studies found that teachers code-switch for communicative and interpersonal functions like cracking jokes to alleviate monotony and stress. This leads to positive and friendly environment which brings the students the safe haven to learn English.

Findings from the Classroom Observation

In addressing Research Question 1 (RQ1) *What are the English teachers' perceived functions of code-switching in ESL classroom at a low-performance secondary school?,* in order to yield actual functions of code-switching practiced in the classroom, classroom observations were also administered apart from the in-depth interviews conducted. Using SPSS, the research found that the functions of code-switching all teachers employed are for comprehension check, enhance participation among the students and give instructions (mean=1). the findings from the in-depth interviews mostly match and tally with the teachers' actual practice of code-switch in the ESL lessons as many of the functions outlined in the interview are noted through the observation. Nevertheless, there was little discrepancy with regards to code-switching to motivate the students as there were only two teachers who employed code-switching to boost the students' motivation (Teacher 1 and Teacher 4) when in the interviews, all of the teachers emphasized on the importance of code-switching towards motivation. This is due to fact the two teachers are inherently reticent to adapt code-switching in their lessons, evident in their consistent preference of using only English in the lesson. This aligns with the findings from Ellis & Shintani (2013) whereby the teachers were found to view code-switching negatively but utilize the strategy only when the situation demands when in fact, they did not really believe the benefits of code-switching.

The English Teachers' Perspectives Towards Code-Switching

Through the findings of the in-depth interviews of the four English teachers, three themes were discovered: Empowers Student Confidence and Self-Esteem, Improves Student Motivation and Interest and Develops Excessive Teacher-dependence.

Theme 1: Empowers Student Confidence and Self-Esteem

To explore teachers' views on the affective aspects of code-switching, the interviewer asked, *"How do you react to your students code-switching in your class?" and "Is there a relationship between code-switching and students' motivation in ESL lessons?"* Most teachers expressed their acceptance of code-switching during lessons.

A prominent theme from the interviews is that Teacher 1 and Teacher 4 believe code-switching significantly boosts students' confidence and self-esteem. Teacher 4 remarked, "*Just a very simple question like 'do you have a boyfriend/girlfriend?'* I ask them to speak up," highlighting her use of relevant topics to engage students. By addressing issues close to their lives, she fosters a sense of being 'seen' and understood, which helps students feel more comfortable and confident in participating. Teacher 1 echoed this sentiment, stating that teachers must "give encouragement" to help build students' confidence, affirming her belief in using strategies that inspire and motivate students. When the teachers code-switch to provide encouragement and involve the students positively, their confidence will be boosted. Hence, the results of the present study corroborate with the study by Nguyen & Habok (2021) who reported that teachers believed that the practice of code-switching apart from many other functions, do well to enhance the students' level of confidence. This is why involving the students in the discussion via code-switching is important for the students will feel that their voices are heard and unjudged hence the inflated confidence.

Theme 2: Improves Student Motivation and Interest

When asked about code-switching, many teachers highlighted its positive impact on student motivation and interest. Teacher 1, in particular, expressed a strong belief in its benefits, noting that it makes teaching "livelier," leading low-proficiency students to engage more actively. She stated, "*But how to attract their attention, I have to code-switch. And then we can see that they are more eager to give response."* This illustrates how code-switching enriches students' interest and participation in English.

Teacher 1 further emphasized that code-switching boosts motivation by helping students understand lessons better: "*when they understand certain things... they will be more motivated to learn*." Similarly, Teacher 3 remarked, "*So, if they understand it, when you code-switch, they will try to learn something*." Teacher 4 reinforced this perspective, stating that code-switching is essential for fostering understanding and love for English: "*Especially for students to get more understanding to help them love English."* Collectively, these insights demonstrate that code-switching plays a crucial role in enhancing students' engagement and enjoyment of the subject. Code-switching serves as a tool to enhance meaningful participation and enjoyment in lessons. By using code-switching, teachers can encourage shy or struggling students to engage in discussions, fostering a positive learning environment and cultivating fondness of language learning. This aligns with Leoanak and Amalo's (2018) findings, which highlight that teacher in an Indonesian district view code-switching as beneficial for maintaining interpersonal relationships, boosting students' motivation and confidence, and reducing anxiety in English lessons. Ergo, it can be concluded that code-switching does play a major role as motivation booster and nurtures fruitful participation from students.

Theme 3: Develops Excessive Teacher-dependence

Teacher 2 expressed concerns about code-switching leading to excessive teacher dependence among students, stating, "*But here is Padang Kala, everything is spoon-fed*" and noting that "*Teachers talk a lot. Teachers talk more than the students*." This suggests that students may rely too heavily on teachers, taking code-switching for granted and not taking initiative to improve independently.

Additionally, Teacher 3 also highlighted that this dependence fosters laziness, explaining, "*I'm just like a walking dictionary*," as students frequently ask, "*Teacher, tak faham(Teacher, I don't understand)."* Teacher 1 echoed this sentiment, stating, "*Because the students, they are lazy to browse the dictionary*." This reliance on teachers can hinder their learning process, making them passive and less engaged.

In essence, code-switching, albeit provides a lot of benefits to the students, can also be debilitating when it causes the students to develop overdependency towards the teachers. The teachers claimed that when students are too accustomed to being assisted, they lose the desire to self-initiate and help themselves as the teachers were always there to translate to them when they are in need. This, in return, will breed laziness among the-already weak students. Tabaku (2014) also reported the same findings regarding code-switching in Albania. He discovered that code-switching caused learners to became dependent on teachers' code-switching and therefore stunts the students' language development especially in the skills of inferring meaning from the context. Hence, it is clear that helping the students means code-switching should be administered in suitable circumstances as well as in moderation so that the language learning is supported and not jeopardized.

In summation, it is indisputable that the practice of code-switching has garnered both positive and negative views from the teachers not only in the local context but also across the globe. However, the results show that teachers' perspectives of code-switching were mostly favourable and positive for they acknowledge the good values it injects in the ESL lessons, although care must be taken in the process since there are also negative implications of code-switching according to the teachers.

CONCLUSION

This study highlights the role of code-switching in ESL classrooms, particularly in low-performing schools. Through interviews and classroom observations, it was found that teachers believe code-switching helps with language acquisition, promotes meaningful learning, and encourages positive engagement and communication. While the teachers all recognized code-switching's motivational function, only two demonstrated this in practice. The most common uses of code-switching were to check comprehension, encourage participation, and give instructions.

This study has also confirmed the English teachers' perspectives towards the practice of code-switching in SMK Padang Kala. While all of the teachers accepted the positive impacts of code-switching; that it helps to empower student confidence and self-esteem, improve student motivation and interest, however two teachers were concerned on the negative effect code-switching that it causes students to develop excessive teacher-dependence. All of the teachers concurred that code-switching, in their perspectives, functions the most in SMK Padang Kala to help improve students' language ability and understanding in English lessons. In addition, despite the negative impacts, all of the teachers collectively agreed that in teaching ESL at a low-performance school with low-proficient students, code-switching is undoubtedly a vital element in transmitting knowledge and assisting the students in the teaching and learning practice.

Henceforth, the practice of code-switching must be exposed to pre-service teachers so they can integrate the practice seamlessly in the classrooms, with masterful utilization to maximise language learning. In addition, this research may shed a light for teachers to reexamine their teaching. Once teachers recognize the positive effects of code-switching, they may reassess and adjust their teaching methods. A deeper understanding of code-switching's role in second language learning can inspire teachers to develop more effective strategies in ESL lessons, helping to better meet students' language needs and improve comprehension. Additionally, by acknowledging the benefits of code-switching, teachers can encourage students to participate more actively in discussions, making them feel more comfortable sharing their ideas when code-switching is allowed.

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EMPOWERING PRONUNCIATION SKILL AMONG LOW-ABILITY PUPILS IN SK KUALA BESUT 2 THROUGH THE USE OF I-MOVE CARD GAME

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ABSTRACT

Pronunciation skill is a critical component of learning and communication in English. However, pronunciation instruction in school-based English classes is often insufficiently emphasized. Many low-ability pupils at SK Kuala Besut 2 have been found to encounter difficulties in correctly pronouncing English words. Therefore, this study seeks to determine the effectiveness of the I-Move Card Game in enhancing the pronunciation skills of low-ability pupils. This action research involved a sample of 30 low-ability English language pupils, with 10 pupils each from Year 3, Year 4, and Year 5 selected as participants. Data were collected through pre-tests and post-tests, task-based interviews, and surveys. The findings indicated significant improvement, with all 30 pupils achieving higher scores in the post-test compared to the pre-test. Notably, 27 out of 30 pupils achieved a perfect score in the post-test. This study also suggest that the use of the I-Move Card Game is fun through moving the alphabets cards to form correct words besides pupils are able to pronounce the words collaboratively and repeatedly. The strategies effective in improving pronunciation skills of low-ability pupils, particularly in pronouncing less commonly used English words in the school setting. Consequently, the continued use of the I-Move Card Game is recommended for future interventions, with a focus on diversifying vocabulary and incorporating specific themes to further enhance the pronunciation of other English words.

***Keywords**: I-Move Card Games, low-ability pupils, pronunciation skill.*

INTRODUCTION

SK Kuala Besut 2 is a fully government-funded primary school located near the Kuala Besut coast in Terengganu. Situated approximately 1.5 kilometers from the Kuala Besut Marine Department Jetty, which is a popular point of departure for both domestic and international tourists heading to Perhentian Island, the school is in an area frequented by tourists. This proximity necessitates that the local community, including students, communicate in English with foreign visitors. Consequently, accurate and clear English pronunciation is essential to ensure effective communication with these tourists. Pronunciation skills refer to an individual's ability to produce the sounds of a language correctly, encompassing aspects such as phonemes, syllables, word stress, and intonation. These skills are a crucial component of learning English and achieving effective communication (Celce-Murcia et al., 2010). Empowering pronunciation skills among low-ability pupils at SK Kuala Besut 2 is therefore a critical step toward enhancing their proficiency in communicating in English.

At the international level, there is an ongoing issue regarding the insufficient emphasis on pronunciation instruction in English curricula that focus on communication and interaction. According to Levis et al. (2005), pronunciation teaching has undergone significant changes over the latter half of the 20th century, highlighting controversy regarding its role in communicative language teaching. Nevertheless,

pronunciation remains an essential element in mastering the English language, as language becomes meaningless if listeners cannot understand the speaker's message. In the Malaysian context, direct pronunciation instruction is seldom implemented in classrooms. Pupils tend to develop their pronunciation skills indirectly through listening and speaking activities. Exercises such as minimal pair drills, phonemic crosswords, and phonemic hangman are commonly used to practice pronunciation in English lessons. However, pronunciation is a fundamental tool for communication and should, therefore, be regarded as an essential component that must be integrated into classroom instruction (Derwing & Munro, 2015).

This study aims to determine the effectiveness of using the I-Move Card Game to enhance the pronunciation skills of low-ability pupils at SK Kuala Besut 2. By focusing on elements such as sounds, syllables, word stress, and intonation during teaching sessions, it is hoped that pronunciation awareness will increase, gradually building listening and speaking skills among the pupils. This is crucial because correct pronunciation positively impacts second language learning, enabling pupils to acquire the skills necessary for effective communication in English.

Reflection on Teaching and Learning

In teaching and learning environment, pupils should be able to communicate effectively in English, with a clear and accurate pronunciation that facilitates understanding by both peers and educators. Speaking skills, particularly pronunciation, should be emphasized as a fundamental component of language acquisition, enabling students to express themselves confidently and accurately in English (Derwing & Munro, 2015). However, during teaching and learning sessions at SK Kuala Besut 2, it became evident that there were significant challenges in achieving this communication and speaking skills. The researchers observed that many low-ability pupils struggled with pronunciation, leading to difficulties in understanding their spoken English. These issues were particularly noticeable during activities such as brainstorming, role-play, and reading aloud. Additionally, the pupils exhibited a lack of participation and enthusiasm in speaking activities, often due to fear of mispronouncing words. In the Malaysian context, pronunciation is not typically taught directly but is instead integrated into listening and speaking lessons, which may contribute to these challenges (Kementerian Pendidikan Malaysia, 2017).

The consequences of these challenges are significant. The pupils' inability to pronounce English words correctly not only hindered effective communication but also affected their confidence and willingness to participate in speaking activities. The interference of their first language, Malay, further complicated their pronunciation, leading to errors in aspiration, stress, and intonation. This language interference exacerbated the difficulties pupils faced in acquiring accurate pronunciation, which is crucial for their overall language development and communication skills (Ramzan & Javaid, 2023). Given the importance of pronunciation as a tool for effective communication, it is essential to address these challenges. Accurate pronunciation enables pupils to be understood clearly by others and contributes to their overall language proficiency. Recognizing this, the researchers decided to implement a study using the I-Move Card Game as a method to enhance the pronunciation skills of low-ability pupils at SK Kuala Besut 2. By drilling the words through this interactive and engaging approach, the goal is to empower pupils to improve their pronunciation, thereby boosting their confidence and participation in English-speaking activities (Leonita et al., 2023).

Problem Statement and Research Focus

Good pronunciation should be one of the first aspects learned in English language education. As Tomasz (2012) points out, "Pronunciation is definitely the biggest thing that people notice when we are speaking English." Mastery of pronunciation not only ensures that speakers are understood by their listeners but also enhances overall communication. Effective pronunciation teaching is key to maximizing learning outcomes in the classroom, allowing pupils to speak English confidently and clearly without difficulty. However, in our teaching experience at SK Kuala Besut 2, we observed that pronunciation posed significant challenges for low-ability pupils. Pronouncing English words correctly was one of the most

apparent problems among these students. For instance, many struggled with words like "admire," " early," "fight," "elated," " filthy," "mouth-watering," " scary," "afraid," "respect," and "gorgeous." The pupils often mispronounced these words, likely because they tended to pronounce them as they appeared in written form. Furthermore, the pupils seemed unaware of certain pronunciation errors in their speech, which hindered their ability to communicate effectively.

As Tomasz (2012) notes, " Even if you use correct grammar, people may simply not understand what you want to say because of your bad pronunciation." Mispronunciation can lead to misunderstandings and communication breakdowns, negatively impacting both the speaker and the listener. This issue is particularly problematic in a learning environment, where clear communication is essential for educational success. When pupils struggle with pronunciation, they may become less confident in speaking English, leading to reduced participation and engagement in language activities. Addressing pronunciation issues is therefore crucial for improving language proficiency and communication skills. By prioritizing pronunciation in English language teaching, educators can help pupils overcome these challenges, enabling them to communicate more effectively and confidently. This focus on pronunciation is essential for ensuring that pupils can convey their thoughts and ideas clearly, fostering better understanding and interaction in both academic and real-world contexts (Derwing & Munro, 2015).

Action Plan

Based on the overall discussion, this action research was designed based on the Kurt Lewin's action research model. This action research process was adapted from Lewin (1946) and Laidlaw (1992). Kurt Lewin (1946) has defined action research as a cyclical process which involved four steps. It was especially suited to integrate action with the classroom teacher's practice. Basically, there were four steps included in the integration of Lewin and Laidlaw: identifying issue, reflection, planning and action (Figure 1). Action research typically commences with the formulation of a general idea, which involves identifying a problem or issue that requires further exploration. The underlying causes of the problem are then determined. Following this, a detailed action plan is developed to address the identified problem or issue. This plan is subsequently executed, and the outcomes of the actions or interventions are carefully observed and recorded. Upon the completion of the action phase and the evaluation of results, a reflective process is undertaken to assess the effectiveness of the interventions. If the outcomes are not satisfactory, modifications to the action plan are necessary to enhance its effectiveness.

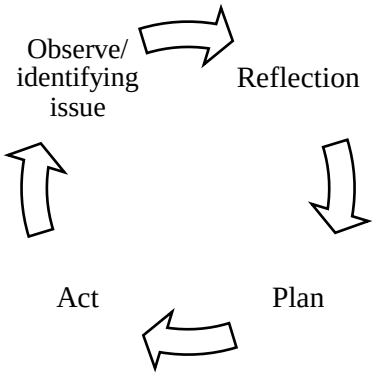

Figure 1: Model of Action Research by Kurt Lewin (1946)

Therefore, the procedure of this research was intended to foster deeper understanding of the identified problem which is improving the low-ability pupils' pronunciation skill. Figure 2 showed the action research cycle of steps that has been adapted from Lewin and Laidlaw.

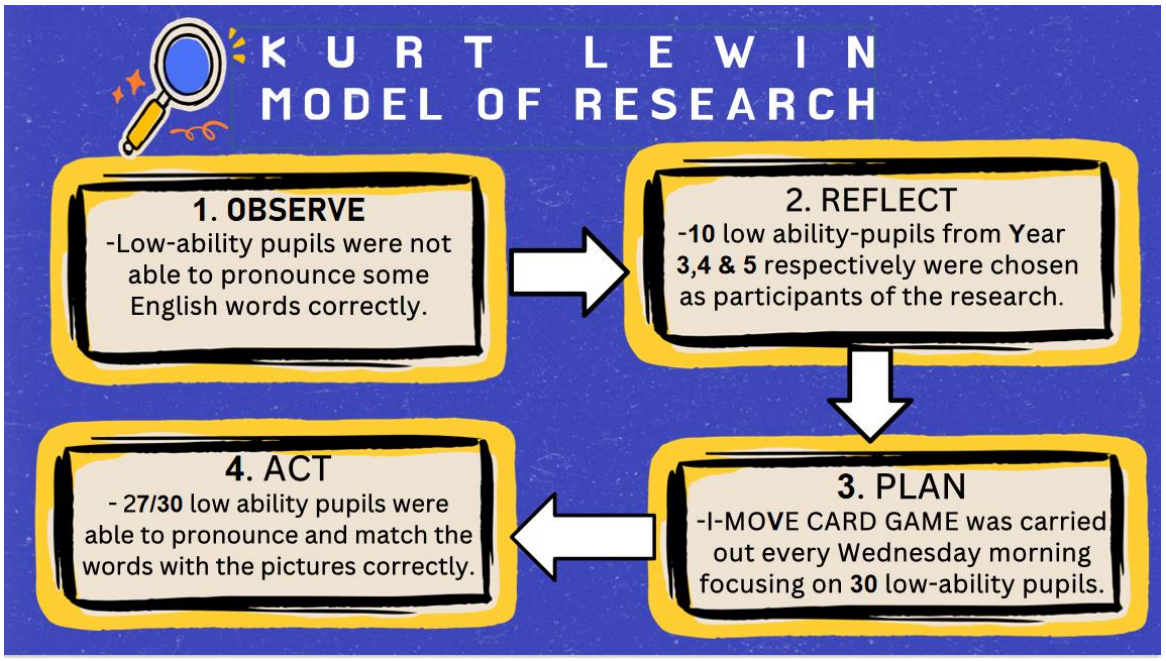

Figure 2: A Conceptualization of the Action Research Cycle.
Adapted from Lewin, 1946 and Laidlaw, 1992

Objectives and Research Questions

In this research, the researchers will describe the specific objectives and questions of this action research.

Research Objectives

Specifically, this study aims to achieve the following objectives:
1. Determine the use of I-Move Card Game in improving low ability pupils' pronunciation skill.
2. Explore the use of I-Move Card Game able to improve low-ability pupils' pronunciation skill.

Research Questions

Specifically, this study aims to answer the following questions:
1. Do low-ability pupils improve their pronunciation skill through the use of I-Move Card Game?
2. How does the use of I-Move Card Game able to improve low ability pupils' pronunciation skill?

RESEARCH METHODOLOGY

Interventions

The study was conducted with 10 low-ability pupils from Years 3, 4, and 5 at SK Kuala Besut 2. This research implemented the I-Move Card Game as an intervention aimed at improving the pronunciation skills of these pupils. Previous teaching sessions revealed that low-ability pupils encountered significant difficulties with both spelling and pronouncing English words accurately. Specific challenges included confusion in pronouncing words such as "admire", "early", "fight", "elated", "filthy", "mouth-watering","scary", "afraid", "respect", and "gorgeous". It was observed that the pupils tended to pronounce words according to their written form. Additionally, limited exposure to the English language and interference from their native language were identified as contributing factors to their pronunciation difficulties, particularly with silent letters (Riswanto & Haryanto, 2012). To address these

issues, the researchers conducted a review of relevant literature and studies, which informed the development of the intervention plan. The intervention aimed to provide a structured approach to improving pronunciation through the use of the I-Move Card Game, a tool designed to enhance both listening and speaking skills. The intervention also incorporated drilling techniques to reinforce pronunciation skills. The vocabulary targeted in the intervention was selected from the syllabus and was assessed through pre-tests and post-tests. The specific words included were "admire", "early", "fight", "elated", "filthy", "mouth-watering", "scary", "afraid", "respect" and "gorgeous".

The intervention was executed in three distinct phases: before, during, and after the implementation. In the initial phase, a pre-test was administered to 30 low-ability pupils to evaluate their prior knowledge and pronunciation proficiency. The pre-test was designed to assess verbal proficiency, and responses were audio-recorded for accuracy. This phase was conducted individually to ensure a focused assessment of each pupil's pronunciation of the ten given words. During the intervention phase, the I-Move Card Game was integrated into several teaching lessons, with particular emphasis on the 30 low-ability pupils who had shown pronounced difficulties in pronunciation. The card game was incorporated into assembly activities, and additional remedial lessons were conducted where pupils repeatedly practiced the pronunciation of targeted words and received explanations of their meanings. The final phase of the intervention, based on Kurt Lewin's model, involved the implementation and evaluation of the intervention's effectiveness. The detailed schedule of the intervention's implementation is outlined in the following table.

Table 1: Schedule of the Implementation of this Action Research

Date	Duration	Details
22 May 2024	30 minutes	- Pre-test was carried out with 30 low-ability pupils.
5 June 2024	15 minutes	- Intervention of using the I-Move Card Games was carried out in teaching and learning activities for the first time.
12 June 2024	15 minutes	- Intervention of using the I-Move Card Games was carried out in teaching and learning activities for the second time.
19 June 2024	15 minutes	- Intervention of using the I-Move Card Games was carried out in teaching and learning activities for the third time. - Observation checklists forms were provided to observers during the intervention.
26 June 2024	30 minutes	- Post-test was carried out with the pupils.
27 June 2024	1 hour	- Structured interview was administered with the pupils.

Participants

The research participants consisted of 10 low-ability pupils from each of Years 3, 4, and 5. Selection criteria for participants included willingness to learn, proficiency level, and gender. These criteria were reflected in the participants' enthusiasm and active engagement in the teaching and learning activities prepared by the teacher. Jackson (2005) asserts that "dreams can become a reality when we pose a vision," emphasizing the importance of commitment, a desire for excellence, and the belief in equal societal participation. Consequently, pupils who demonstrated a willingness to engage with the intervention were selected. Additionally, both genders were included to ensure the research was free from gender bias. Pupils were specifically chosen based on their difficulties with pronunciation observed during classroom sessions, aiming to provide targeted assistance in improving their pronunciation skills. Many participants primarily spoke their mother tongue at home, viewing English

mainly as an academic subject. Despite their pronunciation challenges, they were highly motivated and actively participated in various activities prepared by the teacher. Notably, they displayed enthusiasm in lessons involving other skills such as writing and reading, although their speaking skills remained underdeveloped. One example of engagement included a creative activity where pupils made stick puppets for "Little Red Riding Hood." While they eagerly decorated their puppets, issues with pronunciation were evident during the subsequent role-play activity, where some pupils mispronounced words such as "afraid," " early," "elated," and "filthy." The selection of these participants was deemed appropriate for meeting the research objectives. With only 30 low-ability pupils involved, the group was manageable and cooperative, contributing to the research's efficiency and organization. Howitt and Cramer (2005) highlight that the target group should be carefully chosen to maximize research productivity, and managing a smaller group of 30 out of a total of 460 pupils facilitated a more effective and well-organized study. Furthermore, Howitt and Cramer (2005) suggest that an excessively large group may inhibit individual participation, underscoring the practical benefits of a smaller, well-defined participant group.

Assessment Instruments/Strategies

In this study, a combination of one quantitative and two qualitative data collection methods was employed to facilitate the analysis and interpretation of the action research. The methods utilized included pre-tests and post-tests, structured interviews, and observation checklists. The selection of these three methods was aimed at achieving data triangulation, thereby enhancing the validity and reliability of the research findings. The quantitative data obtained from the pre-tests and post-tests were instrumental in addressing the first research question: "Do I-Move Card Games improve low-ability pupils' pronunciation skills?" Conversely, the second research question, "How does the use of I-Move Card Games improve low-ability pupils' pronunciation skills?" was explored through the qualitative data collected from structured interviews and observation checklists.

FINDINGS

Findings Based on Research Question 1

Do low-ability pupils improve their pronunciation skill through the use of I-Move Card Game?

Based on the scores obtained by the respondents in pre-test and post-test as shown in Figure 3, it showed that improvement was evidenced in low-ability pupils' ability in pronouncing the words. This is supported by the data collected in pre-test and post-test as the average percentage of improvement made in the tests administered is 80%. Interestingly, majority of the pupils have shown progress in pronouncing the words whereby the highest improvement made by the pupil is 100%. Meanwhile, the lowest improvement is 60%. Furthermore, during the post-test, pupil 7, 16, 25 and 29 were able to score 100% as they were able to pronounce all of ten words when the test administered. The majority of the pupils were able to pronounce at least eight out ten words correctly. This finding was also supported by the remarks made by both observers who claimed that they strongly agreed the utilisation of I-Move Card Game would be able to improve pupils' performance in pronouncing the words. It was testified in the observation checklist as they commented that *"I-Move Card Game could help to promote active participation among pupils".* For that reasons, it can be concluded that the pupils' ability in pronouncing the words had been significantly improved through the use of I-Move Card Game based on the data collected in this action research. This align with Nurhayati (2015) that mention using cards not only increase the pupils' motivation in learning English but also pronunciation ability.

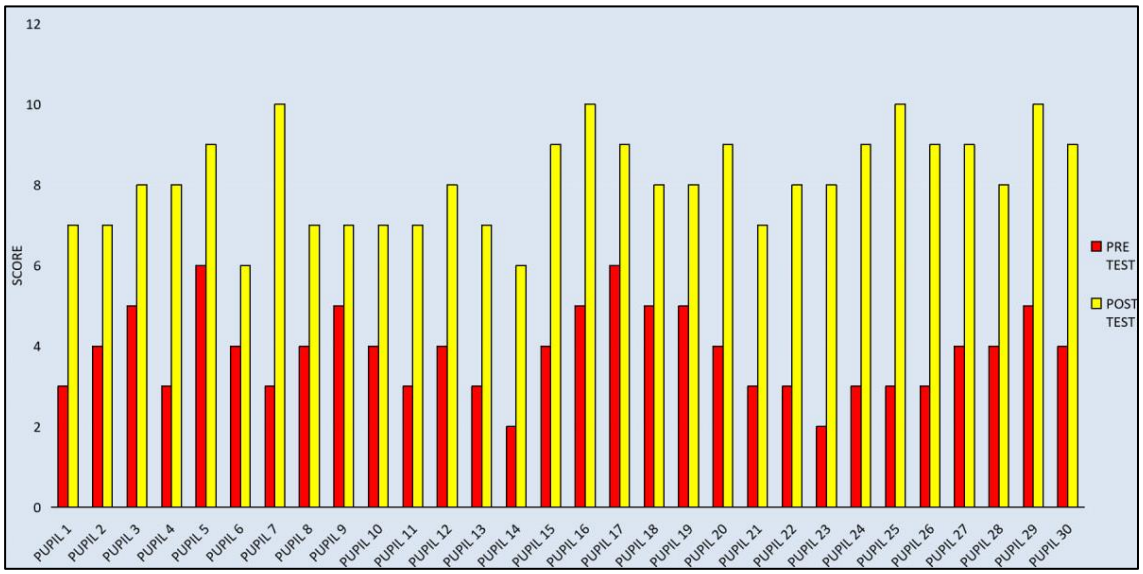

Figure 3: The Pupils' Score in Pre-Test and Post-Test

Findings Based on Research Question 2

How does the use of I-Move Card Game able to improve low-ability pupils' pronunciation skill?

i. Fun moving the alphabets cards to form correct words in school assembly

The use of I-Move Card Games clearly allowed pupils to improve their pronunciation skill through fun, enjoyable and meaningful activities designed in school assembly compared to drilling method in classroom. Through the use of I-Move Card Games, pupils found it was exciting yet challenging as they need to move their alphabets cards to form correct words (Figure 4). This is further supported by the response given from one of the pupils that *"I like I-Move Card Games because the words are not too long and easy to pronounce".* Another pupil also commented in the structured interview that *"I want to play I-Move Card Games in the next lesson".*

Figure 4: The Pupils Move Their Alphabets Cards to Form Correct Words

ii. Pupils pronouncing the words collaboratively

Since the pupils have never experienced the I-Move Card Games, they found it as interesting pronouncing the words collaboratively (Figure 5) because it can improve their pronunciation skill. Previously, the pupils found it hard to pronounce the words with silent letters because they have not learnt it in English lessons. Thus, the usage of I-Move Card Games was able to assist pupils in pronouncing the words as well as identified the spelling of the words (Figure 6). Thornbury (2002) stated that the useful games were those that could encourage pupils to recall words.

Figure 5: The Pupils' Pronouncing the Words Collaboratively

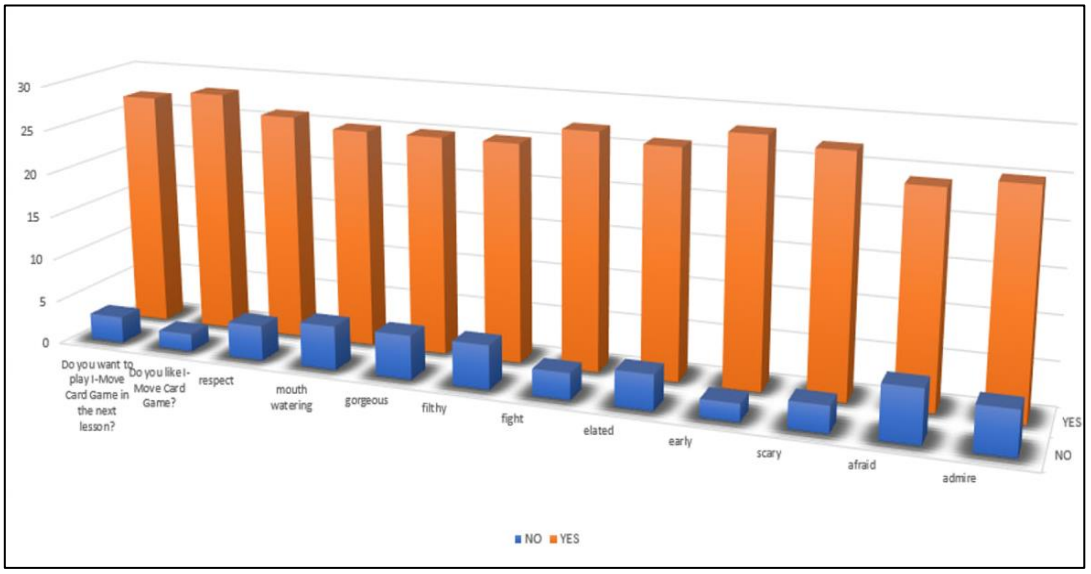

Figure 6: The Pupils' Responses in Structured Interview

iii. Pupils pronouncing the words repeatedly

The teachers also commented in the observation checklist form that *"I-Move Card Games could promote active participation among pupils during listening and speaking lessons* (Figure 7). This proved that the observer strongly agreed that the utilisation of I-Move Card Games was able to create fun-filled activities as well as developing pupils' pronunciation skill through the repetition of words. In addition, majority of the respondents have shown positive improvement in the post-test compared to their pre-test results. Moreover, this finding was also supported by the observer who claimed strongly agreed in the item number five observed during the intervention. She stated that *"the teacher have given*

*good explanations on the words together with actions'.*Thus, the statement given by the observer revealed that the pupils were engaged and participated during the I-Move Card Games because they could able to develop pronouncing the words together with actions instructed by teacher. Indirectly, most of them could able to remember the correct pronunciation of each word when the post-test was administered.

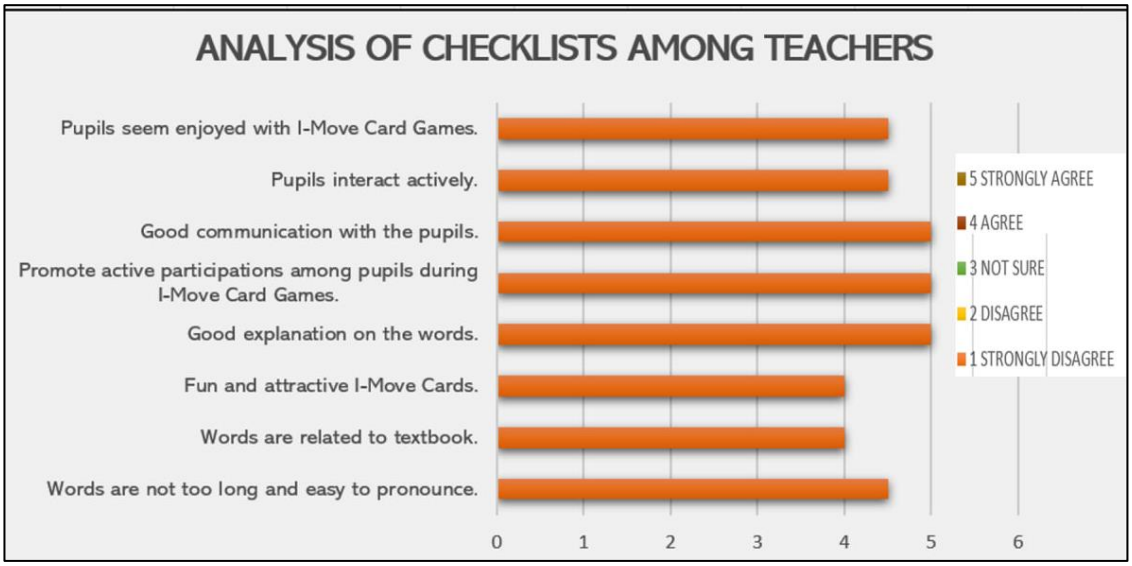

Figure 7: The Teachers' Responses in Observation Checklists

DISCUSSIONS

Before the intervention was carried out, the low-ability pupils were having difficulties in pronouncing most of the words correctly. The utilisation of I-Move Card Game was able to help and encourage the pupils to pronounce the words through active participation. The pupils were excited to move their alphabets cards in correct order to form the words correctly together with their actions. During the pre-tests, most of the low-ability pupils scored low marks where they could not define the meanings and pronouncing the words correctly. However, during the intervention was carried out, pupils scored higher improvement percentage in their post-tests. Based on the findings obtained in structured interview among the participants, 28 out of 30 of them were excited to play I-Move Card Game again in the next lesson. This shows that the utilisation of I-Move Card Game was able to encourage the pupils to enjoy pronouncing the words in meaningful way. Apart from that, based on the positive responses given by the observers and pupils' improvement percentage during their post-test, it should be recommended that the teachers use the I-Move Card Game in their teaching and learning lessons to develop pupils' pronunciation skill.

REFLECTIONS

The action research should be practicable and it should not place under demands on either teachers or students, and it should have practical outcomes (Thornbury, 2002). Based on the findings of this action research, the researchers reflected that this pronunciation skill should be developed and addressed in the early year of learning especially in listening and speaking lessons. In the Malaysian context, pronunciation was not being taught directly and the pupils utilised their pronunciation covertly through listening and speaking skills. However, pronunciation was a fundamental tool for communication. Instead, it must be viewed as a crucial and integral part of communication that should be incorporated

in the classroom. By highlighting the elements such as sounds, syllables, word stress and intonation during the teaching lessons, it developed pronunciation awareness and gradually building skills in listening and speaking among the pupils. Nevertheless, this action research also has its limitations but it surely can be guiding light for future endeavors in this field. The limitation that was portrayed in this action research is the findings of this study could not be portrayed to the other settings, places or students as the results were only obtained from pupils in Sekolah Kebangsaan Kuala Besut 2, Besut, Terengganu. Nevertheless, the limitation depicted from this action research could be improvised for future researches.

Suggestions

In the light of the result of this study, it is proposed that this action research should be carried out over a period of time with different context and aspect of language skills. Since pronunciation skill is one of the most difficult parts for the pupils to acquire and one of the least favourite topics for teachers to address in the classroom, the utilisation of I-Move Card Game could be comprehended to improve pupils' interests and motivation in developing their pronunciation skill. Without the great amount of exposure towards the correct pronunciation of English language, pupils were unable to build up their pronunciation skill especially in pronouncing the words. Besides, the researchers believed that it was possible to explore different pattern of pronunciation depicted by the pupils through the utilisation of I-Move Card Game. In addition, the use of I-Move Card Game was not only restricted for building pupils' pronunciation skill in only 10 English words as the future researcher may conduct research on the use of I-Move Card Game in improving pupils' ability in pronouncing the words with other English words too.

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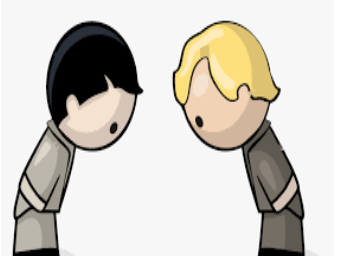
APPENDIX

APPENDIX A: PRE-TEST & POST-TEST

Respondent: _____Class:_____ Date: _____

Instruction: Say the words. Match the words to the pictures correctly

Admire
early
respect
fight
elated
gorgeous
scary
mouth watering
filthy
afraid



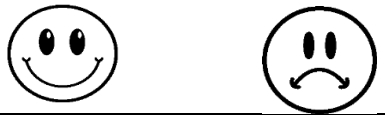
APPENDIX B: STRUCTURED INTERVIEW

Respondent:_____ Class:_____ Date: _____

Colour the emoji.
1.Do you like this I-Move Card Game?


2.Do you want to play I-Move Card Game in the next lesson?


3.Can you pronounce these words?

admire	
early	
respect	
fight	
elated	
gorgeous	
scary	
mouth watering	
filthy	
afraid	

APPENDIX C: OBSERVATION CHECKLIST

Name of Observer:_____ Class: _____

Please tick (√) the single most accurate box for each aspect as they are related with the use of I-Move Card Game as a technique in improving pupils' pronunciation skill.

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

	Aspects	**1**	**2**	**3**	**4**	**5**	**Comments**
A	**Characteristics of I-Move Card Game**						
1.	Not too long and easy to pronounce.						
2.	Words are related to textbook.						
3.	Fun and attractive I-Move Cards.						
B	**Teacher's Teaching Strategies**						
1.	Good explanation on the words.						
2.	Promote active participations among pupils during listening and speaking lessons.						
3.	Good communication with the pupils.						
C.	**Pupils' Involvement**						
1.	Pupils interact actively.						
2.	Pupils seem enjoyed with I-Move Card activities.						

MENINGKATKAN KEMAHIRAN MENJAWAB SOALAN BERSIFAT 'KESAN' BAGI MATA PELAJARAN GEOGRAFI DALAM KALANGAN PELAJAR 6ASEJ MENGGUNAKAN KAEDAH *B1B2 BARU CIKGU KASIH*

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ABSTRAK

Kajian ini dilaksanakan untuk menangani masalah yang dihadapi oleh pelajar 6ASEJ dalam menjawab soalan berbentuk 'kesan'. Walaupun pelajar ini berpotensi memperoleh gred A, kekurangan pengetahuan dan teknik dalam menjawab soalan jenis ini menyebabkan mereka hanya mencapai gred A- atau B+. Seramai lapan orang pelajar perempuan serta seorang guru terlibat dalam kajian ini. Tinjauan awal melalui temu bual, praujian, dan analisis dokumen mendapati pelajar kurang kemahiran menjawab soalan 'kesan' kerana kekurangan fakta serta jawapan yang tidak mengandungi huraian dan contoh yang relevan. Hal ini mengakibatkan pelajar hanya mampu mencapai tahap minimum dalam skema pemarkahan Geografi peringkat STPM, iaitu hanya lima orang pelajar memperoleh gred A, manakala lapan pelajar lain mendapat A- dan B+. Oleh itu, kami menjalankan kajian menggunakan kaedah kod kata kunci 'B1B2 + Baru Cikgu Kasih' terhadap lapan pelajar 6ASEJ dari bulan Mac hingga Mei 2024. Aktiviti pembelajaran berlangsung selama 30 minit setiap minggu mengikut pertukaran topik. Kaedah ini menggunakan singkatan dan akronim untuk membantu pelajar mengingati fakta dan mengembangkan huraian serta contoh yang berkaitan. B1B2 merujuk kepada dua langkah penting dalam menjawab soalan, manakala BCK ('Bakpo', 'Cikgu', 'Kasih') digunakan untuk menghubungkan fakta, huraian, dan contoh. Hasil kajian menunjukkan peningkatan pencapaian pelajar 6ASEJ dalam menjawab soalan berbentuk 'kesan' selepas menggunakan kaedah ini.

PENGENALAN

SMK Bukit Payong mula dibina pada tahun 1975. Terletak di Kampung Bukit Payong, Jerteh, Besut, Terengganu. Jarak sekolah ke Bandar Jerteh ialah 20 kilometer. Pembelajaran tingkatan 6 di SMK Bukit Payong bermula pada tahun 2005 dengan hanya mempunyai 4 kelas sahaja iaitu kelas 6B1 yang mengambil subjek Pengajian Am, Bahasa Melayu, Sejarah dan Ekonomi manakala 6B2 mengambil subjek Pengajian Am, Bahasa Melayu, Sejarah dan Kesusasteraan Melayu. Mata pelajaran Geografi mula diperkenalkan di SMK Bukit Payong pada tahun 2008 apabila kemasukan seorang guru Geografi ke SMK Bukit Payong. Bermula dari situlah mata pelajaran Geografi menjadi pilihan kepada 2 kelas daripada 3 kelas yang ditawarkan di tingkatan 6 SMK Bukit Payong iaitu kelas 6BEKO dan 6BSEJ. Berdasarkan keputusan STPM, SMK Bukit Payong pernah mendapat kedudukan yang ketiga daripada 45 buah sekolah iaitu pada tahun 2019, 2022 dan 2023. Manakala pada tahun 2010 dan 2023 seorang pelajar SMK Bukit Payong telah menerima anugerah peringkat kebangsaan.

Pada tahun 2024, terdapat 10 orang pelajar daripada Tingkatan 6AEKO dan 17 orang pelajar daripada tingkatan 6ASEJ telah mengambil mata pelajaran Geografi bagi STPM 2024. Pelajar- pelajar 6AEKO terdiri daripada pelajar yang terpilih kerana mengikut susunan, kelas ini ialah kelas pertama yang terdiri daripada pelajar yang terpilih berdasarkan pencapaian keputusan peperiksaan Sijil Pelajaran Malaysia

(SPM) manakala kelas 6ASEJ ialah kelas kedua. Dengan kata lain, pelajar kelas 6AEKO terdiri daripada pelajar yang pandai dan pelajar 6ASEJ adalah terdiri daripada pelajar sederhana.

Jadi berdasarkan kepada keputusan peperiksaan STPM semester 1, kebanyakan pelajar daripada 6AEKO telah mendapat keputusan yang lebih baik dimana bilangan pelajar yang mendapat A lebih ramai dibandingkan dengan 6BSEJ. Berdasarkan keputusan itu jugalah, terdapat 8 orang pelajar daripada kelas 6ASEJ yang mendapat keputusan A- dan B+ dalam mata pelajaran Geografi. Berdasarkan keadaan ini, 8 orang pelajar ini mempunyai potensi untuk mendapat A jika kena dengan gaya dan teknik menjawab soalan Kemahiran Berfikir Aras Tinggi (KBAT) dalam soalan STPM Semester 1. Jadi atas sebab itulah 8 orang pelajar ini telah terpilih dan terlibat dalam kajian ini.

Kemahiran Berfikir Aras Tinggi (KBAT) merujuk kepada kebolehan pelajar untuk menganalisis, mensintesis, dan menilai maklumat secara kritikal, seperti yang digariskan dalam Model Taksonomi Bloom. Dalam konteks pembelajaran abad ke-21, penguasaan KBAT menjadi semakin penting di peringkat global kerana ia membolehkan pelajar berfikir secara lebih mendalam dan komprehensif, melebihi sekadar pemahaman asas atau hafalan fakta. Oleh itu, bagi memastikan pelajar Malaysia bersedia menghadapi cabaran ini, guru perlu kerap mengemukakan soalan yang merangsang pemikiran aras tinggi, termasuk soalan yang berbentuk 'kesan', 'wajarkah', 'cadangkan', atau 'ramalkan'.

Berdasarkan laporan MPM prestasi calon STPM, calon-calon STPM kurang menguasai soalan KBAT sehingga mempengaruhi markah peperiksaan calon. Hal ini dikatakan demikian kerana kemahiran menjawab soalan KBAT merupakan satu proses yang tidak mudah difahami, maka pelajar tidak dapat membuat hubungkait antara fakta dengan proses atau huraian tersebut (Laporan Peperiksaan STPM 2016). Berdasarkan perubahan dalam sukatan pelajaran STPM 2013 bentuk soalan juga telah berubah. Bermula pada tahun 2012 soalan berbentuk pemahaman KBAT akan ditanya dalam soalan struktur (1 dan 4). Kelemahan penguasaan konsep akan menyebabkan pelajar gagal menjawab dengan tepat soalan 1c dan 1d serta 4c. Sedangkan soalan 1 dan soalan 4 adalah soalan wajib. Hal ini, menyebabkan calon STPM tidak akan mendapat keputusan yang baik. Menyedari akan hakikat ini, maka pelbagai cara telah dilakukan agar pelajar dapat menguasai konsep-konsep geografi dengan baik. Hal ini bertujuan untuk meningkatkan prestasi mata pelajaran Geografi serta ingin menarik minat pelajar untuk belajar atau mengambil mata pelajaran Geografi sebagai pilihan dalam subjek STPM. Jadi pengajaran dan pembelajaran Geografi perlulah menarik agar pelajar seronok dan mudah memahami subjek Geografi seterusnya akan memperoleh A.

Kajian ini memberi fokus kepada peningkatan kemahiran menjawab soalan bersifat 'kesan' dalam mata pelajaran Geografi dalam kalangan pelajar 6ASEJ. Berdasarkan laporan prestasi calon STPM, didapati ramai pelajar kurang menguasai soalan KBAT, terutamanya yang melibatkan hubungan antara fakta, huraian, dan proses sehingga memberi kesan negatif terhadap markah peperiksaan mereka. Kelemahan ini menjadi lebih ketara dengan perubahan dalam sukatan pelajaran STPM yang kini menekankan soalan-soalan KBAT dalam soalan struktur wajib. Menyedari kepentingan mengatasi masalah ini, kajian tindakan ini dilaksanakan dengan menggunakan kaedah 'B1B2 Baru Cikgu Kasih', yang bertujuan untuk membantu pelajar meningkatkan kemahiran mereka dalam menjawab soalan berbentuk 'kesan', seterusnya meningkatkan prestasi dalam mata pelajaran Geografi.

Refleksi Pengajaran dan Pembelajaran

Ideal: Di Sekolah Menengah Bukit Payong (SMKBP), Besut, Terengganu adalah diharapkan pelajar kelas 6ASEJ dapat menguasai kemahiran menjawab soalan-soalan STPM, khususnya soalan Kemahiran Berfikir Aras Tinggi (KBAT). Penguasaan ini penting bagi membolehkan pelajar memahami konsep, fakta, dan huraian dengan baik, seterusnya mencapai keputusan cemerlang dalam peperiksaan STPM.

Realiti: Namun, berdasarkan keputusan peperiksaan SPM 2023 dan pemerhatian setelah hampir enam bulan mengajar, pelajar 6ASEJ masih berada pada tahap sederhana. Walaupun telah menjalani pelbagai

aktiviti, latihan, dan ujian, mereka masih belum menguasai kaedah menjawab soalan dengan baik, terutama dalam aspek menguasai konsep, fakta, dan huraian. Ha ini terbukti melalui keputusan STPM semester 1 yang diterima pada 27 Mac 2024, yang menunjukkan prestasi yang kurang memberangsangkan.

Akibat: Kegagalan menguasai teknik menjawab soalan, terutamanya soalan KBAT, menyebabkan pelajar sukar untuk memberikan jawapan yang tepat dan lengkap. Mereka menghadapi masalah untuk mengingati fakta, membuat huraian yang jelas, dan memberikan contoh yang relevan, sebahagian besarnya disebabkan oleh kurangnya pembacaan bahan-bahan berkaitan. Walaupun pelbagai inisiatif telah diambil, termasuk bimbingan berterusan, perbincangan dengan rakan guru, dan jemputan guru pakar dari sekolah lain, keupayaan pelajar masih tidak mencapai tahap yang diinginkan.

Kepentingan: Menyedari kepentingan untuk meningkatkan prestasi pelajar, pengkaji mengambil langkah menambah baik amalan pengajaran melalui pendekatan 'KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'. Pendekatan ini dirangka untuk memudahkan pelajar mengingati fakta dan mengembangkan huraian yang tepat, terutamanya bagi soalan-soalan bersifat 'kesan'. Penguasaan kaedah ini diharapkan dapat membantu pelajar meningkatkan kemahiran menjawab soalan, seterusnya memperbaiki keputusan mereka dalam peperiksaan STPM.

Pernyataan Masalah dan Fokus Kajian

Ideal: Dalam usaha untuk meningkatkan kemahiran pelajar dalam mata pelajaran Geografi, pengajaran seharusnya melibatkan kaedah yang efektif seperti perbincangan topik, sumbangsaran, dan latihan berterusan. Pendekatan ini bertujuan untuk membantu pelajar menguasai istilah dan disiplin geografi dengan mendalam, serta membolehkan mereka menghasilkan huraian yang mantap dan tepat dalam menjawab soalan yang bersifat 'kesan'.

Realiti: Namun, daripada refleksi pengajaran lalu, didapati bahawa pelajar masih menghadapi kesukaran untuk menjawab soalan latihan dengan tepat. Hal ini disebabkan oleh kelemahan dalam menguasai istilah geografi, ketidakupayaan membuat huraian yang jelas, kekurangan pembacaan, serta kesukaran untuk mengenal pasti sekurang-kurangnya empat fakta berbeza. Selain itu, pelajar juga tidak berjaya menguruskan masa yang diperuntukkan dengan baik. Akibatnya, pelajar hanya memperoleh markah antara 2 hingga 4 daripada jumlah markah maksimum 12 atau 13 dalam soalan yang bersifat 'kesan'.

Akibat: Jika situasi ini tidak ditangani segera, pelajar mungkin akan mengamalkan sikap sambil lewa dan kurang berusaha, yang seterusnya akan menjejaskan peluang mereka untuk mencapai keputusan keseluruhan yang baik. Kegagalan memperoleh markah yang baik dalam soalan KBAT, khususnya soalan 'kesan', boleh menyebabkan pelajar hanya mencapai gred B atau B+, yang tidak mencukupi untuk melayakkan mereka melanjutkan pelajaran ke peringkat universiti. Hal ini menjejaskan peluang mereka untuk memperoleh *pointer* yang tinggi dan mencapai gred A.

Kepentingan: Oleh itu, bagi mengatasi masalah ini, pengkaji memutuskan untuk melaksanakan kajian tindakan sebagai satu usaha meningkatkan kualiti pengajaran dan pembelajaran sedia ada. Meskipun terdapat banyak isu yang dihadapi oleh pelajar, pengkaji memilih untuk menfokuskan kepada masalah dalam menjawab soalan bersifat 'kesan'. Pendekatan 'KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH' diperkenalkan untuk membimbing pelajar menguasai kemahiran menjawab soalan KBAT dengan baik, diharapkan ini dapat membantu pelajar memperoleh sekurang-kurangnya 10 daripada 13 markah yang diperuntukkan, seterusnya melonjakkan mereka ke gred A.

Objektif

Berdasarkan fokus kajian , objektif umum kajian adalah untuk membantu pelajar lebih menguasai cara menghurai fakta dan lebih minat dalam pembelajaran mata pelajaran Geografi STPM.

Manakala objektif khusus yang dirangka adalah seperti berikut:

i. Meningkatkan kemahiran pelajar menjawab soalan bersifat **'Kesan'**
ii. Meningkatkan jumlah pelajar mendapat A bagi mata pelajaran Geografi dalam peperiksaan STPM

METODOLOGI

Model Ekspositori

Konsep Pembelajaran Ekspositori telah diperkenalkan oleh Mac Donald pada tahun 1968 bermaksud guru perlu memberi penerangan yang jelas dan terperinci (Othman Lebar, 2017). Dalam konteks pengajaran, ekspositori merupakan penyampaian maklumat atau isi kandungan pelajaran secara langsung kepada murid-murid di dalam kelas. Jadi guru perlu memahami isi kandungan sesuatu pembelajaran dengan baik kerana konsep ini lebih berpusatkan murid. Jadi guru perlu menguasai sesuatu tajuk atau isi kandungan yang perlu di ajar kerana murid-murid akan menghafal dan menggunakan fakta yang diberi oleh guru untuk menjawab soalan. Oleh itu, kaedah ekspositori ialah cara penyampaian pelajaran melalui penerangan, bercerita atau demonstrasi dengan tujuan mengajar sesuatu.

Berdasarkan model dalam Rajah 1, guru memberi penerangan terlebih dahulu berkenaan sesuatu tajuk atau topik berserta dengan fakta-fakta berdasarkan soalan peperiksaan yang lepas. Penerangan guru perlulah jelas serta mudah difahami oleh murid. Guru juga boleh menggunakan beberapa bahan bantu mengajar bagi meningkatkan pemahaman murid. Murid perlu mendengar dengan teliti hingga mereka memahami sesuatu tajuk atau topik dan mengingatinya serta merekodkan isi pentingnya dalam buku nota mereka.

Rajah 1: Model Ekspositori

Cara-cara penyampaian dengan menggunakan model ekspositori adalah dihuraikan seperti berikut: (Othman Lebar, 2017)

i. menerang, menginterpretasi dan menghuraikan idea dan konsep daripada buku teks.
ii. menerangkan sambil mendemonstrasikan cara melukis atau membina bentuk -bentuk
    a. geometri.
iii. menerangkan langkah-langkah penyelesaian masalah berdasarkan kemahiran -kemahiran yang telah dipelajari.
iv. menerangkan sesuatu konsep dengan alat bantu mengajar.

Antara kelebihan Model Pembelajaran Ekspositori : (Othman Lebar, 2017)

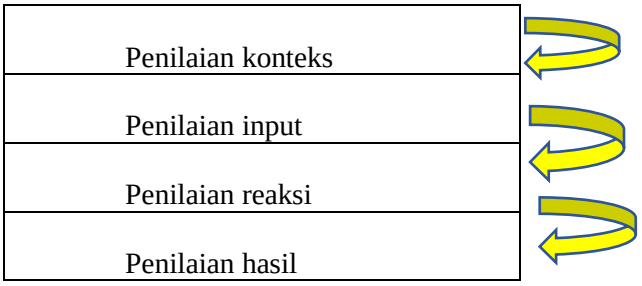
i. Waktu yang lebih efisien: Pembelajaran dapat dilakukan dengan cepat dan efisien kerana guru mengendalikan seluruh proses
ii. Fakta yang lebih tepat: Fakta yang disampaikan lebih jelas dan tersusun.

Model CIRO (Context, Input, Reaction, Outcome)

Pendekatan ini dipelopori oleh Warr, Bird dan Rackham (1970) dalam Ibrahim (2001). Ia merangkumi beberapa kriteria penting iaitu:

i. Penilaian konteks (context) iaitu meninjau keadaan dan situasi organisasi, keperlaluan latihan dan objektif latihan yang dirancang dan dijalankan.
ii. Penilaian input (input) iaitu meninjau penggunaan sumber yang digunakan untuk program pelaksanaan sesuatu program latihan.
iii. Penilaian reaksi (reaction) iaitu merujuk kepada penilaian yang dibuat dengan cara mengumpul reaksi peserta atau pelatih terhadap program latihan yang diikuti sama ada semasa atau selepas latihan.
iv. Penilaian hasil (outcomes) iaitu penilaian yang dilaksanakan berdasarkan pencapaian objektif latihan.

Berdasarkan model dalam rajah 2, guru perlulah melihat kepada keperluan mengadakan latihan berdasarkan kepada kelemahan dalam keputusan ujian murid-murid. Guru juga perlu memilih beberapa sumber atau bahan yang sesuai digunakan bagi meningkatkan pemahaman murid. Selepas latihan atau inovasi dijalankan guru perlu melihat atau mengambil tahu reaksi murid, adakah lebih baik atau tidak. Seterusnya guru boleh melihat kepada hasil iaitu adakah berlaku peningkatan dalam markah ujian yang dilakukan selepas latihan atau inovasi.



Rajah 2: Model CIRO

Peserta Kajian

Seramai lapan orang pelajar 6ASEJ telah dipilih sebagai peserta kajian. Mereka dipilih kerana memperoleh A- dan B+ semasa peperiksaan semester 1. Semasa kajian ini dijalankan, pelajar berada di dalam semester 2 dan mengambil subjek Geografi untuk peperiksaan STPM.

PELAKSANAAN KAJIAN

Tinjauan Awal Masalah:

Sebelum langkah-langkah yang seterusnya diambil dalam kajian ini, tinjauan masalah telah dibuat bertujuan untuk mengenal pasti dan memahami dengan lebih mendalam masalah tersebut melalui temu bual, praujian, dan analisis dokumen.

Huraian penjelasan tentang tinjauan awal masalah dihurai seperti berikut:

Temu bual

Temubual merupakan antara kaedah pengumpulan data yang sering digunakan dalam penyelidikan. Kaedah ini sesuai digunakan dalam kajian kes yang melibatkan pemilihan beberapa individu tertentu sahaja (Othman Lebar, 2017). Dalam kajian ini, kaedah temu bual digunakan, iaitu temu bual tidak berstruktur secara bersemuka dan tidak bersemuka. Temu bual tidak berstruktur kebiasaannya melibatkan soalan terbuka yang memberikan kebebasan kepada responden untuk memberi jawapan mengikut pandangan dan budi bicara mereka tanpa terikat kepada jawapan yang telah ditetapkan (Othman Lebar, 2017).

Menggunakan soalan terbuka, pengkaji telah menjalankan temu bual secara bersemuka dengan peserta kajian untuk mengenal pasti masalah yang dihadapi mereka dalam menjawab soalan peperiksaan. Daripada lapan pelajar yang ditemu bual, enam (75%) menyatakan bahawa mereka menghadapi kesukaran dalam menjawab soalan yang bersifat 'kesan', kurang mahir dalam membuat huraian, dan sering kali tertinggal contoh yang dapat menyokong huraian mereka. Transkripsi temu bual bersama pelajar mengenai permasalahan dalam menjawab soalan adalah seperti berikut:

> *"Dalam banyak-banyak soalan…saya tok reti nak jawab kalu soalan tanya pasal Kesan, sebab fakta perlu menceritakan sebaliknya".*
>
> (Pelajar 1:05.05.2024)

> ***[Dalam banyak-banyak soalan….saya tidak tahu hendak menjawab kalau soalan bertanyakan tentang kesan kerana saya perlu fikirkan banyak fakta disebalik soalan tersebut]***

> *"Kita rasa soalan kesan hok payoh nak target. Dok tahu nak jawab..nok bui jawapan hok mana so."*
>
> (Pelajar 2:07.05.2024)

> ***[Saya merasakan bahawa soalan kesan paling sukar untuk mendapatkan markah yang baik. Saya tidak mengetahui bagaimana cara untuk menjawab...tidak tahu untuk memberikan jawapan yang mana satu]***

> *"Cikgu, kita tokleh nak bezakan antara fakta dengan huraian. Dok tahu nak jawab. .nok bui jawapan yang mana dulu."*
>
> (Pelajar 3:15.05.2024)

> ***[Saya tidak boleh membezakan antara fakta dengan huraian, jadi saya tak pasti yang mana perlu saya ceritakan dahulu]***

Proses Pelaksanaan Kajian

Bagi melancarkan lagi kajian yang dijalankan, pengkaji telah merangka beberapa proses dalam menjalankan kajian bagi memastikan kajian ini mencapai objektif sebagaimana yang telah ditetapkan. Proses-proses ini pengkaji bahagikan kepada beberapa aktiviti supaya perjalanan kajian ini menjadi lebih berpandu. Setelah mengenal pasti masalah yang dihadapi oleh pelajar, pengkaji membahagikan pelaksanaan kajian ini kepada lima aktiviti.

i. Aktiviti i: Penerangan Isi Kandungan

Penerangan isi kandungan mata pelajaran sebagaimana yang telah ditetapkan oleh Majlis Peperiksaan Malaysia adalah perlu supaya para pelajar mengetahui skop pembelajaran yang

perlu dipelajari. Pengkaji membuat penerangan tentang isi kandungan pelajaran bagi topik kesan setiap satu. Pengkaji membuat penjelasan bagi setiap kesan yang dibincangkan dan mengaitkan fakta tentang apa-apa yang terjadi jika sesuatu fenomena berlaku dengan mengaitkan realiti sebenar yang berlaku di persekitaran untuk memudahkan pelajar memahaminya. Seterusnya pengkaji memberikan contoh jawapan yang lengkap bagi menjawab soalan bersifat kesan.

ii. Aktiviti ii: Hafalan (mengingat)

Pengkaji akan meminta pelajar menghafal kesan yang timbul akibat beberapa fenomena. Pelajar mesti mengingat sekurang-kurangnya 6 kesan bagi setiap fenomena bagi memenuhi penawaran markah MPM iaitu 12 markah (6 kesan x 2 markah= 12markah). Contoh kesan kepada fenomena yang dibincangkan seperti dalam jadual 1.

Jadual 1: Kesan kepada fenomena Pulau Haba Bandar, El Nino dan Banjir

Pulau Haba Bandar	El Nino	Banjir
1. Bahangan suria tinggi	1. Bahangan suria tinggi	1. Sungai melimpah
2. Bahangan bumi tinggi	2. Bahangan bumi tinggi	2. Tanah runtuh
3. Suhu tinggi	3. Suhu tinggi	3. Hakisan permukaan tinggi
4. Hujan kerap	4. Hujan kerap	4. Pencemaran sungai
5. Angin kencang	5. Angin kencang	5. Kepupusan flora dan fauna
6. Litupan awan nipis	6. Litupan awan nipis	6. Kemusnahan habitat
7. Kelembapan udara rendah	7. Kelembapan udara rendah	

iii. Aktiviti iii: Latihan (Praujian)

Praujian adalah ujian awal yang diberikan kepada pelajar untuk mengetahui sejauh mana kefahaman dan keupayaan mereka mengemukakan fakta, membuat huraian dan memberikan contoh yang bersesuaian dengan kehendak soalan sebagaimana yang telah diterangkan oleh pengkaji.
Bagi aktiviti ini, pengkaji menyediakan latihan (praujian) yang perlu dijawab oleh pelajar dalam masa yang telah ditetapkan. Tujuan praujian ini adalah untuk mengenal pasti keupayaan pelajar menjawab soalan bersifat 'kesan' setelah proses pembelajaran dan pemudahcaraan (pdpc) dijalankan.

iv. Aktiviti iv: *Cross Check*

Proses *cross check* adalah penyemakan markah secara silang dalam kalangan pelajar terlibat. *Cross check* dilakukan oleh pengkaji bersama pelajar bagi memberi peluang pelajar mengetahui dan menilai jawapan yang diberikan berdasarkan kepada skema pemarkahan yang dibekalkan oleh pengkaji.

Analisis Dokumen

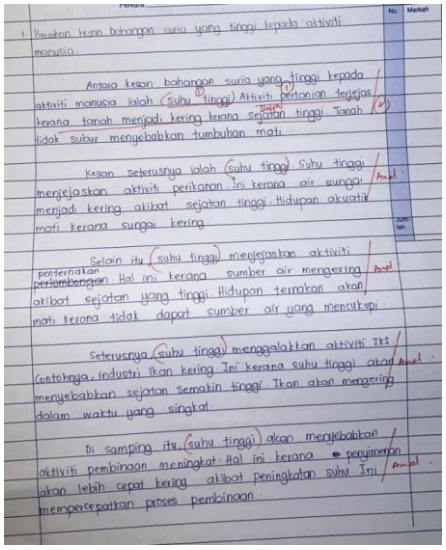
Analisis dokumen terhadap pelajar terlibat pada peringkat awal pelaksanaan proses pembelajaran dzn pemudahcaraan (pdpc) adalah dengan menggunakan skrip jawapan praujian. Pelajar diberikan soalan berbentuk 'kesan' dan diberikan peruntukan masa yang bersesuaian untuk menjawab soalan selepas tamatnya sesi penerangan isi kandungan pelajaran. Daripada skrip jawapan yang di periksa, pengkaji mendapati mutu jawapan sangat lemah, tidak menepati

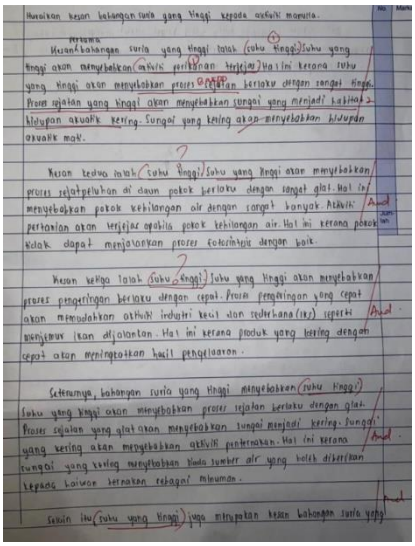
tahap yang diperlukan terutamanya dalam membuat huraian. Walaupun pelajar didapati memberi tumpuan dan komitmen yang baik sepanjang proses pdpc di dalam kelas serta dapat menyiapkan tugasan yang diberikan. Huraian yang diberikan tiada kesinambungan dengan fakta dan sebahagian besarnya tidak dapat memberikan contoh yang bersesuaian.Terdapat juga dalam kes-kes tertentu pelajar melakukan pengulangan fakta dan huraian menyebabkan mereka tidak mendapat markah untuk fakta berkenaan.

Contoh soalan praujian:

Huraikan enam kesan bahangan suria yang tinggi terhadap aktiviti manusia. [6M]

i.	Fakta dinyatakan sekali dan berulang- ulang, huraian kurang jelas, tiada contoh	**ii.**	Fakta yang sama berulang-ulang dan Tiada contoh





Rajah 3: Contoh soalan

Berdasarkan analisis markah praujian, secara keseluruhan markah yang diperoleh oleh pelajar dalam lingkungan 2 hingga 3 markah daripada 10 markah penuh (20% hingga 30%). Hanya 2 orang sahaja yang mampu memperoleh 4 markah (40%) dan tiada pelajar yang mendapat markah penuh iaitu 10/10 (100%). Kesimpulannya, pelajar didapati masih lemah dalam mengingat fakta ditambah pula dengan kelemahan membuat huraian dan seterusnya gagal memberikan contoh-contoh berkaitan sebagai bukti bagi setiap huraian. Jadual 2 menunjukkan markah yang diperoleh peserta kajian semasa praujian dilaksanakan.

Jadual 2: Markah Praujian

Bil	Pelajar	Markah	Peratus Markah
1	Pelajar 1	3/10	30%
2	Pelajar 2	2/10	20%
3	Pelajar 3	4/10	40%
4	Pelajar 4	2/10	20%
5	Pelajar 5	2/10	20%
6	Pelajar 6	2/10	20%

7	Pelajar 7	2/10	20%
8	Pelajar 8	4/10	40%

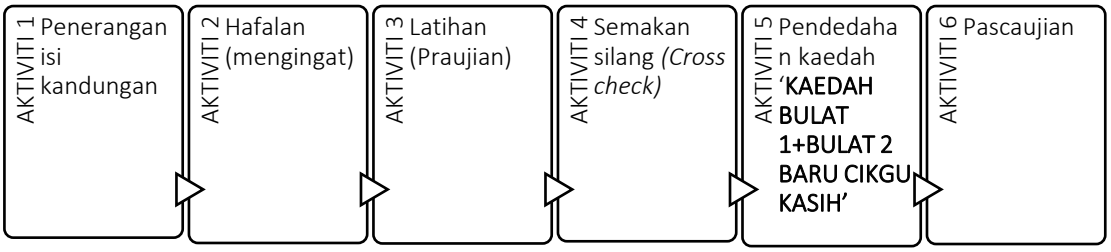
v. Aktiviti v: Pendedahan kaedah '**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'**

Setelah pengkaji mengetahui masalah yang masih dihadapi oleh pelajar dalam menjawab soalan bersifat kesan, pengkaji cuba mengaplikasikan kaedah singkatan dan akronim bagi memastikan pelajar menulis mengikut susunan ayat yang tepat dan memastikan fakta utama tidak berulang bagi soalan bersifat kesan. Pengkaji membuat penerangan dan meminta pelajar mengingati dan menyebut kata kunci '**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH''**apabila menjawab soalan bersifat kesan. '**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'** mewakili perkaitan antara fakta utama dengan huraian iaitu **B1** untuk fakta utama (tanpa fakta NM), **B2** untuk huraian, **B (bakpo)** untuk membuat perkaitan antara fakta dan huraian , **C** untuk contoh dan **K** untuk kesimpulan kecil. Hasil daripada **B1+B2BCK** maka terhasil jawapan yang tepat dan lengkap untuk satu perenggan dan mematuhi penetapan markah (2)**. A**pabila pelajar dapat menguasai kaedah '**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'** ternyata pelajar bersemangat untuk mengaplikasikan kaedah ini untuk menjawab soalan bersifat konsep.

Rajah 4: 'KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH''

vi. Aktiviti Pascaujian

Pascaujian bagi menjawab soalan berbentuk kesan diberikan kepada pelajar selepas tempoh dua minggu para pelajar diperkenalkan dengan kaedah '**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'.** Soalan bersifat kesan yang diberikan ini ialah contoh soalan yang hampir sama dengan soalan sebenar dalam peperiksaan STPM. Masa yang diperuntukkan kepada pelajar untuk menjawab soalan juga telah ditetapkan.
Skrip jawapan pelajar kemudiannya akan disemak oleh pengkaji untuk menilai hasil jawapan yang diberikan oleh para pelajar.



Rajah 5: Rumusan Proses Pelaksanaan Kajian

DAPATAN KAJIAN

Dapatan kajian yang diperoleh ini adalah melalui temu bual secara tidak bersemuka selepas pendedahan kaedah '**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'** boleh dilihat berdasarkan transkrip temu bual melalui aplikasi laman sosial *WhatsApp*.

Transkrip temu bual berkaitan keberkesanan kaedah '**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'**adalah seperti jadual 3 di bawah:

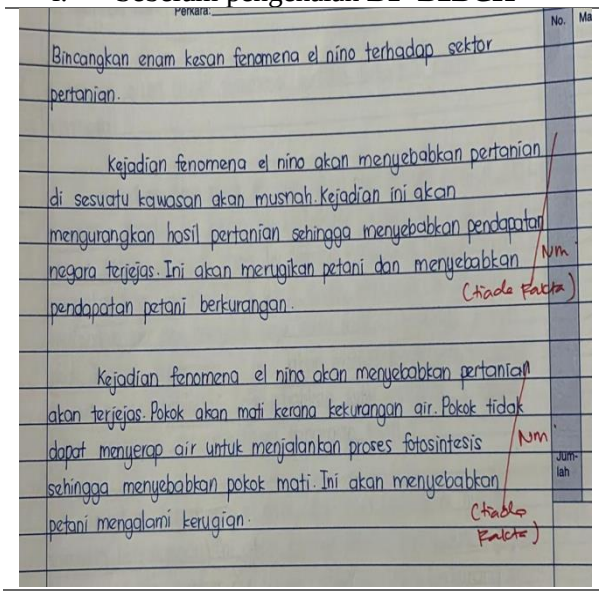
Jadual 3: Transkrip Temu bual Pelajar

Pelajar 1: [Saya ok cikgu, mengingatkan saya untuk step penulisan]
Pelajar 2: [Kaedah yang cikgu guna itu mudah untuk faham]
Pelajar 1: [Lebih mudah sekiranya ditulis dalam bentuk kotak yang diaplikasikan ini]
Pelajar 3: [Kaedah yang cikgu ajar itu sudah ok...mudah untuk faham. Sebelum ini tidak tahu apa yang perlu ditulis, tetapi selepas guna kaedah 'KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH' tu, saya boleh menjawab soalan yang cikgu berikan mengikut kehendak soalan]

Berdasarkan analisis dokumen, terdapat perubahan ketara dalam penulisan pelajar sebelum diperkenalkan kaedah **B1+B2BCH** dan selepas kaedah **B1+B2BCH** digunakan seperti ditunjukkan dalam skrip jawapan pelajar (Rajah 6).

Rajah 6: Skrip Jawapan Pelajar Sebelum dan Selepas Diperkenalkan Kaedah B1+B2BCH

i. Sebelum pengenalan **B1+B2BCH**



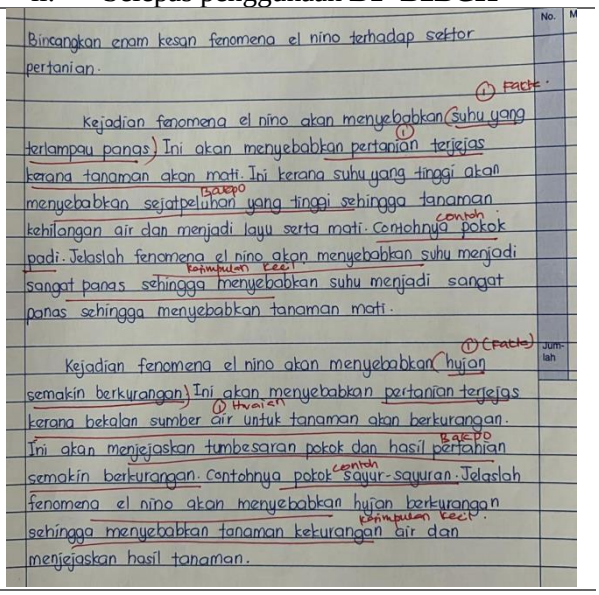
Perkara: No. Ma

Bincangkan enam kesan fenomena el nino terhadap sektor pertanian.

Kejadian fenomena el nino akan menyebabkan pertanian di sesuatu kawasan akan musnah. Kejadian ini akan mengurangkan hasil pertanian sehingga menyebabkan pendapatan negara terjejas. Ini akan merugikan petani dan menyebabkan pendapatan petani berkurangan. Nm (tiada Fakta)

Kejadian fenomena el nino akan menyebabkan pertanian akan terjejas. Pokok akan mati kerana kekurangan air. Pokok tidak dapat menyerap air untuk menjalankan proses fotosintesis sehingga menyebabkan pokok mati. Ini akan menyebabkan petani mengalami kerugian. Nm (tiada Fakta) Jum-lah

ii. Selepas penggunaan **B1+B2BCH**



No. M

Bincangkan enam kesan fenomena el nino terhadap sektor pertanian.

① Fakta.

Kejadian fenomena el nino akan menyebabkan suhu yang terlampau panas. Ini akan menyebabkan pertanian terjejas kerana tanaman akan mati. Ini kerana suhu yang tinggi akan menyebabkan sejatpeluhan yang tinggi sehingga tanaman kehilangan air dan menjadi layu serta mati. Contohnya pokok padi. Jelaslah fenomena el nino akan menyebabkan suhu menjadi sangat panas sehingga menyebabkan suhu menjadi sangat panas sehingga menyebabkan tanaman mati.

① (Fakta) Jum-lah

Kejadian fenomena el nino akan menyebabkan hujan semakin berkurangan. Ini akan menyebabkan pertanian terjejas kerana bekalan sumber air untuk tanaman akan berkurangan. Ini akan menjejaskan tumbesaran pokok dan hasil pertanian semakin berkurangan. Contohnya pokok sayur-sayuran. Jelaslah fenomena el nino akan menyebabkan hujan berkurangan sehingga menyebabkan tanaman kekurangan air dan menjejaskan hasil tanaman.

Objektif 1: Meningkatkan kemahiran pelajar menjawab soalan bersifat 'Kesan'.

Dapatan kajian ini dihurai berdasarkan analisis markah pelajar dan skrip jawapan yang disemak dengan memfokuskan keupayaan pelajar menjawab soalan bersifat 'kesan'. Didapati bahawa jawapan yang diberikan telah mengandungi fakta, huraian, dan contoh (B1,B2,B,C). Keupayaan pelajar memberikan fakta, membuat huraian fakta dan seterusnya membuktikannya melalui contoh telah memberikan impak positif. Pelajar dapat memberikan fakta utama dan seterusnya berjaya membuat huraian berkesan bagi soalan bersifat 'kesan' ini. Kesannya, kebolehan pelajar untuk menjawab soalan bersifat kesan telah meningkat kerana mereka memperoleh markah lebih daripada 8 daripada 10 markah (80% dan ke atas) yang ditawarkan (Pascaujian). Jadual 4 menunjukkan rumusan keseluruhan markah peserta kajian.

Jadual 4: Markah Pascaujian

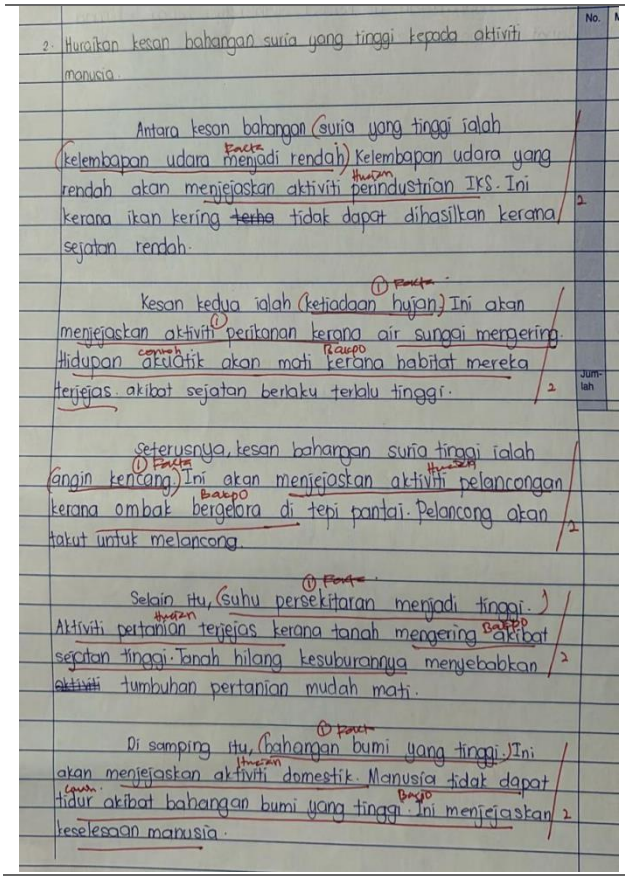
BIL	PELAJAR	MARKAH	PERATUS MARKAH
1	Pelajar 1	10/10	100%
2	Pelajar 2	9/10	90%
3	Pelajar 3	9/10	90%
4	Pelajar 4	10/10	100%
5	Pelajar 5	10/10	100%
6	Pelajar 6	10/10	100%
7	Pelajar 7	8/10	80%
8	Pelajar 8	10/10	100%

Berdasarkan analisis skrip jawapan pelajar juga menunjukkan kaedah '**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'** berjaya membantu mereka menjawab dengan lebih baik bagi soalan bersifat 'KESAN'. Pelajar didapati dapat menyenaraikan fakta yang berkaitan dan seterusnya membuat huraian serta berupaya memberikan contoh yang bersesuaian. Kaedah '**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'** dapat mengingatkan pelajar bahawa fakta yang mereka gunakan semasa menjawab soalan tidak boleh berulang dan dapat memastikan hanya sekali digunakan (iaitu fakta mesti berbeza untuk setiap perenggan). Di samping itu, kelemahan yang ada pada jawapan pelajar berjaya diatasi apabila mereka mempraktikkan kaedah '**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'** yang diperkenalkan. Rajah 6 menunjukkan skrip jawapan Pelajar 1 dan Pelajar 2 yang membuktikan penguasaan dalam menjawab soalan berbentuk 'kesan' bagi contoh soalan Pascaujian

iaitu huraikan kesan bahangan suria yang tinggi terhadap aktiviti manusia. Pelajar didapati memperincikan idea dengan lebih tersusun dan sistematik menggunakan Kaedah B1+B2BCH iaitu **B1** untuk fakta utama (tanpa fakta NM), **B2** untuk huraian, **B (bakpo)** untuk membuat perkaitan antara fakta dan huraian , **C** untuk contoh dan **K** untuk kesimpulan kecil.

Rajah 7: Skrip Jawapan Pelajar 1 dan Pelajar 2

i. Skrip jawapan Pelajar 1 yang kaedah B1+B2BCK


2. Huraikan kesan bahangan suria yang tinggi kepada aktiviti manusia.

Antara kesan bahangan suria yang tinggi ialah kelembapan udara menjadi rendah. Kelembapan udara yang rendah akan menjejaskan aktiviti perindustrian IKS. Ini kerana ikan kering ~~terha~~ tidak dapat dihasilkan kerana sejatan rendah.

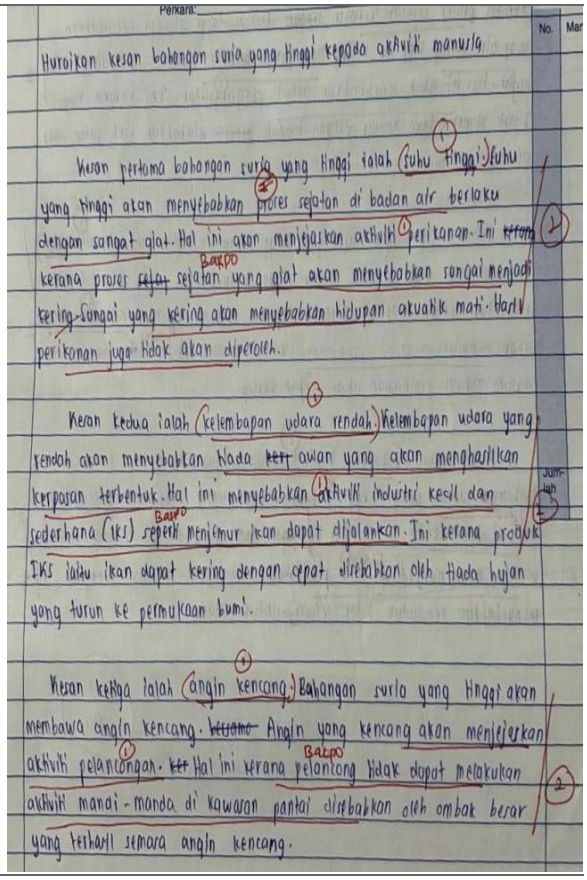
Kesan kedua ialah ketiadaan hujan. Ini akan menjejaskan aktiviti perikanan kerana air sungai mengering. Hidupan akuatik akan mati kerana habitat mereka terjejas. akibat sejatan berlaku terlalu tinggi.

Seterusnya, kesan bahangan suria tinggi ialah angin kencang. Ini akan menjejaskan aktiviti pelancongan kerana ombak bergelora di tepi pantai. Pelancong akan takut untuk melancong.

Selain itu, suhu persekitaran menjadi tinggi. Aktiviti pertanian terjejas kerana tanah mengering akibat sejatan tinggi. Tanah hilang kesuburannya menyebabkan ~~aktiviti~~ tumbuhan pertanian mudah mati.

Di samping itu, bahangan bumi yang tinggi. Ini akan menjejaskan aktiviti domestik. Manusia tidak dapat tidur akibat bahangan bumi yang tinggi. Ini menjejaskan keselesaan manusia.

ii. Skrip jawapan Pelajar 1 yang kaedah B1+B2BCK


Huraikan kesan bahangan suria yang tinggi kepada aktiviti manusia

Kesan pertama bahangan suria yang tinggi ialah suhu tinggi. Suhu yang tinggi akan menyebabkan proses sejatan di badan air berlaku dengan sangat giat. Hal ini akan menjejaskan aktiviti perikanan. Ini ~~kerana~~ kerana proses ~~sejat~~ sejatan yang giat akan menyebabkan sungai menjadi kering. Sungai yang kering akan menyebabkan hidupan akuatik mati. Hasil perikanan juga tidak akan diperoleh.

Kesan kedua ialah kelembapan udara rendah. Kelembapan udara yang rendah akan menyebabkan tiada ~~kett~~ awan yang akan menghasilkan kerpasan terbentuk. Hal ini menyebabkan aktiviti industri kecil dan sederhana (IKS) seperti menjemur ikan dapat dijalankan. Ini kerana produk IKS ialah ikan dapat kering dengan cepat disebabkan oleh tiada hujan yang turun ke permukaan bumi.

Kesan ketiga ialah angin kencang. Bahangan suria yang tinggi akan membawa angin kencang. ~~Kesan~~ Angin yang kencang akan menjejaskan aktiviti pelancongan. ~~ket~~ Hal ini kerana pelancong tidak dapat melakukan aktiviti mandi-manda di kawasan pantai disebabkan oleh ombak besar yang terhasil semasa angin kencang.

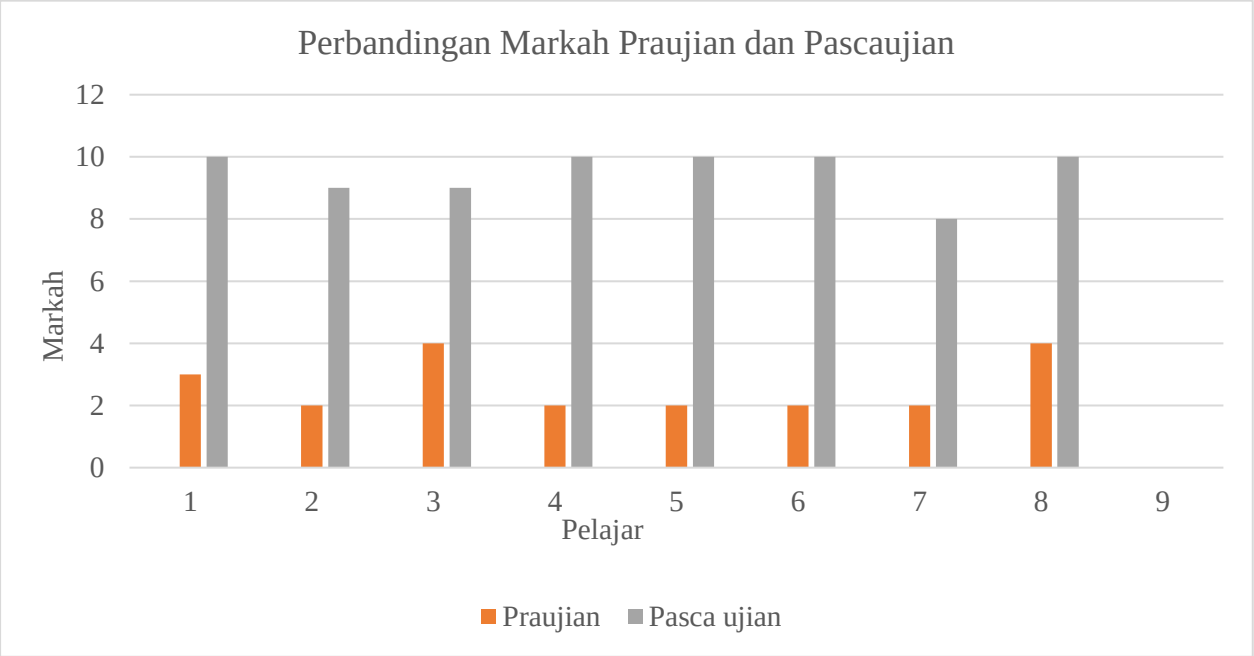
Berdasarkan analisis perbandingan markah praujian dan markah pascaujian, markah lapan orang pelajar 6ASEJ menunjukkan peningkatan yang ketara (Jadual 5 dan Rajah 7). Contohnya, markah Pelajar 4, Pelajar 5 dan Pelajar 6 menunjukkan peningkatan tertinggi daripada 20% kepada 100%. Hal ini menunjukkan dengan mengaplikasikan kaedah '**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'**, pelajar berupaya memperoleh markah penuh. Manakala, bagi Pelajar 1 dan Pelajar 2, markah mereka meningkat secara seragam walaupun semasa praujian markah mereka didapati berbeza. Begitu juga dengan Pelajar 7 dan Pelajar 8, mereka mampu mencapai markah 80% dan 100%.

Jadual 5: Perbandingan Markah Praujian dan Pascaujian

Bilangan	Praujian	Peratus	Pasca ujian	Peratus
Pelajar 1	3/10	30%	10/10	100%
Pelajar 2	2/10	20%	9/10	90%
Pelajar 3	4/10	40%	9/10	90%
Pelajar 4	**2/10**	**20%**	**10/10**	**100%**
Pelajar 5	**2/10**	**20%**	**10/10**	**100%**
Pelajar 6	**2/10**	**20%**	**10/10**	**100%**
Pelajar 7	2/10	20%	8/10	80%

Pelajar 8	4/10	40%	10/10	100%

Berdasarkan rajah 8**,** markah lapan orang pelajar 6ASEJ telah menunjukkan peningkatan. Peningkatan markah yang amat ketara berlaku apabila 5 orang pelajar 2,4,5,6 dan pelajar 7 iaitu markah ketika praujian, mereka hanya mampu memperoleh 2 markah sahaja tetapi di dalam pascaujian, pelajar tersebut mampu mencapai markah 8 hingga 10 markah. Begitu juga dengan pelajar-pelajar lain, dengan mengaplikasikan kaedah '**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'**, pelajar-pelajar berupaya memperoleh markah penuh.

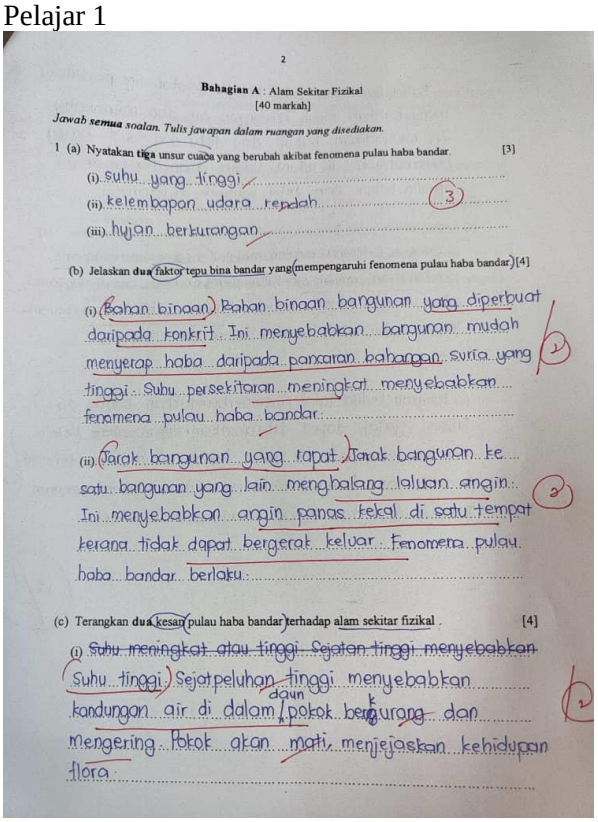


Rajah 8: Graf Bar Perbandingan Markah Praujian Dan PascaUjian

Objektif 2: Meningkatkan jumlah pelajar mendapat A bagi mata pelajaran Geografi dalam peperiksaan STPM

'**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'** ini juga telah digunakan oleh 8 orang pelajar ini dalam peperiksaan percubaan yang berlangsung pada 9 Julai 2024. Kesemua pelajar ini telah memperoleh A dalam mata pelajaran Geografi (Jadual 6). Data menunjukkan bahawa semua pelajar iaitu seramai 8 orang yang mempelajari '**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'** telah memperoleh markah yang amat baik dan memperoleh A. Pelajar telah menggunakan kaedah ini untuk memastikan fakta tidak berulang dan dapat menghurai dan membuat perkaitan antara fakta dan huraian dengan baik. Pelajar juga dapat memberi contoh bagi setiap fakta yang dikemukakan hampir dalam setiap perenggan.

Pelajar 1



2

Bahagian A : Alam Sekitar Fizikal
[40 markah]

Jawab ***semua*** *soalan. Tulis jawapan dalam ruangan yang disediakan.*

1 (a) Nyatakan **tiga** unsur cuaca yang berubah akibat fenomena pulau haba bandar. [3]

(i) suhu yang tinggi

(ii) kelembapan udara rendah (3)

(iii) hujan berkurangan

(b) Jelaskan **dua** faktor tepu bina bandar yang mempengaruhi fenomena pulau haba bandar)[4]

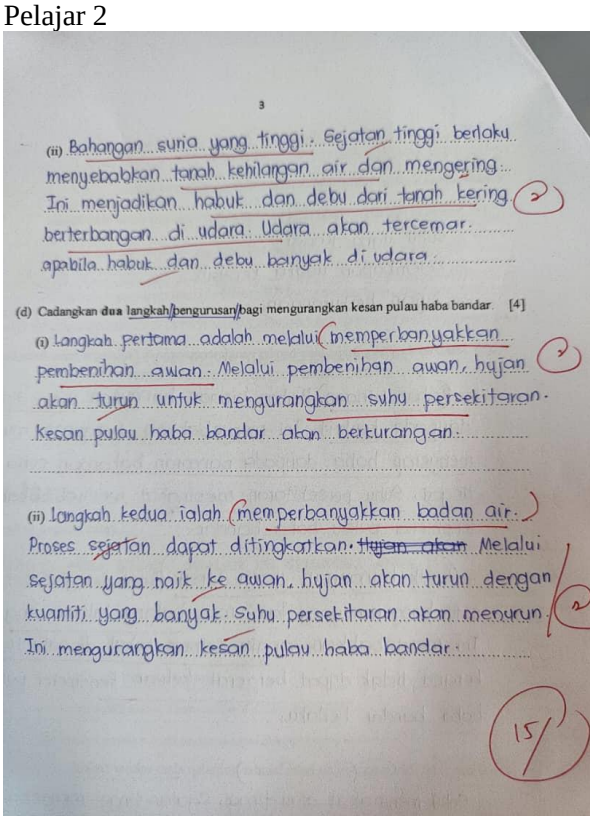
(i) Bahan binaan. Bahan binaan bangunan yang diperbuat daripada konkrit. Ini menyebabkan bangunan mudah menyerap haba daripada pancaran bahangan suria yang tinggi. Suhu persekitaran meningkat menyebabkan fenomena pulau haba bandar. (2)

(ii) Jarak bangunan yang rapat. Jarak bangunan ke satu bangunan yang lain menghalang laluan angin. Ini menyebabkan angin panas kekal di satu tempat kerana tidak dapat bergerak keluar. Fenomena pulau haba bandar berlaku. (2)

(c) Terangkan **dua** kesan pulau haba bandar terhadap alam sekitar fizikal. [4]

(i) ~~Suhu meningkat atau tinggi. Sejatan tinggi menyebabkan~~ Suhu tinggi. Sejatpeluhan tinggi menyebabkan kandungan air di dalam daun/pokok berkurang dan mengering. Pokok akan mati, menjejaskan kehidupan flora. (2)

Pelajar 2



3

(ii) Bahangan suria yang tinggi. Sejatan tinggi berlaku menyebabkan tanah kehilangan air dan mengering. Ini menjadikan habuk dan debu dari tanah kering berterbangan di udara. Udara akan tercemar apabila habuk dan debu banyak di udara. (2)

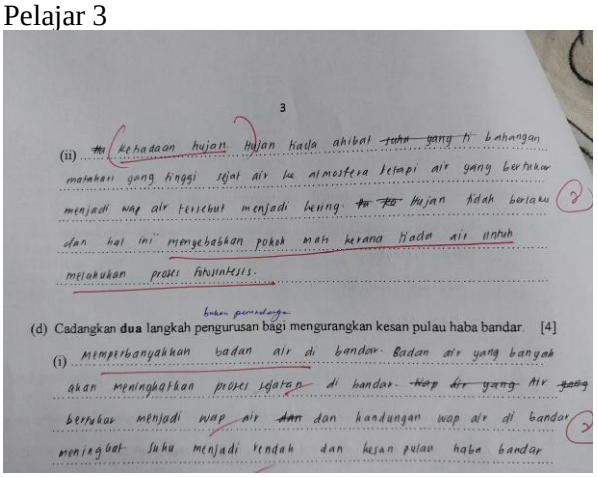
(d) Cadangkan **dua** langkah pengurusan bagi mengurangkan kesan pulau haba bandar. [4]

(i) Langkah pertama adalah melalui memperbanyakkan pembenihan awan. Melalui pembenihan awan, hujan akan turun untuk mengurangkan suhu persekitaran. Kesan pulau haba bandar akan berkurangan. (2)

(ii) Langkah kedua ialah memperbanyakkan badan air. Proses sejatan dapat ditingkatkan. ~~Hujan akan~~ Melalui sejatan yang naik ke awan, hujan akan turun dengan kuantiti yang banyak. Suhu persekitaran akan menurun. Ini mengurangkan kesan pulau haba bandar. (2)

15/

Pelajar 3



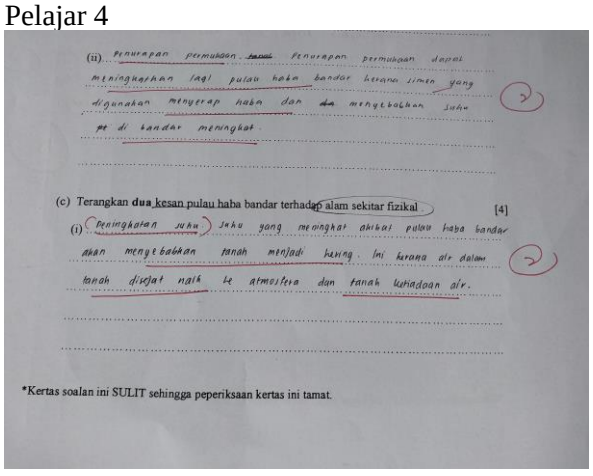
3

(ii) ~~Ti~~ kehadaan hujan. Hujan hasil akibat ~~suhu~~ yang ti bahangan matahari yang tinggi sejat air ke atmosfera tetapi air yang bertukar menjadi wap air tersebut menjadi hening. ~~Ia tak~~ Hujan tidak berlaku dan hal ini menyebabkan pokok mati kerana tiada air untuk melakukan proses fotosintesis. (2)

(d) Cadangkan **dua** langkah pengurusan bagi mengurangkan kesan pulau haba bandar. [4]

(i) Memperbanyakkan badan air di bandar. Badan air yang banyak akan meningkatkan proses sejatan di bandar. ~~Hap air yang~~ Air yang bertukar menjadi wap air ~~dan~~ dan kandungan wap air di bandar meningkat. Suhu menjadi rendah dan kesan pulau haba bandar (2)

Pelajar 4



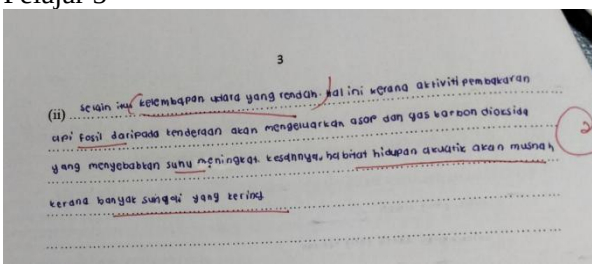
(ii) penurapan permukaan ~~tanah~~ penurapan permukaan dapat meningkatkan lagi pulau haba bandar kerana simen yang digunakan menyerap haba dan ~~dan~~ menyebabkan suhu ~~di~~ di bandar meningkat. (2)

(c) Terangkan **dua** kesan pulau haba bandar terhadap alam sekitar fizikal [4]

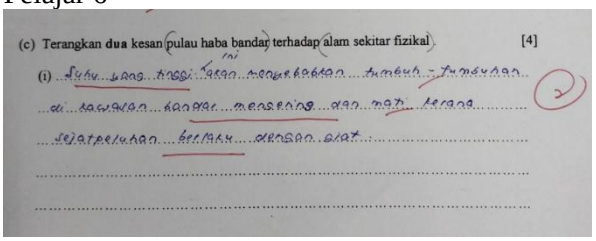
(i) Peningkatan suhu. Suhu yang meningkat akibat pulau haba bandar akan menyebabkan tanah menjadi hening. Ini kerana air dalam tanah disejat naik ke atmosfera dan tanah kehadaan air. (2)

*Kertas soalan ini SULIT sehingga peperiksaan kertas ini tamat.

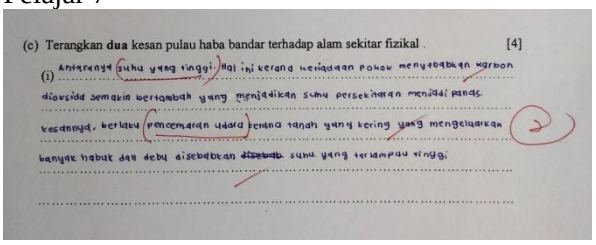
Pelajar 5



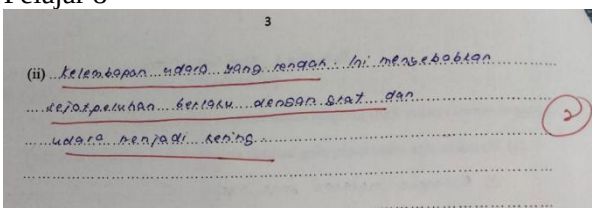
Pelajar 6



Pelajar 7



Pelajar 8



Rajah 9: Contoh skrip pelajar yang mendapat markah yang baik selepas menggunakan kaedah 'KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'

Jadual 6: Perbandingan Gred Peperiksaan S1 dan Peperiksaan Percubaan S2

Bilangan	Peperiksaan S1	Peperiksaan Percubaan S2
Pelajar 1	A-	A 69/80
Pelajar 2	A-	A 62/80
Pelajar 3	B+	A 65/80
Pelajar 4	A-	A 62/80
Pelajar 5	A-	A 62/80
Pelajar 6	B+	A 65/80
Pelajar 7	B+	A 60/80
Pelajar 8	B+	A 62/80

REFLEKSI KAJIAN

Secara keseluruhannya kaedah '**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'** yang digunakan ini berjaya membantu pelajar dalam menjawab soalan bersifat '**KESAN'**. Soalan berbentuk **'KESAN'** ini yang sering kali terdapat dalam soalan peperiksaan STPM Penggal 1, 2 dan 3. Kaedah ini adalah berbentuk kata kunci "*clue*" yang dapat membantu pelajar mengingati fakta atau teknik untuk menjawab soalan berbentuk **'KESAN'**. Pelajar juga didapati mula yakin dan bermotivasi untuk menjawab soalan berbentuk **'KESAN'** berdasarkan beberapa latihan yang diberikan selepas pengenalan kaedah '**KAEDAH BULAT 1+BULAT 2 BARU CIKGU KASIH'.**

CADANGAN KAJIAN SETERUSNYA

Memandangkan kepada kajian dan aktiviti yang dijalankan ini telah sedikit sebanyak meningkatkan prestasi pelajar, maka pengkaji bercadang untuk mengaplikasikannya kepada pelajar-pelajar lain serta mengubahsuai kaedah sebegini ke dalam bentuk-bentuk soalan lain. Hal ini demikian kerana apabila pelajar didedahkan dengan kaedah kata kunci, pelajar akan merasa lebih mudah untuk mengingati langkah yang perlu dilaksanakan ketika menjawab soalan latihan dan peperiksaan. Kajian ini juga akan

ditambah baik untuk diaplikasikan kepada pelajar-pelajar di sekolah lain untuk memudahkan mereka menjawab soalan bersifat 'kesan'.

RUMUSAN

Secara keseluruhannya, pengkaji berpuas hati dengan *'respond'* yang diberikan oleh pelajar dan kajian ini telah mencapai objektifnya. Hasil kajian ini dapat membantu pelajar menguasai kemahiran bagi menjawab soalan 'kesan' dengan lebih berkesan. Pelajar juga dilihat lebih yakin untuk menyenaraikan fakta, membuat huraian dan mengemukakan contoh yang bersesuaian untuk mengukuhkan huraian dalam jawapan. Diharapkan agar kaedah ini dapat digunakan sebaiknya oleh pelajar untuk menghadapi peperiksaan STPM semester 2 yang akan bermula pada 13 Ogos 2024 ini.

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MENINGKATKAN KEMAHIRAN MEMBUNDAR NOMBOR MENGGUNAKAN KAEDAH H4RO BAGI MURID TAHUN SATU DI SK KERUAK

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ABSTRAK

Kajian tindakan ini mengkaji keberkesanan kaedah H4RO dalam memperbaiki kemahiran membundar nombor dan meningkatkan minat murid tahun satu dalam mata pelajaran matematik. Pemerhatian awal menunjukkan bahawa murid menghadapi kesulitan dalam memahami konsep membundar nombor yang menjejaskan prestasi matematik mereka. Kaedah H4RO diperkenalkan sebagai intervensi untuk menangani cabaran ini dengan pendekatan yang interaktif. Kajian ini melibatkan pelaksanaan kaedah H4RO dalam bilik darjah selama dua waktu pengajaran, di mana 8 orang murid terlibat dalam aktiviti yang direka khusus untuk memperkukuhkan pemahaman mereka tentang membundar nombor. Data dikumpulkan melalui pemerhatian, analisis dokumen, ujian pra, ujian pos dan temu bual dengan murid dan guru. Selepas menggunakan kaedah H4RO murid menunjukkan peningkatan yang ketara dalam kemahiran membundar nombor serta peningkatan minat terhadap matematik. Analisis mendapati bahawa kaedah ini bukan sahaja memperbaiki pencapaian murid tetapi juga mencipta suasana pembelajaran yang lebih menarik dan menyeronokkan. Kajian ini menekankan potensi kaedah H4RO sebagai alat yang berkesan dalam pendidikan matematik awal dan memberikan cadangan untuk aplikasi yang lebih luas dalam konteks pendidikan sekolah rendah.

***Kata Kunci**: Kaedah H4RO, Kemahiran membundar nombor, prestasi, intervensi, kajian tindakan.*

PENGENALAN

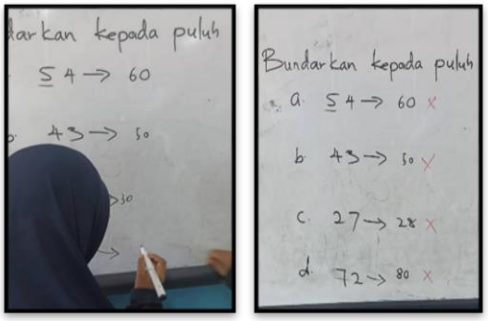
SK Keruak merupakan sebuah sekolah luar bandar yang terletak di Daerah Besut, Terengganu. Bilangan guru di sekolah ini adalah seramai 31 orang. Terdapat 2 aliran bagi setiap tahun iaitu kelas Bestari dan Bijak. Jumlah murid sekolah ini ialah seramai 305 orang. Pencapaian murid dalam mata pelajaran matematik adalah pada tahap lemah. Sukatan pelajaran Matematik sekolah rendah digubal dan dikendalikan untuk memberi asas dan latar belakang dalam matematik bagi meningkatkan peluang kanak-kanak terus maju dalam bidang ini dan juga untuk diaplikasikan dalam kehidupan seharian. Walau bagaimanapun, keadaan ini tidak berlaku kerana murid-murid sering menganggap mata pelajaran matematik adalah satu mata pelajaran yang sukar (Sugiman et. al 2020). Bagi kebanyakkan murid terutamanya murid di sekolah rendah, sifat matematik yang abstrak menyebabkan murid sukar untuk memahami idea dan konsep matematik. Banyak perkara yang perlu dikuasai sedikit-sebanyak telah membunuh minat mereka terhadap matematik.

Oleh yang demikian, guru di sekolah ini perlu lebih kreatif dalam membangunkan intervensi yang bersesuaian dengan potensi murid yang pelbagai (Gardner, 1983) dalam mempelajari matematik bagi meningkatkan tahap profesionalisme secara berterusan. Inisiatif kepada penyelesaian masalah ini adalah melaksanakan kajian tindakan. Kajian tindakan merupakan pendekatan penyelidikan yang sering digunakan dalam bidang pendidikan, organisasi dan masyarakat untuk mengatasi masalah praktikal melalui refleksi dan tindakan sistematik.

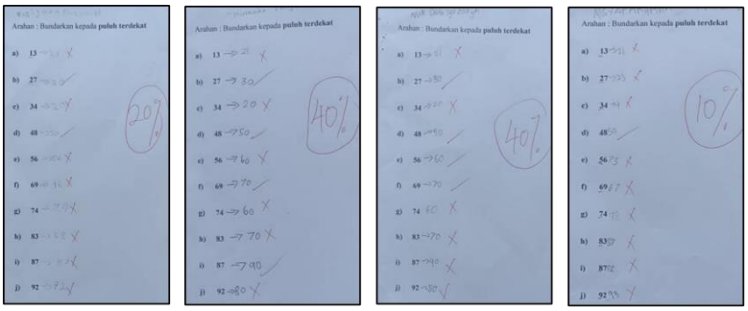
Bagi tujuan meningkatkan pencapaian murid dalam pembelajaran matematik, Seseorang guru akan menjadi lebih efektif sekiranya mereka mengkaji amalan dalam tugasan hakiki mereka bagi membolehkan mereka mentafsir dan mereka bentuk pembelajaran matematik yang memenuhi kehendak yang terkandung dalam silibus (Ilukena 2020).

Refleksi Pengajaran dan Pembelajaran lalu

Mengimbau kembali aktiviti pengajaran dan pembelajaran (PdPc) yang telah dijalankan, menyebabkan pengkaji risau kerana sebahagian besar daripada murid menghadapi masalah apabila berhadapan dengan soalan pembundaran nombor. Melalui pemerhatian pengkaji mendapati murid tidak minat mata pelajaran matematik yang menyebabkan mereka tidak fokus semasa proses PdPc. Dapatan dari hasil kerja murid dan pelaksanaan ujian formatif menunjukkan pencapaian mereka amat lemah. Keadaan ini berlaku kerana murid-murid sering melakukan pelbagai kesalahan untuk mendapatkan jawapan. Apabila ditanya mereka menyatakan bahawa matematik adalah pelajaran yang sukar untuk difahami. Situasi ini menjadi bertambah rumit apabila subtopik membundarkan nombor terdapat di dalam topik nombor bulat, nombor perpuluhan dan wang. Sekiranya masalah ini tidak diatasi segera mereka akan menghadapi masalah dalam mengikuti pembelajaran bagi topik lain yang memerlukan kemahiran membundar nombor.



Rajah 1: Hasil kerja murid di papan putih



Rajah 2: Markah dalam ujian pra

Pernyataan Masalah dan Fokus Kajian

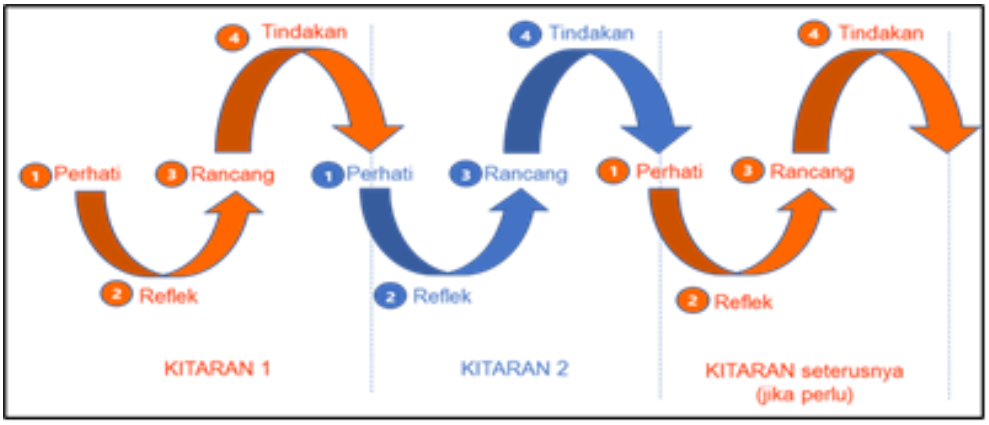
Berdasarkan pemerhatian, laporan Pentaksiran Bilik Darjah (PBD) dan perbincangan dalam kalangan rakan guru dapat disimpulkan bahawa murid memang bermasalah dalam membundar nombor. Terdapat beberapa isu umum yang dihadapi oleh murid berkaitan dengan kemahiran membundar nombor:

Bagi murid tahun satu, proses membundar nombor menghadapi beberapa cabaran khusus. Pada usia ini, murid mungkin masih dalam proses mempelajari nombor asas dan urutan nombor. Mereka mungkin belum sepenuhnya memahami nilai tempat atau cara nombor berfungsi dalam sistem berbilang tempat. Bahagian Perkembangan Kurikulum (BPK, 2017) melalui Dokumen Standard Kurikulum dan Pentaksiran Matematik mencadangkan guru menggunakan garis nombor sebagai aktiviti murid untuk belajar bundar. Namun, ia didapati kurang sesuai, tidak berkesan dan sukar dilaksanakan kerana murid tidak dapat memahami konsep bundar secara abstrak sedangkan perkembangan murid pada umur 7 hingga 11 tahun memerlukan bahan bantu belajar konkrit untuk membantu mereka memahami sesuatu konsep asas.

Fokus pengkaji adalah meningkatkan penguasaan murid Tahun 1 dalam mata pelajaran matematik bagi tajuk nombor bulat hingga 100 dan kemahirannya ialah membundar nombor hingga puluh terdekat. Pengkaji mengambil inisiatif untuk membantu murid seawal dari tahun satu lagi supaya asas mereka tentang pembundarn nombor menjadi lebih kukuh untuk melangkah ke tahap yang lebih kompleks.

Kerangka Konsep

Model kajian tindakan yang pengkaji gunakan ialah model Kemmis dan Mc Taggart (1988) yang mencadangkan empat langkah dalam setiap kitaran kajian yang melibatkan memerhati, merefleksi, merancang dan bertindak. Menurut model ini, kajian tindakan bergerak dalam satu kitaran yang berterusan. Ia merupakan proses kajian tindakan yang memerlukan tindakan susulan. Melalui model Kemmis dan Mc Taggart ini, tinjauan awal dibuat setelah timbul masalah pembelajaran di dalam bilik darjah. Seterusnya guru mengenal pasti masalah yang menjadi punca kelemahan murid. Membuat perancangan dan seterusnya melaksanakan tindakan dengan memberi intervensi kepada masalah yang timbul. Pemerhatian dilakukan untuk melihat perkembanngan yang wujud dan penambahbaikan dibuat untuk menilai kembali serta membuat refleksi untuk melihat adakah intervensi yang dibuat dapat mengatasi masalah yang ada (Kemmis & Mc Taggart, 1988).



Rajah 3: Kitar Kajian Tindakan Kemmis dan McTaggart (1988)

Objektif dan Soalan Kajian

Kajian ini bertujuan meningkatkan penguasaan murid dalam pembelajaran matematik tahun 1 bagi tajuk nombor hingga 100.

Objektif khusus yang dirangka adalah seperti berikut:

I. Meningkatkan kemahiran murid membundar nombor hingga puluh terdekat
II. Meningkatkan minat murid untuk mempelajari matematik dengan menggunakan kaedah H4RO

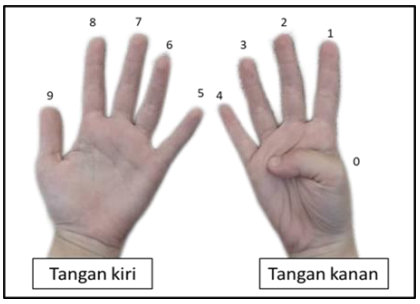
Berdasarkan objektif kajian yang ditetapkan dua soalan kajian telah diutarakan seperti berikut:

I. Adakah kaedah H4RO dapat meningkatkan kemahiran membundar nombor?
II. Adakah kaedah H4RO dapat meningkatkan minat murid dalam mata pelajaran matematik?

METODOLOGI

Intervensi/Strategi Tindakan

Konsep asas kaedah H4RO diperkenalkan dengan menentukan nombor yang terdapat pada tangan kanan dan kiri. Ini melibatkan demonstrasi bagaimana nombor dapat diwakili oleh jari tangan seperti rajah di bawah.

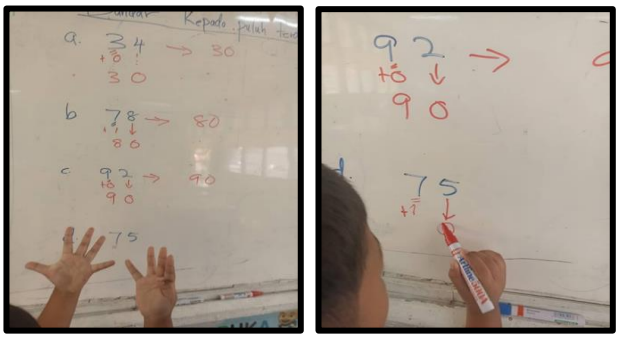


Rajah 4: Penentuan nombor pada tangan kanan dan kiri

Rajah 4 menunjukkan tangan dengan nombor yang telah ditetapkan digunakan untuk memperjelas konsep. Penyelidik membimbing murid dan menjelaskan kedudukan nombor pada jari tertentu. Murid diajak untuk mengikuti langkah-langkah yang sama dengan menunjukkan tangan mereka sendiri dan menyebut nombor yang ditunjukkan. Latihan ini memberikan peluang kepada murid untuk mempraktikkan dan menguatkan ingatan dan kefahaman mereka tentang nombor. Seterusnya pengkaji menjelaskan tentang peraturan membundar menggunakan kaedah H4RO. Sekiranya nombor berada di tangan kanan dalam skala pembundaran, nilai tempat yang hendak dibundarkan akan kekal pada nilai asalnya tetapi sekiranya nombor berada di tangan kiri dalam skala pembundaran, nilai tempat yang hendak dibundarkan akan ditambah satu unit.

Pengkaji memerhatikan dan menilai pemahaman murid melalui aktiviti ini. Maklum balas diberikan untuk membantu murid memperbaiki sebarang kesilapan dan mengukuhkan pemahaman mereka. Proses ini diulang beberapa kali untuk memastikan murid dapat menguasai dan mengingat nombor dengan betul melalui visual tangan.

Rajah 5: Proses PdPc



Rajah 6: Latihan membundar nombor menggunakan kaedah H4RO

Kreativiti guru memainkan peranan yang sangat penting dalam menghasilkan inovasi yang boleh menjadi alat atau teknik yang mampu membawa penyelesaian (Norazlin, 2019). Bertepatan dengan pernyataan ini pengintegrasian pembelajaran berasaskan permainan menggunakan anggota badan dalam pengajaran dan pembelajaran (PdPc) telah dilaksanakan dan terbukti telah memberi impak positif terhadap pengalaman pembelajaran murid. Kaedah ini bukan sahaja meningkatkan keterlibatan murid tetapi juga memudahkan pemahaman konsep matematik disamping mampu menghasilkan murid yang berkualiti dengan menyediakan persekitaran pembelajaran yang aktif dan kolaboratif. Kajian oleh Vlachopoulos dan Makri (2017) menunjukkan bahawa pengintegrasian PdPc berpusatkan murid yang berasaskan bahan maujud ini boleh membantu murid yang menghadapi cabaran dalam pembelajaran pada peringkat permulaan. Pendekatan menggunakan anggota badan untuk bermain sambil belajar ini mempunyai potensi untuk meningkatkan keterlibatan murid dalam proses pembelajaran seterusnya mempertingkatkan kemahiran dan pengetahuan mereka secara keseluruhan. Metodologi ini menggabungkan pembelajaran visual dan kinestetik yang boleh membantu dalam memperkukuhkan pemahaman pelajar tentang nombor dengan cara yang interaktif dan mudah difahami.

Metodologi pelaksanaan intervensi kaedah H4RO melibatkan beberapa aspek utama yang penting. Pertama, penjadualan pengajaran dilakukan dalam dua sesi untuk memastikan setiap aspek pelajaran diterapkan dengan mendalam dan berkesan. Kedua, pendekatan pengajaran dilaksanakan secara bertahap, memastikan murid memahami asas sebelum meneruskan ke topik yang lebih kompleks. Ketiga, pengajaran disesuaikan mengikut keupayaan pelajar, termasuk penyesuaian dalam teknik atau bahan pengajaran untuk memenuhi tahap pemahaman dan kemahiran murid yang pelbagai. Keempat, pengulangan dan pembetulan dilakukan secara berterusan untuk membolehkan murid memperbaiki kesilapan mereka dan mengukuhkan pemahaman melalui latihan dan maklum balas. Terakhir, penilaian dilakukan sepanjang proses PdPc untuk memastikan murid dapat menjawab dengan tepat dan maklum balas digunakan untuk membuat penyesuaian dalam pendekatan pengajaran, memastikan murid mencapai kefahaman yang diperlukan.

Secara keseluruhannya, kaedah H4RO menawarkan pendekatan yang interaktif dan berkesan dalam pengajaran matematik, dengan memanfaatkan visualisasi tangan dan pembelajaran berasaskan permainan untuk meningkatkan keterlibatan dan pemahaman murid.

Peserta Kajian

Responden terdiri daripada 8 orang murid Tahun 1 Bijak

Instrumen/Strategi Penilaian

Instrumen yang digunakan bagi kajian tindakan ini adalah berdasarkan soalan kajian.

Soalan 1: Adakah kaedah H4RO depat meningkatkan kemahiran membundar nombor?

Berikut adalah instrumen yang digunakan bagi menjawab soalan kajian di atas.

Pengkaji memulakan penilaian dengan menganalisis dokumen murid. Ini melibatkan kajian dan penilaian dokumen-dokumen yang berkaitan dengan tajuk bundar. Analisis dokumen ini melibatkan penilaian daripada buku tulis, lembaran kerja dan rekod PBD. Ini membantu pengkaji dalam memahami latar belakang, konteks, dan maklumat yang ada sebelum intervensi dijalankan.

Selain daripada analisis data pengkaji juga melakukan pemerhatian secara langsung terhadap murid. Pemerhatian ini bertujuan untuk mengumpul data tentang tingkah laku, interaksi atau kejadian yang berkaitan dengan kajian.

Perbincangan dalam kalangan rakan guru juga telah diadakan oleh pengkaji untuk mengumpul data murid dengan lebih efektif. Melalui perbincangan ini guru-guru berkongsi pandangan, pengalaman, dan penilaian mereka tentang prestasi serta perkembangan murid.

Pengkaji juga telah melakukan ujian pra dan ujian pos. Black & Wiliam (1998) menyatakan bahawa ujian pra digunakan untuk menilai pengetahuan awal murid sebelum memulakan proses pembelajaran manakala ujian pos pula ialah ujian yang diadakan selepas proses pembelajaran untuk menilai kemajuan murid dan pemahaman mereka terhadap bahan yang telah diajar. Ia membantu dalam menilai keberkesanan pengajaran dan memberikan maklum balas kepada murid.

Dengan penggabungan instrumen ini, pengkaji mendapat gambaran yang lebih komprehensif mengenai keberkesanan intervensi yang dijalankan.

Soalan 2: Adakah kaedah H4RO dapat meningkatkan minat murid dalam mata pelajaran matematk?

Untuk menjawab soalan ini pengkaji telah menggunakan instrumen temu bual. Creswell (2014) menyatakan bahawa temu bual adalah salah satu alat utama dalam penyelidikan kualitatif yang membolehkan penyelidik mendapatkan maklumat mendalam tentang pandangan, pengalaman, dan perasaan responden. Pengkaji telah menjalankan temu bual sebelum dan selepas intervensi, pengkaji dapat mengumpulkan data yang komprehensif mengenai perubahan dalam minat murid. Proses ini bukan sahaja membantu dalam menilai keberkesanan intervensi tetapi juga memberikan maklumat yang penting untuk merancang dan melaksanakan intervensi yang lebih baik pada masa hadapan. Melalui pendekatan ini, pengkaji dapat memastikan bahawa intervensi yang dijalankan benar-benar memenuhi keperluan dan harapan murid, seterusnya meningkatkan kualiti pendidikan secara keseluruhan.

DAPATAN KAJIAN

Dapatan Soalan Kajian 1

Soalan kajian 1: **Adakah murid berkemahiran untuk membundar nombor hingga puluh terdekat?**

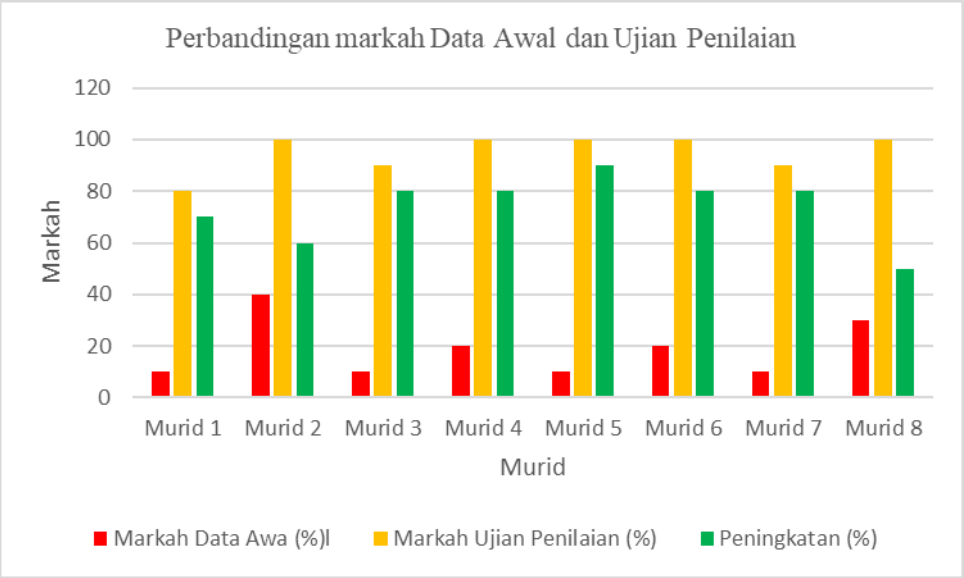
Jadual 1: Markah Ujian Pra dan Ujian Pos

Bil	Murid	Markah Ujian Pra (%)	Markah Ujian Pos (%)
1	Murid 1	10	80
2	Murid 2	40	100
3	Murid 3	10	90
4	Murid 4	20	100
5	Murid 5	10	100
6	Murid 6	20	100
7	Murid 7	10	90
8	Murid 8	30	100

Jadual 1 menunjukkan markah ujian pra yang diambil sebelum intervensi dan markah ujian pos yang diperolehi selepas dijalankan intervensi. Berdasarkan markah ujian pra dan ujian pos, dapat dilihat bahawa terdapat pelbagai tahap peningkatan dalam prestasi murid.

Murid 1, yang bermula dengan markah dalam ujian pra hanya 10%, telah menunjukkan peningkatan yang ketara dalam ujian pos dengan memperoleh markah 80%. Ini menunjukkan usaha dan dedikasi murid tersebut dalam meningkatkan pemahaman dan prestasi mereka dalam subjek tersebut. Peningkatan sebanyak 70% dari markah ujian pra adalah satu pencapaian yang sangat positif. Sementara itu, Murid 2 memulakan dengan markah ujian pra sebanyak 40%, dan berjaya mencapai markah penuh 100% dalam ujian pos. Peningkatan ini sebanyak 60% adalah bukti kejayaan strategi pembelajaran yang diterapkan dan komitmen murid tersebut terhadap pembelajaran. Murid ini, bersama dengan Murid 5, adalah antara yang mencapai markah tertinggi, menunjukkan kemajuan yang luar biasa dalam jangka masa yang singkat. Murid 3, yang bermula dengan markah yang rendah iaitu 10%, menunjukkan peningkatan yang sangat mengagumkan dengan markah 90% dalam ujian pos. Peningkatan sebanyak 80% menunjukkan betapa cepat dan berkesannya murid ini mengatasi kelemahan awal mereka, menandakan peningkatan yang sangat memberangsangkan dalam prestasi mereka. Begitu juga, Murid 4 yang bermula dengan markah awal sebanyak 20%, mencapai markah penuh 100% dalam ujian penilaian. Peningkatan markah sebanyak 80% yang diperolehi oleh murid ini jelas menunjukkan kemajuan yang signifikan dan menunjukkan kemampuan mereka untuk menguasai bahan yang diajar. Murid 6, dengan markah awal 20%, berjaya mencapai markah penuh 100% dalam ujian penilaian, sama seperti Murid 4. Peningkatan 80% ini menunjukkan bahawa murid ini telah membuat kemajuan yang sangat baik dan menunjukkan pemahaman yang mendalam dalam subjek tersebut. Murid 7, yang juga memulakan dengan markah ujian pra yang rendah iaitu 10%, telah memperoleh 90% dalam ujian pos. Ini menunjukkan peningkatan yang ketara sebanyak 80% dan mencerminkan usaha dan kemajuan yang signifikan dalam pemahaman mereka terhadap bahan pelajaran. Akhir sekali, Murid 8, yang memulakan dengan markah 30%, berjaya mencapai markah penuh 100% dalam ujian pos. Peningkatan sebanyak 70% ini menunjukkan kemajuan yang mengagumkan dan usaha yang kuat dalam mempelajari subjek tersebut.

Markah ujian pra, markah ujan pos dan peningkatan markah ditunjukkan melalui carta palang di bawah



Rajah 7: Carta Palang Perbandingan Markah Ujian Pra dan Ujian Pos

Secara keseluruhan, data ini menunjukkan bahawa hampir semua murid telah menunjukkan peningkatan yang signifikan dari markah ujian pra ke markah ujian pos. Peningkatan ini mencerminkan keberkesanan strategi pembelajaran dan dedikasi murid dalam meningkatkan prestasi akademik mereka. Murid-murid ini telah berjaya mengatasi cabaran awal mereka dan menunjukkan kemajuan yang cemerlang dalam ujian pos, membuktikan bahawa usaha dan komitmen dalam pembelajaran membuahkan hasil yang positif.

Dapatan Soalan kajian 2

Soalan kajian 2: **Adakah kaedah H4RO dapat meningkatkan minat murid dalam mata pelajaran matematik?**

Merujuk kepada data yang terdapat dalam Aplikasi Pangkalan Data Murid (Kementerian Pendidikan Malaysia, 2024), peratusan kehadiran harian murid ke sekolah adalah agak rendah, iaitu 80%. Keadaan ini berkaitan dengan minat murid terhadap mata pelajaran matematik yang turut mempengaruhi keinginan mereka untuk hadir ke sekolah.

Sebelum pelaksanaan kaedah H4RO pengkaji telah melakukan sesi temu bual dengan murid tentang ketidakhadiran mereka ke sekolah dan minat mereka terhadap matematik. Antara pernyataan mereka ialah:

"Malaslah nak ke sekolah sebab hari ini ada matematik."
"Matematik susahlah."
"Tak ada cara lain ke nak bagi kita faham."
"Cukuplah belajar, mari kita main"
"Esok ada matematik, kita tak nak datang ."

Selepas pelaksanaan kaedah H4RO, pengkaji mengadakan temu bual sekali lagi dengan murid. Antara pernyataan mereka ialah:

"Bestlah belajar matematik menggunakan kaedah H4RO."
"Mudahnya kaedah H4RO."
"Yeey, esok ada matematik."
"Cikgu, jangan lupa masa matematik kelas saya hari ni."
"Cikgu saya nak banyak latihan."
"Mudahnya bundar nombor, guna tangan kanan dan kiri sahaja."

Pernyataan murid sebelum dan selepas pelaksanaan kaedah H4RO adalah sangat berbeza. Kaedah H4RO telah dapat mengubah pandangan murid dan menjadikan proses pembelajaran lebih menyeronokkan. Kaedah ini telah mendapat pujian daripada murid yang berpendapat pendekatan ini memudahkan mereka dalam mempelajari matematik.

Murid menyatakan bahawa mereka merasa "best" atau sangat berpuas hati dengan penggunaan kaedah H4RO. Kaedah ini nampaknya mempunyai keunikan tersendiri yang membuat pembelajaran matematik menjadi lebih menyeronokkan dan mudah difahami. Ini adalah petunjuk bahawa kaedah tersebut menawarkan pendekatan yang berbeza dan inovatif dalam menyampaikan konsep matematik yang kompleks.

Kelebihan kaedah H4RO turut disuarakan oleh murid yang merasakan bahawa "mudahnya kaedah H4RO". Ini menunjukkan bahawa kaedah tersebut memudahkan proses pembelajaran dan menjadikannya lebih intuitif. Dalam dunia pendidikan yang seringkali penuh dengan pendekatan yang rumit, kaedah yang mudah difahami seperti H4RO boleh menjadi sangat berharga. Pernyataan ini selaras dengan pernyataan Rino (2022) yang berpendapat bahawa proses PdPc akan lebih berkesan jika menggunakan bahan bantu belajar yang sesuai dan menarik dalam memenuhi keperluan setiap murid.

Kegembiraan murid terhadap kelas matematik yang akan datang juga jelas terlihat apabila mereka menyatakan "Yeey, esok ada matematik." Reaksi ini menunjukkan bahawa murid tidak hanya menghadapi matematik dengan rasa terpaksa, tetapi mereka benar-benar menikmati pelajaran tersebut, mungkin kerana kaedah pengajaran yang digunakan menjadikannya lebih menarik.

Dalam konteks pengajaran, adalah penting bagi guru untuk memastikan bahawa mereka tidak terlepas masa kelas yang telah dijadualkan. Pernyataan "Cikgu, jangan lupa masa matematik kelas saya hari ni" adalah contoh bagaimana murid cuba memastikan kelas matematik mereka tidak diabaikan. Ini juga menunjukkan kesedaran murid terhadap pentingnya pengurusan masa dalam pembelajaran mereka.

Murid juga mungkin memerlukan lebih banyak latihan untuk menguasai kemahiran matematik dengan lebih baik. Ini jelas dalam permintaan mereka kepada guru: "Cikgu saya nak latihan banyak sikitlah." Permintaan ini menunjukkan bahawa murid percaya bahawa latihan tambahan akan membantu mereka dalam memahami dan mengaplikasikan konsep matematik dengan lebih efektif.

Akhir sekali, teknik "bundar nombor" yang menggunakan tangan kanan dan kiri adalah contoh bagaimana pendekatan praktikal dapat memudahkan pengiraan dan pemahaman. Murid yang menyatakan "Mudahnya bundar nombor, guna tangan kanan dan kiri sahaja" menunjukkan bahawa mereka merasa lebih mudah untuk memvisualisasikan dan memahami konsep matematik melalui kaedah ini.

Secara keseluruhan, kaedah H4RO telah memberikan kesan positif dalam pembelajaran matematik. Murid menunjukkan keghairahan dan kesenangan dalam menghadapi mata pelajaran ini dan kaedah yang digunakan memudahkan mereka dalam memahami konsep yang rumit. Ini menunjukkan bahawa pendekatan yang inovatif dan praktikal dalam pengajaran matematik boleh memainkan peranan penting dalam kejayaan pembelajaran murid.

PERBINCANGAN

Dalam usaha mempertingkatkan pemahaman murid terhadap nombor dan konsep pembundaran, kaedah H4RO menawarkan pendekatan yang inovatif dengan memanfaatkan tangan kanan dan kiri sebagai alat bantu visual. Pendekatan ini mengintegrasikan elemen visual dan kinestetik dalam proses pembelajaran matematik, bertujuan untuk menjadikan konsep nombor dan pembundaran lebih mudah difahami dan diingati. Konsep ini melibatkan penggunaan tangan sebagai alat visual yang konkrit untuk menggambarkan nilai numerik. Dalam kaedah ini, tangan kanan dan kiri digunakan untuk menunjukkan nombor tertentu, dengan tangan kanan mewakili nombor dalam julat yang lebih rendah, dan tangan kiri mewakili nombor dalam julat yang lebih tinggi. Dengan cara ini murid dapat melihat secara langsung bagaimana nombor diwakili, menjadikannya lebih mudah untuk memahami dan mengingati konsep yang diajar.

Pengajaran menggunakan kaedah H4RO dimulakan dengan demonstrasi oleh pengkaji, yang menunjukkan bagaimana nombor dipaparkan melalui jari tangan. Ini membolehkan murid melihat dan memahami konsep dengan jelas. Setelah demonstrasi, murid diberi peluang untuk mempraktikkan langkah yang sama dengan menunjukkan nombor menggunakan tangan mereka sendiri. Latihan praktikal ini adalah komponen penting dalam proses pembelajaran, kerana ia membolehkan murid menerapkan apa yang telah mereka pelajari secara langsung, sekaligus mengukuhkan pemahaman mereka terhadap nombor dan konsep pembundaran.

Dalam kaedah H4RO, peraturan pembundaran ditetapkan berdasarkan kedudukan nombor pada tangan kanan atau kiri. Nombor yang ditunjukkan di tangan kanan dalam skala pembundaran akan mengekalkan nilai tempat asalnya, menunjukkan bahawa pembundaran tidak perlu dilakukan untuk nilai tersebut. Sebaliknya, nombor yang ditunjukkan di tangan kiri memerlukan penambahan satu unit pada nilai tempat yang dibundarkan, menandakan bahawa pembundaran perlu dilakukan . Peraturan ini memudahkan pelajar memahami bagaimana dan mengapa nombor dibundarkan, serta bagaimana nilai-nilai tempat berubah mengikut kedudukan nombor di tangan.

Penilaian merupakan aspek penting dalam pelaksanaan kaedah H4RO. Pengkaji memantau dan menilai pemahaman murid melalui aktiviti yang dilaksanakan, memberikan maklum balas untuk membantu murid memperbaiki sebarang kesilapan yang mungkin berlaku. Maklum balas yang konstruktif ini bertujuan untuk memperkukuhkan pemahaman murid dan memastikan mereka dapat menguasai konsep dengan betul. Proses latihan ini diulang beberapa kali untuk memastikan murid dapat mengingat dan menggunakan kaedah ini secara efektif. Akhir sekali murid diberikan penilaian secara bertulis melalui ujian penilaian.

Kaedah H4RO menawarkan beberapa kelebihan dalam pengajaran matematik. Kelebihannya termasuk visualisasi yang jelas dan konkrit melalui penggunaan tangan, yang membantu pelajar memahami nombor dan pembundaran dengan lebih baik. Selain itu, pendekatan ini juga meningkatkan keterlibatan dan motivasi murid kerana melibatkan pergerakan fizikal dan visual yang interaktif.

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Pelaksanaan kaedah H4RO ini telah mencapai objektif yang ditetapkan Aktiviti yang dilaksanakan semasa PdPc didapati mampu meningkatkan kemahiran murid untuk membundar nombor hingga puluh terdekat disamping meningkatkan minat murid untuk mempelajari matematik. Aktiviti yang tersusun memberi ruang kepada murid dan pengkaji untuk mengesan kelemahan dan melakukan tindakan pemulihan dan pengukuhan kefahaman seterusnya membolehkan murid mengaplikasi kemahiran yang dikuasai.

Cadangan/Penambahbaikan

Salah satu penambahbaikan utama yang diperlukan ialah penyediaan sumber alternatif bagi murid yang mungkin menghadapi cabaran dalam koordinasi motor atau pemahaman konsep. Untuk murid yang sukar mengikuti kaedah ini secara fizikal, bahan visual tambahan seperti carta, kad nombor, atau aplikasi digital boleh digunakan. Ini akan membolehkan murid yang kurang berupaya melakukan pergerakan fizikal untuk tetap terlibat dalam proses pembelajaran dengan cara yang berbeza tetapi setara. Alat bantu tambahan ini juga boleh membantu dalam menyediakan murid dengan variasi dalam pengalaman pembelajaran, menjadikannya lebih inklusif.

Integrasi kaedah H4RO dengan pendekatan pengajaran lain boleh memberikan pengalaman pembelajaran yang lebih holistik. Sebagai contoh, penggunaan teknologi seperti aplikasi matematik atau permainan interaktif yang melibatkan pembundaran boleh melengkapi kaedah tangan. Aplikasi ini boleh memberikan maklum balas serta-merta dan menawarkan latihan yang disesuaikan dengan tahap kefahaman murid. Selain itu, penggunaan bahan pengajaran tambahan seperti video dan animasi boleh membantu menjelaskan konsep secara lebih dinamik dan menarik, serta dapat disesuaikan dengan pelbagai gaya pembelajaran murid.

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MENGENALPASTI KESALAHAN TATABAHASA DALAM KALANGAN PELAJAR DIPLOMA KOLEJ UNIVERSITI ISLAM ANTARABANGSA SULTAN ISMAIL PETRA (KIAS)

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ABSTRAK

Bahasa merupakan alat untuk berkomunikasi yang digunakan oleh pelajar. Bahasa seseorang mencerminkan pemikirannya dan semakin terampil seseorang berbahasa maka semakin cerah dan jelas pula jalan pemikirannya. Peranan bahasa sangat penting dalam kehidupan sehari-hari, baik bahasa lisan mahupun bahasa tulisan. Jadi penggunaan tatabahasa yang salah akan menjejaskan bahasa Melayu. Tujuan kajian ini dilakukan bagi mengetahui penggunaan kesalahan imbuhan bahasa Melayu dalam kalangan pelajar diploma. Objektif kajian ini untuk mengenal pasti jenis-jenis imbuhan apitan kata kerja bahasa Melayu pelajar-pelajar dalam penulisan. Kajian ini menggunakan kaedah kajian lapangan dengan mengagihkan borang soal selidik kepada 80 orang pelajar diploma yang mempelajari bahasa Kebangsaan di Kolej Islam Antarabangsa Sultan Ismail Petra (KIAS). Kajian tertumpu kepada aspek morfologi sahaja. Data kajian dikumpul melalui agihan borang soal selidik. Data-data seterusnya dianalisis menggunakan dua kaedah yang utama, iaitu analisis statistik untuk mencari kekerapan dan peratusan kesalahan penggunaan imbuhan mengikut kategori imbuhan kata kerja bahasa Melayu berdasarkan teori sistemik. Analisis kedua, iaitu menggunakan teori sistemik bagi menghuraikan dan menjelaskan salah betul penggunaan jenis-jenis kesalahan imbuhan yang telah dikenal pasti dalam borang soal selidik. Dengan menggunakan pendekatan teori sistemik, khasnya melalui peraturan sintagmatik, segala bentuk kesalahan imbuhan dapat diterangkan dengan saintifik dan terperinci. Kesemua jenis kesalahan imbuhan dapat dikaitkan secara sistematik. Kaitan secara sistematik ini bermaksud kesalahan penggunaan imbuhan bagi setiap kategori itu mempunyai motivasinya tersendiri yang boleh diterangkan. Kajian ini berhasil menunjukkan pertalian di antara proses terbitan kata (morfologi) dan makna imbuhan yang dikaji. Dapatan menunjukkan bahawa pelajar diploma masih lemah menggunakan imbuhan khususnya imbuhan kata kerja. Seterusnya, kajian ini telah memberikan satu cara alternatif tentang bagaimana meningkatkan prestasi penggunaan imbuhan dalam kalangan pelajar, iaitu melalui latih tubi dan kaedah permainan di bilik darjah.

***Kata Kunci**: Tatabahasa, pelajar, KIAS.*

PENGENALAN

Kesalahan bahasa merupakan satu cabang aplikasi dalam bidang linguistik yang diperkenalkan oleh Corder (1967) dan sehingga kini teori ini masih digunakan dalam pembelajaran bahasa. Tidak banyak kajian dilakukan untuk melihat permasalahan pembelajaran bahasa Melayu dalam kalangan pelajar khususnya dari aspek tatabahasa. Menurut Jeniri (2005), bahasa Melayu mudah untuk dipelajari, tetapi susah untuk dikuasai. Banyak kajian telah dilakukan dalam menganalisis kesalahan bahasa yang dilakukan oleh pengkaji. Namun, kebanyakan kajian hanya menumpukan kesalahan bahasa dalam kalangan pelajar asing dan penutur jati tetapi kajian terhadap penutur jati masyarakat Melayu Kelantan yang mengambil pengajian diploma di Institusi Pengajian Tinggi Swasta (IPTS) masih belum lagi dikaji. Sebagai contoh, pengkaji lepas iaitu Nor Asmah (2009) telah mengkaji kajian Analisis Kesalahan

Bahasa terhadap pembelajaran bahasa Melayu sebagai bahasa pertama dalam kalangan pelajar sekolah menengah. Selain itu, Nora binti Yusof (2012) mengkaji Kesalahan Bahasa dalam Karangan Pelajar Cina Tingkatan 2 dan Umaimah binti Kamarulzaman (2012) mengkaji Kesalahan Imbuhan Bahasa Melayu oleh Pelajar Asing di Institusi Pengajian Tinggi Awam.

Walau bagaimanapun, kesalahan bahasa akan berlaku apabila pelajar-pelajar belum menguasai keseluruhan atau sepenuhnya sistem bahasa kedua yang sedang dipelajari secara formal (Corder,1981). Bagi pelajar diploma di KIAS, mereka menggunakan bahasa Melayu untuk berkomunikasi tanpa menggunakan tatabahasa yang betul. Bagi mereka, cukup sekadar pendengar memahami apa yang disampaikan oleh mereka sahaja. Oleh itu, penggunaan tatabahasa yang salah akan menjejaskan kedaulatan bahasa Melayu. Oleh hal yang demikian, pengkaji berminat untuk mengkaji kesalahan-kesalahan yang dilakukan oleh pelajar semasa proses pembelajaran.

Berdasarkan kelompongan kajian kesalahan bahasa dalam kosa ilmu lepas, pengkaji mendapati pengkaji lepas hanya menumpukan kajian terhadap kesalahan tatabahasa bahasa Melayu dalam kalangan pelajar asing di IPTA dan juga pelajar tempatan di peringkat sekolah menengah sahaja. Kebanyakan kajian lepas juga, hanya memberi fokus kepada kesalahan tatabahasa bahasa Melayu dalam penulisan sahaja. Oleh itu, pengkaji berusaha memperluaskan kajian berkaitan dengan kesalahan tatabahasa bahasa Melayu dalam kalangan pelajar diploma di Institusi Pengajian Tinggi Swasta. Dalam kajian ini, pengkaji telah menggunakan borang soal selidik bagi menguji kefahaman mereka terhadap jenis-jenis imbuhan apitan kata kerja bahasa Melayu yang digunakan oleh pelajar-pelajar dalam penulisan.

KAJIAN LITERATUR

Satu kajian yang bertujuan untuk mengkaji jenis-jenis dan kekerapan kesalahan tatabahasa (TB) Bahasa Melayu di Kalangan Pelajar Sekolah Menengah Agama telah dijalankan oleh Muhammed Salehudin bin Aman (1993). Dapatan kajian ini menunjukkan terdapat perbezaan yang signifikan tentang kesalahan tatabahasa bahasa Melayu antara kedua-dua kumpulan tersebut. Kumpulan Status Sosioekonomi (SSE) rendah paling tinggi kekerapan kesalahan, iaitu 1,213. Seterusnya, kajian ini juga mendapati kebanyakan pelajar membuat latihan-latihan TB dengan kekerapan 'kadangkala', yakni kekerapan antara 1-2 kali sebulan. Adalah terbukti bahawa pelajar masih lemah penguasaan TB BM. Keputusan kajian mempunyai implikasi kepada strategi pengajaran dan pembelajaran BM di sekolah-sekolah.

Selain itu, satu lagi kajian telah dijalankan oleh Siti Baiduri binti Kasiran & Nurul Jamilah binti Rosly (2011). Tujuan utama kajian ini menganalisis kesalahan tatabahasa dalam kalangan pelajar asing yang mempelajari kursus Bahasa Melayu II untuk Pelajar Asing (LM 1011) di sebuah Institusi Pengajian Tinggi Awam. Hasil kajian juga mendapati bahawa kesalahan ortografi, iaitu kesalahan penggunaan ejaan dan huruf besar/kecil paling banyak dilakukan pelajar (270 kesalahan). Kesalahan kedua tertinggi pula ialah kesalahan aspek ayat, iaitu ayat tunggal dan ayat saduran (98 kesalahan), diikuti kesalahan aspek frasa, iaitu frasa nama, frasa kerja dan frasa sendi nama (65 kesalahan). Kesalahan yang paling rendah dari segi kekerapan ialah kesalahan penggunaan aspek kata iaitu imbuhan, kata hubung dan kata pemeri (57). Berdasarkan soal selidik, kebanyakan pelajar melakukan kesalahan tatabahasa disebabkan gangguan bahasa ibunda, sikap pelajar dan keadaan persekitaran bahasa di universiti. Bagi menangani masalah ini, strategi pengajaran dan pembelajaran bahasa hendaklah ditingkatkan. Bimbingan yang berterusan daripada guru/pensyarah, pembelajaran bahasa melalui multimedia serta penganjuran aktiviti bahasa seperti kuiz, lakonan dan lawatan penting dalam menggalakkan pembelajaran bahasa Melayu dalam kalangan pelajar asing.

Seterusnya, kajian yang dijalankan oleh Mazlina Baharudin & Rohaida Idris (2016) bertujuan untuk menganalisis kesalahan tatabahasa dalam karangan pelajar asing yang mempelajari kursus Bahasa Malaysia I (LKM 100) sebagai kursus universiti yang wajib lulus sebagai syarat pengijazahan bagi

pelajar antarabangsa di Pusat Pengajian Bahasa, Literasi dan Terjemahan, Universiti Sains Malaysia. Kajian ini menggunakan kaedah kualitatif, iaitu metodologi kepustakaan sepenuhnya. Kesalahan tatabahasa dalam penulisan karangan mereka dijadikan sebagai data kajian. Kajian ini hanya memfokuskan kesalahan penggunaan frasa nama, frasa kerja, frasa adjektif dan frasa sendi nama dalam karangan yang dihasilkan oleh pelajar.

METODOLOGI

Kajian ini menggunakan reka bentuk kajian lapangan dengan mengagihkan borang soal selidik kepada 80 orang pelajar diploma yang mempelajari bahasa Kebangsaan di Kolej Islam Antarabangsa Sultan Ismail Petra (KIAS). Kajian tertumpu kepada aspek morfologi sahaja. Data kajian dikumpul melalui agihan borang soal selidik. Data-data seterusnya dianalisis menggunakan dua kaedah yang utama, iaitu analisis statistik untuk mencari kekerapan dan peratusan kesalahan penggunaan imbuhan mengikut kategori imbuhan kata kerja bahasa Melayu berdasarkan teori sistemik. Analisis kedua, iaitu menggunakan teori sistemik bagi menghuraikan dan menjelaskan salah betul penggunaan jenis-jenis kesalahan imbuhan yang telah dikenal pasti dalam borang soal selidik. Dengan menggunakan pendekatan teori sistemik, khasnya melalui peraturan sintagmatik, segala bentuk kesalahan imbuhan dapat diterangkan dengan saintifik dan terperinci. Kesemua jenis kesalahan imbuhan dapat dikaitkan secara sistematik. Kaitan secara sistematik ini bermaksud kesalahan penggunaan imbuhan bagi setiap kategori itu mempunyai motivasinya tersendiri yang boleh diterangkan. Kajian ini berhasil menunjukkan pertalian di antara proses terbitan kata (morfologi) dan makna imbuhan yang dikaji.

Analisis Faktor Demografi Terpilih Responden

Bahagian ini melaporkan analisis latar belakang informanyang terdiri daripada jantina, kursus, tahun pengajian dan tempat tinggal. Kaedah kekerapan dan peratusan digunakan untuk menganalisis latar belakang responden. Analisis data latar belakang kajian adalah seperti yang ditunjukkan dalam Jadual 1.

Jadual 1: Analisis Taburan Bilangan Dan Peratusan InformanMengikut Jantina

Jantina	Bilangan	Peratus
Lelaki	9	11.3
Perempuan	71	88.8
Jumlah	**80**	**100**

Jadual 1 menunjukkan taburan bilangan dan peratusan informan mengikut jantina. Jumlah bilangan informanadalah 80 orang. Dari jumlah ini seramai 9 orang (11.3%) adalah lelaki manakala 71 orang (88.8%) adalah perempuan. Jumlah bilangan pelajar perempuan lebih ramai sebagai informanadalah kerana mereka mempunyai bilangan yang paling ramai yang melanjutkan pelajaran di IPTS.

Jadual 2: Analisis Jenis Kursus Pengajian yang Diikuti

Kursus	Bilangan	Peratus
DPI	13	16.3
DPAK	38	47.5
DKI	6	7.5
DQT	5	6.3
DTQ	12	15.0
DBI	6	7.5
Jumlah	**80**	**100**

Jadual 2 menunjukkan taburan kursus pengajian informan. Taburan menunjukkan informan yang mengambil DPI seramai 13 (16.3 %) diikuti kursus DPAK seramai 38 (47.5 %). Manakala kursus DKI pula adalah seramai 6 (7.5 %), kursus DQT seramai 5 (6.3 %), DTQ seramai 12(15.0 %) dan akhir sekali kursus DBI seramai 6 (7.5 %). Hal ini menunjukkan pelajar DPAK yang paling ramai menjadi informan dalam kajian ini. Hal ini kerana, pelajar DPAK adalah pelajar yang paling ramai yang mengambil kursus bahasa kebangsaan pada semester ini dan ianya terdiri daripada pelajar semester 1,2,3 dan juga semester 4 iaitu tahun akhir.

Jadual 3: Analisis Tahun Pengajian Responden

Semester	Bilangan	Peratus
Semester 1	31	38.8
Semester 2	12	15.0
Semester 3	13	16.3
Semester 4	24	30.0
Jumlah	**80**	**100**

Jadual 3 menunjukan tahun pengajian informan mengikut semester. Majoriti pelajar adalah terdiri daripada pelajar semester satu tahun satu pengajian, iaitu 31 (38.8%), diikuti oleh pelajar semester dua iaitu 12 (15.0%) dan semester tiga iaitu sebanyak 13 (16.3 %). Seterusnya diikuti oleh pelajar semester empat seramai 24 (30.0%).

Jadual 4: Analisis Tempat Tinggal Responden

	Bilangan	Peratus
Bandar	45	56.3
Luar Bandar	35	43.8
Jumlah	**80**	**100**

Jadual 4 menunjukkan analisis terhadap tempat tinggal informan menunjukkan informan yang menetap di bandar seramai 45 (56.3%) dan menetap di luar bandar ialah 35 (43.8%). Berdasarkan hasil kajian, kebanyakan pelajar berasal daripada bandar. Hal ini kerana, KIAS adalah sebuah pusat pengajian yang berbentuk agama dan sudah diketahui umum. Kebanyakan pelajar berasal daripada bandar yang merangkumi pelusuk dunia.

OBJEKTIF KAJIAN

Secara umum, Tujuan kajian ini adalah untuk mengenal pasti kesalahan yang sering dilakukan oleh pelajar dalam pembelajaran bahasa Melayu. Objektif khusus kajian ini adalah untuk:

1. Mengenal pasti jenis-jenis imbuhan apitan kata kerja bahasa Melayu yang digunakan oleh pelajar-pelajar dalam penulisan.

DAPATAN KAJIAN

Imbuhan Apitan Kata Kerja Apitan /meN-...-kan/.

Analisis data adalah bagi mendapatkan jawapan kepada perkara-perkara berikut:

Soalan 1: Ahmad *Menrahsiakan* sesuatu daripada keluarganya.

Jadual 5: Imbuhan Apitan /meN-.../ + rahsia /-kan/

	Bilangan	**Peratus**
Betul	20	25.0
Salah	60	75.0
Jumlah	**80**	**100**

Jadual 5 untuk setiap item pengetahuan tentang tatabahasa bahasa Melayu. Dalam bahagian ini, iaitu bahagian B, pengkaji telah memberikan soalan dalam borang soal selidik berbentuk kesalahan penggunaan imbuhan /meN-...-kan/ kepada pelajar bagi menguji kefahaman dan pengetahuan mereka. Analisis kajian ini berkaitan dengan kata kerja dan apitan imbuhan kata kerja. Seramai 20 orang pelajar, iaitu (25.0%) telah memberi jawapan betul dan 60 orang pelajar iaitu (75.0%) telah memberi jawapan tersebut adalah salah.

Soalan 2: Demi *mengawalkan* denggi, persekitaran mestilah bersih.

Jadual 6: Imbuhan Apitan /MeN-.../ + awal /-kan/

	Bilangan	**Peratus**
Betul	13	16.3
Salah	67	83.8
Jumlah	**80**	**100**

Jadual 6 analisis kajian ini berkaitan dengan penguasaan pelajar mengetahui penggunaan perkataan 'mengawalkan' dengan ayat yang betul. Seramai 13 orang (16.3%) pelajar menjawab ayat tersebut adalah betul, 67 orang (83.8%) pelajar menjawab salah. Maksud 'mengawalkan' mengikut PRPM ialah membawa ke waktu atau tarikh yang lebih awal.

Soalan 3: Para guru bertanggungjawab dalam *mendidikkan* pelajar.

Jadual 7: Imbuhan Apitan /MeN-.../ + didik /-kan/

	Bilangan	**Peratus**
Betul	15	18.8
Salah	65	81.3
Jumlah	**80**	**100**

Jadual 7 analisis kajian ini berkaitan dengan kefahaman dan pengetahuan pelajar berkaitan dengan kata kerja 'mendidik' dan bergabung dengan imbuhan /meN-...-kan/ masih lagi tidak mengubah golongan kata kerja. Seramai 15 pelajar iaitu (18.8%) menjawab ayat tersebut betul dan seramai 65 pelajar, iaitu (81.3%) pelajar menjawab salah. Bagi Korpus DBP perkataan 'mendidikkan' dalam ayat tersebut adalah betul. Manakala bagi PRPM perkataan 'mendidik' membawa maksud menjaga dan mengajar tetapi perkataan 'mendidikkan' tidak wujud dalam tatabahasa Melayu dan penggunaanya adalah lewah.

Imbuhan Apitan Kata Kerja /meN-...i/.

Soalan 4: Ahmad *menyintai* Siti sepenuh hati.

Jadual 8: Imbuhan Apitan /MeN-.../ + cinta /-i/

	Bilangan	**Peratus**
Betul	34	42.5
Salah	46	57.5
Jumlah	**80**	**100**

Analisis kajian mengenai kefahaman pelajar berkaitan dengan imbuhan /meN-...-i/ menunjukkan seramai 34 orang pelajar iaitu (42.5%) menyatakan ayat tersebut betul dan seramai 46 orang pelajar iaitu (57.5%) menyatakan salah. Kata dasar bagi perkataan 'menyintai' dalam ayat tersebut ialah 'cintai'.

Soalan 5: Masalah obesiti telah *menderitai* rakyat Malaysia.

Jadual 9: Imbuhan Apitan /MeN-.../ + derita /-i/

	Bilangan	**Peratus**
Betul	17	21.3
Salah	63	78.8
Jumlah	**80**	**100**

Berdasarkan soalan di atas, hasil dapatan menunjukkan seramai 17 orang pelajar iaitu (21.3%) menjawab ayat tersebut adalah betul dan seramai seramai 63 orang pelajar iaitu sebanyak (78.8%) menjawab salah. Oleh itu, kefahaman pelajar terhadap penggunaan imbuhan apitan /men-...-i/adalah rendah. Walau bagaimanapun, masih ada lagi segelintir pelajar yang peka terhadap kesalahan tatabahasa. Hasil dapatan menunjukkan jumlah pelajar yang membuat kesalahan lebih ramai berbanding pelajar yang faham mengenai tatabahasa.

Soalan 6: Hajar telah *membelakangi* Ustazah dalam majlis agama.

Jadual 10: Imbuhan Apitan /MeN-.../ + belakang /-i/

	Bilangan	**Peratus**
Betul	65	81.3
Salah	15	18.8
Jumlah	**80**	**100**

Analisis kajian ini masih lagi berkaitan dengan kefahaman dan pengetahuan pelajar berkaitan dengan sistem ejaan menggunakan imbuhan apitan /meN-...-i/. Hasil kajian mendapati seramai 65 orang pelajar menjawab betul dan 15 orang menjawab salah. Peratusannya masing-masing mencatat sebanyak (81.3%) dan (18.8%). Secara keseluruhannya, kefahaman dan pengetahuan pelajar masih lagi pada aras tinggi kerana lebih 80% pelajar menjawab dengan jawapan yang betul.

PERBINCANGAN

Dapatan kajian ini menunjukkan bahawa kesalahan dalam penggunaan imbuhan bahasa Melayu dalam kalangan pelajar-pelajar diploma. Kebanyakan pelajar masih tidak mampu membezakan penggunaan imbuhan apitan kata kerja /meN-...-i/, /meN-...-kan/, /mempeR-...-i/, dan /mempeR-...-kan/. Selain itu, kesalahan ejaan juga sering dilakukan oleh pelajar semasa proses penulisan di dalam kelas. Oleh hal yang demikian, kesalahan tatabahasa yang dilakukan oleh pelajar akan menjejaskan bahasa Melayu itu sendiri.

Para pelajar perlu mengubah tanggapan bahasa bahasa Melayu merupakan bahasa yang sukar dipelajari. Peningkatan dalam penguasaan bahasa Melayu tersebut boleh dicapai dengan pembacaan bahan-bahan dan aktiviti yang berfaedah seperti surat khabar, majalah, buku cerita, dan sebagainya. Melalui bahan tersebut, secara tidak langsung dapat memperlihatkan gaya bahasa, maklumat serta fungsi sesuatu perkataan itu dibina dalam ayat. Selain daripada itu juga, faktor utama yang ada pada seorang pelajar adalah minat terhadap bahasa ibunda. Melalui minat, segala masalah dapat diatasi kerana untuk mempelajari bahasa Melayu menjadi mudah dan senang. Kajian ini cuma menumpukan kepada kesalahan imbuhan dalam kalangan pelajar diploma sahaja. Skop kajian ini hanyalah tertumpu kepada pelajar diploma yang mengambil kursus bahasa Kebangsaan. Di samping itu, jumlah responden bagi mendapatkan maklumat cuma terbatas kepada 80 orang responden sahaja.

RUMUSAN

Secara keseluruhannya, kajian ini membuktikan bahawa gambaran yang jelas tentang kelemahan penggunaan imbuhan apitan kata kerja bahasa Melayu pelajar-pelajar diploma dalam pembelajaran bahasa melayu sebagai bahasa utama. Kelemahan pelajar dalam kemahiran menggunakan imbuhan dapat diatasi dengan cara memberi penekanan kepada pengajaran dan penggunaan imbuhan dalam ayat-ayat sama ada melalui pemerian semula aspek betul salah berdasarkan buku tatabahasa oleh tenaga

pengajar, mengadakan latih tubi atau kaedah permainan di bilik darjah. Tenaga pengajar perlu bersikap tegas dalam memainkan peranan penting bagi memupuk sikap positif dalam kalangan pelajar terhadap pembelajaran bahasa Melayu.

Selain itu, dengan menerapkan pendekatan sistemik dalam kajian ini, segala bentuk kesalahan imbuhan dapat diterangkan dengan saintifik dan terperinci. Kesemua kesalahan dapat dikaitkan secara sistematik. Kaitan secara sistematik ini bermaksud kesalahan penggunaan imbuhan bagi setiap kategori itu mempunyai motivasinya tersendiri yang boleh diterangkan.

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CABARAN MENGHADAPI UJIAN PERTUTURAN: KAJIAN TERHADAP CALON *MALAYSIAN UNIVERSITY ENGLISH TEST (MUET)*

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ABSTRAK

Menguasai kemahiran bertutur telah lama menjadi cabaran besar bagi pembelajaran bahasa. Hal ini memerlukan pembangunan strategi pengajaran yang berkesan untuk menangani aspek penting dalam penguasaan bahasa. Kajian ini bertujuan untuk mengenal pasti cabaran-cabaran yang dihadapi oleh calon-calon Malaysian University English Test (MUET) semasa penilaian bertutur. Soal selidik yang merangkumi pelbagai komponen pengucapan telah digunakan untuk mendapatkkan gambaran mengenai kesukaran yang dihadapi oleh calon-calon ini. Data kajian dianalisis menggunakan pendekatan kuantitatif deskriptif di mana kebolehpercayaan instrumen soal selidik diuji dengan menggunakan ujian Cronbach Alpha, dan pekali alpha yang diperoleh melebihi 0.70 menunjukkan kebolehpercayaan instrumen tersebut. Hasil analisis deskriptif menunjukkan bahawa calon menganggap kosa kata (vocabulary) sebagai komponen yang paling mencabar semasa bertutur dalam bahasa Inggeris dengan skor min tertinggi iaitu 3.43. Dapatan ini menunjukkan keperluan bagi pengajar bahasa Inggeris untuk memberi lebih tumpuan kepada penguasaan kosa kata calon bagi membolehkan mereka berkomunikasi dengan lebih yakin tanpa dihalangi oleh batasan leksikal. Penemuan kajian ini penting kerana memberikan pandangan yang berharga kepada pengajar bahasa Inggeris mengenai cabaran yang dihadapi oleh calon semasa bertutur dalam bahasa Inggeris. Dengan pemahaman ini, pengajar boleh merangka strategi pengajaran yang lebih tepat dan mengubahsuai modul pembelajaran untuk meningkatkan tahap kecekapan keseluruhan calon.

***Kata Kunci**: cabaran, prestasi pertuturan, strategi pengajaran, kosa kata, ujian pertuturan MUET*

PENGENALAN

Ujian pertuturan *Malaysian University English Test* (MUET) memainkan peranan penting dalam menilai kecekapan lisan calon dalam bahasa Inggeris. Ujian ini bertindak sebagai medium penilaian untuk menilai tahap penguasaan Bahasa Inggeris pelajar, dan merupakan prasyarat bagi kemasukan ke institusi pengajian tinggi tempatan (Sukri et al., 2023). Dalam pendidikan bahasa, pelajar dikehendaki menguasai empat kemahiran utama iaitu mendengar, bertutur, menulis, dan membaca (Miralpeix, & Muñoz, 2018). Kemahiran-kemahiran ini adalah elemen penting dalam ujian MUET, di mana setiap satu menyumbang kepada skor keseluruhan (Naaim, & Hashim, 2019; Jin, 2020). Walaupun MUET menilai kebolehan linguistik calon secara menyeluruh, komponen pertuturan sering menjadi cabaran terbesar serta menawarkan peluang kepada pelajar. Pertuturan lazimnya dianggap sebagai kemahiran bahasa yang utama untuk mengukur kecekapan seseorang dalam penguasaan bahasa. Oleh itu, ramai

pelajar mengutamakan pencapaian kecekapan bertutur sebagai objektif utama dalam pembelajaran bahasa (Rao, 2019). Menguasai keupayaan untuk bertutur dengan yakin dan berkesan adalah penting dalam penguasaan sesuatu bahasa.

Dalam dunia global hari ini, kemahiran bertutur diiktiraf sebagai komponen penting untuk mobiliti antarabangsa, kemasukan ke insitusi pendidikan tinggi, dan peluang pekerjaan (Fulcher, 2015; Isaacs, 2016). Ia kini menjadi salah satu elemen utama dalam kebanyakan peperiksaan bahasa antarabangsa dan tempatan, sebahagiannya disebabkan oleh kebangkitan gerakan komunikatif dalam pengajaran dan penilaian bahasa (Fulcher, 2000). Dalam konteks pendidikan bahasa, pelajar dikehendaki menguasai empat kemahiran asas, iaitu mendengar, bertutur, menulis, dan membaca (Miralpeix, & Muñoz, 2018) untuk mencapai penguasaan bahasa yang baik. Dalam kemahiran asas ini, kemahiran bertutur sering dianggap sebagai penunjuk utama kejayaan pemerolehan bahasa. Justeru itu, ramai pelajar menjadikan penguasaan kemahiran bertutur sebagai matlamat utama dalam pembelajaran bahasa (Richards & Rendaya, 2002; Rao, 2019).

Menurut Shen dan Chiu (2019), pelajar bahasa Inggeris sering menghadapi cabaran yang boleh dikategorikan kepada tiga aspek utama iaitu psikologi, linguistik, dan persekitaran. Masalah psikologi termasuk kegugupan, ketakutan membuat kesilapan, dan kurang keyakinan diri. Dari sudut linguistik pula, kekurangan kosa kata, tatabahasa, ungkapan dan organisasi ayat merupakan antara isu yang dihadapi. Manakala, dari aspek persekitaran, ketiadaan konteks untuk menggunakan bahasa Inggeris dalam kehidupan seharian turut menjadi halangan kepada pembelajaran yang berkesan. Ahsan, Asgher, dan Hussain (2020) menegaskan bahawa kurang keyakinan adalah faktor psikologi utama, terutamanya apabila pelajar merasakan bahawa rakan komunikatif mereka tidak memahami apa yang cuba disampaikan. Hal ini menimbulkan kebimbangan dalam komunikasi, terutamanya bagi pelajar yang kurang yakin dengan kemahiran komunikasi bahasa Inggeris mereka (Nunan, 1999). Kebiasaanya, pelajar yang kurang keyakinan diri dan mempunyai perasaan rendah diri akan menjadi cemas apabila berhadapan dengan masalah bahasa (Hanifa,2018). Dalam beberapa kes, faktor linguistik seperti kekurangan kosa kata serta kurang memahami tatabahasa dan kolokasi turut menyumbang kepada penurunan keyakinan dan peningkatan kebimbangan, seperti yang dinyatakan oleh beberapa ahli bahasa (Kasbi, & Elahi Shirvan, 2017; Rahman, 2017).

Pelajar yang menghadapi kesukaran bertutur dalam bahasa Inggeris biasanya berdepan dengan cabaran yang boleh diklasifikasikan kepada isu afektif, sosial, dan linguistik (Afshar, & Asakereh, 2016). Hanifa (2018) menyatakan bahawa faktor afektif berkaitan dengan emosi dan personaliti pelajar. Isu afektif ini merangkumi faktor-faktor seperti sikap, keyakinan diri, motivasi, kebimbangan, tempoh pendedahan kepada bahasa, suasana bilik darjah, latar belakang keluarga, serta kecekapan pelajar dan guru. Sementara itu, isu sosial merujuk kepada kebolehan pelajar untuk mempraktikkan bahasa Inggeris di luar bilik darjah dan tahap kefahaman dalam sesi pengucapan. Isu linguistik pula melibatkan elemen seperti kosa kata, kefasihan, tatabahasa, dan sebutan (Jaya, Petrus, & Pitaloka, 2022).

Seperti yang dinyatakan di atas, kemahiran bertutur melibatkan pelbagai komponen untuk membolehkan komunikasi berkesan dalam sesuatu bahasa. Terdapat banyak kajian penyelidikan yang mengetengahkan kesukaran yang dihadapi oleh pelajar bahasa dalam bertutur. Sebagai contoh, Suryani, Suarnajaya, dan Pratiwi (2020) melaporkan bahawa pelajar menghadapi kesukaran untuk bercakap dengan baik apabila mereka kurang penguasaan tatabahasa, sebutan, dan kosa kata. Kajian lain oleh Faridi dan Joko Yulianto (2021) mendapati bahawa kebimbangan bahasa dicetuskan oleh beberapa faktor, antaranya kebimbangan komunikasi, kebimbangan ujian, dan ketakutan terhadap penilaian negatif. Kebimbangan bahasa boleh menghalang pelajar daripada terlibat dalam aktiviti lisan. Dalam konteks penilaian pertuturan MUET, di mana pelajar perlu mengambil bahagian dalam perbincangan kumpulan, faktor ini jelas merupakan aspek penting yang boleh menjejaskan prestasi mereka. Selain itu, Leyaley (2023) menyatakan bahawa kekurangan motivasi, sifat pemalu, kebimbangan, dan kurang keyakinan diri adalah aspek yang sering menghalang pelajar daripada menyertai perbincangan kelas Bahasa Inggeris. Brown (2001) menekankan bahawa kebimbangan boleh menghalang keupayaan

pelajar untuk berkomunikasi dalam bahasa Inggeris dengan berkesan, walaupun mereka mempunyai pengetahuan tentang topik tersebut, kerana mereka bergelut untuk menzahirkan diri.

Baru-baru ini, kerumitan tugasan muncul sebagai salah satu faktor yang mempengaruhi pemerolehan bahasa, termasuk prestasi bertutur dalam kalangan pelajar bahasa. Kerumitan tugasan sangat relevan dalam konteks pendekatan pengajaran berasaskan tugasan, yang merupakan konsep yang diperkenalkan oleh Prabhu pada tahun 1987 (Prabhu, 1987). Dalam konsep berasaskan tugasan ini, Prabhu (1987) menekankan bahawa pelajar mencapai kecekapan yang lebih tinggi dalam bahasa sasaran melalui penglibatan aktif dalam aktiviti berasaskan tugasan yang bermakna dan disesuaikan untuk mencapai objektif tertentu. Pendekatan ini menyumbang kepada pembangunan Pengajaran Bahasa Berasaskan Tugasan (TBLT), yang telah dilaksanakan secara meluas dalam pengajaran bahasa di seluruh dunia.

Teori Hipotesis Kognitif Robinson (2005) telah digunakan secara meluas sebagai kerangka teori dalam kajian mengenai kerumitan tugasan (Frear & Bitchener, 2015; Yang et al., 2020; Mora et al., 2024) dan juga akan diterapkan dalam kajian ini. Kerangka teori ini mencadangkan bahawa tugasan pedagogi perlu disesuaikan dengan keupayaan pelajar bahasa, dengan meningkatkan kerumitan kognitif secara beansur-ansur agar lebih selari dengan cabaran tugas di dunia sebenar (Robinson, 2005; Wang, 2020). Oleh itu, kecekapan bertutur pelajar mungkin dipengaruhi oleh pelbagai faktor, di mana setiap pelajar menghadapi cabaran yang berbeza dalam bertutur dalam bahasa Inggeris. Memahami kesukaran-kesukaran ini dapat membantu pengajar Bahasa Inggeris merangka pendekatan pedagogi yang lebih sesuai untuk menangani isu-isu tersebut.

Pernyataan Masalah dan Fokus Kajian

Terdapat kebimbangan bahawa ramai pelajar tidak dapat menguasai kemahiran bertutur dalam bahasa Inggeris dengan baik, yang boleh menjejaskan prestasi mereka dalam ujian MUET dan seterusnya peluang mereka untuk melanjutkan pelajaran ke institusi pengajian tinggi. Penguasaan kemahiran bertutur merupakan suatu cabaran, dan justeru itu, penting bagi pendidik untuk membangunkan modul pengajaran yang komprehensif dan merangkumi semua aspek yang diperlukan bagi mencapai kecekapan. Modul ini juga harus memberi keutamaan kepada aspek-aspek yang paling mencabar bagi pelajar. Untuk mencapai matlamat ini dengan berkesan, pendidik perlu terlebih dahulu mengenal pasti halangan yang dihadapi oleh pelajar bahasa Inggeris. Namun begitu, walaupun terdapat kajian mengenai penguasaan bahasa Inggeris, masih terdapat kekurangan penyelidikan yang mendalam mengenai faktor-faktor spesifik yang mempengaruhi prestasi calon dalam penilaian pertuturan, terutamanya dalam konteks MUET.

Objektif dan Soalan Kajian

Berasaskan fokus kajian, objektif umum kajian adalah mengenal pasti cabaran yang dihadapi oleh calon *Malaysian University English Test* (MUET) dalam penilaian bertutur.

Manakala objektif khusus yang dirangka adalah seperti berikut:

i. Mengenal pasti cabaran-cabaran yang dihadapi oleh calon MUET semasa penilaian bertutur, termasuk aspek-aspek seperti kosa kata, tatabahasa, sebutan, kebimbangan, malu, ketidakyakinan dan kurang motivasi.
ii. Menguji kebolehpercayaan instrumen soal selidik yang digunakan dalam kajian ini untuk memastikan data yang diperoleh adalah sah dan boleh dipercayai.

Berdasarkan objektif kajian yang ditetapkan dua soalan kajian telah diutarakan seperti berikut:

i. Apakah cabaran-cabaran yang dihadapi oleh calon MUET semasa penilaian bertutur, termasuk aspek-aspek seperti kosa kata, tatabahasa, sebutan, kebimbangan, malu, ketidakyakinan dan kurang motivasi*?*
ii. Adakah kebolehpercayaan instrumen soal selidik yang digunakan dalam kajian ini boleh dipercayai?

METODOLOGI

Dalam kajian ini, ujian rintis dilakukan dengan menganalisis 30 sampel menggunakan SPSS versi 25. Kebolehpercayaan soal selidik yang digunakan dalam kajian ini ditentukan menggunakan ujian Cronbach Alpha.

Instrumen

Soal selidik yang digunakan dalam kajian ini diadaptasi daripada kajian Parima Verapornvanichkul (2011), serta Rizki, Prawati, dan Masyhur (2020). Soal selidik tersebut mengandungi sebanyak 32 item menggunakan skala Likert lima mata, di mana setiap item memerlukan respon berdasarkan skala daripada sangat setuju hingga sangat tidak setuju, dengan skor antara 5 (untuk sangat setuju) hingga 1 (untuk sangat tidak setuju). Item-item dalam soal selidik ini dikategorikan kepada tujuh komponen utama: 1) kosa kata, 2) tatabahasa, 3) sebutan, 4) kebimbangan, 5) rasa malu, 6) kurang keyakinan, dan 7) kurang motivasi. Butiran item bagi setiap komponen dinyatakan dalam Jadual 1.

Jadual 1: Komponen dalam Soal Selidik

Komponen	No. Item	Jumlah Item
Kota Kata	1 – 5	5
Tatabahasa	6 – 9	4
Sebutan	10 – 15	6
Kebimbangan	16 – 19	4
Malu	20 – 23	4
Ketidakyakinan	24 – 29	6
Kurang Motivasi	30 – 32	3

Prosedur dan Pengumpulan Data

Soal selidik yang digunakan untuk pengumpulan data telah diedarkan kepada pelajar Kolej Universiti Islam Antarabangsa Sultan Ismail Petra (KIAS), khususnya kepada mereka yang sedang membuat persediaan untuk peperiksaan MUET bagi sesi 1 tahun 2024. Calon-calon MUET ini sedang mengikuti kursus persediaan bagi melengkapkan diri mereka menghadapi peperiksaan MUET yang akan datang. Dalam soal selidik tersebut, tujuan kajian dinyatakan secara ringkas bagi memastikan peserta memahami kepentingan serta objektif penyertaan mereka. Sebanyak 30 borang soal selidik yang lengkap telah berjaya dikumpulkan, terdiri daripada 21 peserta perempuan dan 9 peserta lelaki.

Analisis Data

Bagi tujuan analisis data, 30 sampel telah diambil untuk ujian rintis. Pekali Cronbach Alpha digunakan untuk menilai kebolehpercayaan soal selidik tersebut. Analisis seterusnya dilakukan dengan mengira min dan sisihan piawai bagi setiap item. Pendekatan ini memudahkan pengkaji mengenal pasti komponen dan item yang dianggap mencabar oleh responden dalam usaha mereka mempelajari kemahiran bertutur dalam Bahasa Inggeris untuk ujian pertuturan MUET. Tahap kesukaran bagi setiap item dan komponen ditafsirkan berdasarkan skor min yang diperolehi, dengan tafsiran tersebut diadaptasi daripada Alias (1997) seperti yang dinyatakan dalam Jadual 2 di bawah.

Jadual 2: Interpretasi Skor Min

Skor Min	Interpretasi
1.0 – 1.80	Sangat Rendah
1.81 – 2.60	Rendah
2.61 – 3.40	Sederhana
3.41 – 4.20	Tinggi
4.21 – 5.00	Sangat Tinggi

DAPATAN KAJIAN

Jadual 3: Demografi

Demografi	Kekerapan n=30	Peratus (%)
Jantina		
Lelaki	9	30
Perempuan	21	70
Skor Bahasa Inggeris (SPM)		
A+ / A	3	10.0
B+ / B	7	23.3
C+ / C	6	20.0
D+ / D	8	26.7
E / Gagal	6	20.0

Jadual 3 menunjukkan ciri demografi responden dan Skor Bahasa Inggeris (SPM). Daripada 30 peserta, 9 adalah pelajar lelaki (30%) dan 21 adalah pelajar perempuan (70%). Bagi pencapaian skor Bahasa Inggeris dalam Sijil Pelajaran Malaysia (SPM) berdasarkan kekerapan dan peratusan pelajar yang memperoleh gred tertentu, sebanyak 3 orang pelajar (atau 10.0%) memperoleh gred A+ atau A dalam subjek Bahasa Inggeris. Sebanyak 7 orang pelajar (atau 23.3%) memperoleh gred B+ atau B manakala sebanyak 6 orang pelajar (atau 20.0%) memperoleh gred C+ atau C. Bagi gred D+ atau D, sebanyak 8 orang pelajar (atau 26.7%) memperoleh gred tersebut. Terdapat 6 orang pelajar (atau 20.0%) gagal dalam subjek Bahasa Inggeris dengan memperoleh gred E. Secara keseluruhan, jadual ini memberikan gambaran tentang agihan prestasi pelajar dalam peperiksaan Bahasa Inggeris SPM, di mana majoriti pelajar berada dalam julat gred B hingga D, dan terdapat juga peratusan yang agak besar pelajar yang gagal atau mendapat gred E.

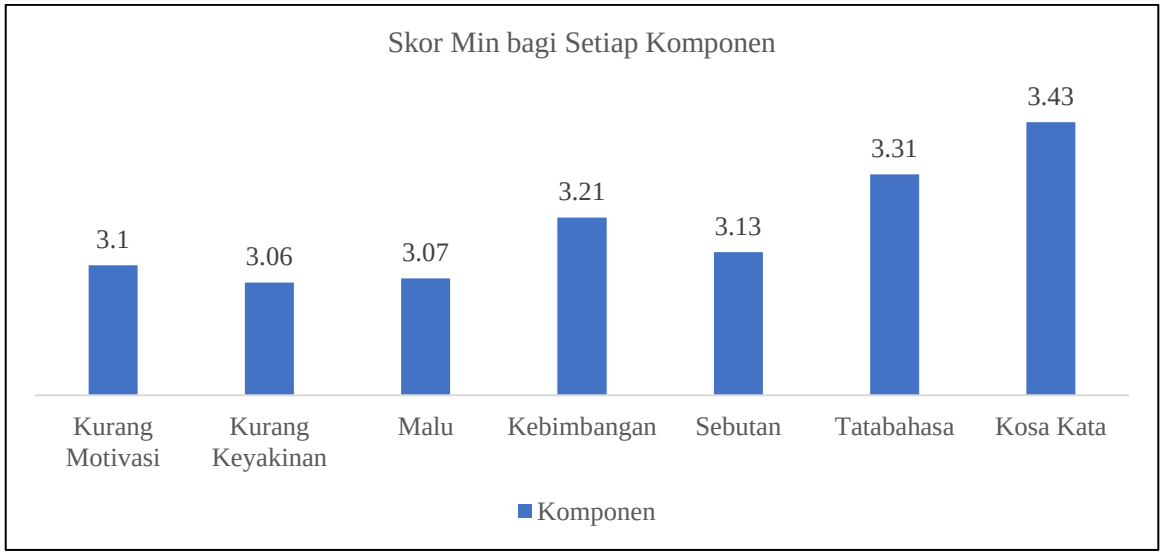
Jadual 4: Pekali Cronbach Alpha

Bil. Item	Pekali Cronbach Alpha
32	0.97

Jadual 4 menunjukkan nilai pekali Cronbach Alpha bagi 32 item soal selidik, iaitu 0.97, yang menunjukkan bahawa item-item dalam soal selidik ini mempunyai tahap kebolehpercayaan yang tinggi dan boleh diterima untuk digunakan dalam kajian sebenar.

Apabila meneliti setiap komponen dalam soal selidik, didapati bahawa kosa kata mencatat skor min tertinggi iaitu 3.43, seperti yang digambarkan dalam Rajah 1. Ini menunjukkan bahawa kosa kata merupakan aspek yang paling mencabar bagi responden ketika bertutur dalam bahasa Inggeris. Komponen-komponen lain pula menunjukkan tahap kesukaran yang sederhana.

Penilaian bercakap dalam MUET terdiri daripada dua segmen: pembentangan individu (Tugasan A) dan perbincangan berkumpulan (Tugasan B). Dalam Tugasan A, calon dikehendaki membentangkan maklumat, memberikan penjelasan, menyatakan keutamaan, serta membuat keputusan, manakala dalam Tugasan B, mereka perlu berinteraksi secara bergilir-gilir, merundingkan pemahaman bersama, menjalankan perbincangan, dan membuat kesimpulan (Abas & Jaffri, 2017). Kejayaan dalam menyelesaikan tugasan ini amat bergantung kepada kepelbagaian kosa kata yang dimiliki oleh pelajar bagi membolehkan mereka menyampaikan idea dan pendapat dengan lancar. Kekurangan kosa kata mungkin mengehadkan keupayaan mereka untuk turut serta sepenuhnya dalam perbincangan, walaupun mereka mempunyai pengetahuan yang mendalam tentang topik tersebut. Selain itu, ketidakupayaan untuk menyumbangkan pendapat dan berinteraksi semasa penilaian boleh meningkatkan kebimbangan serta mengurangkan keyakinan diri. Akibatnya, prestasi pertuturan mereka mungkin merosot apabila perbincangan berlanjutan.



Rajah 1 : Skor Min bagi Setiap Komponen

PERBINCANGAN

Ujian rintis yang dijalankan terhadap soal selidik tugasan bercakap menggunakan 30 sampel menghasilkan pekali Cronbach Alpha sebanyak 0.97, yang menunjukkan tahap kebolehpercayaan instrumen yang sangat tinggi. Oleh itu, item-item dalam soal selidik ini dianggap boleh dipercayai, dan instrumen ini berpotensi digunakan secara meluas dalam kajian masa depan.

Antara komponen yang dinilai dalam soal selidik tersebut, komponen kosa kata muncul sebagai aspek yang paling mencabar bagi pelajar dalam bertutur, dengan skor min sebanyak 3.43. Kumpulan pelajar ini dilihat mengalami kesukaran dengan kosa kata yang terhad, yang menghalang keupayaan mereka untuk berkomunikasi dan berdiskusi secara berkesan. Penemuan ini mencadangkan bahawa pelajar cenderung bertutur dalam ayat yang pendek. Semasa penilaian bertutur ujian MUET, pelajar mungkin menghadapi kesukaran dalam menghuraikan isi dan menyatakan pendapat, walaupun mereka mempunyai justifikasi yang kukuh, disebabkan oleh ketidakupayaan untuk mencari perkataan Inggeris yang sesuai. Hal ini amat membimbangkan kerana kosa kata yang luas dan tepat adalah penting untuk kejayaan dalam bertutur, terutamanya dalam memudahkan komunikasi yang jelas melalui penggunaan struktur dan fungsi yang betul (Hutabarat & Simanjuntak, 2019).

Aspek bertutur yang lain menunjukkan tahap kesukaran sederhana, dengan komponen tatabahasa mencatatkan skor min sebanyak 3.31, komponen sebutan 3.13, komponen kebimbangan 3.21, komponen malu 3.07, komponen kurang keyakinan 3.06, dan komponen kurang motivasi 3.10. Guru-

guru bahasa Inggeris dinasihatkan untuk mempertimbangkan semua aspek yang digariskan dalam instrumen ini semasa membangunkan dan menyediakan modul pengajaran, dengan penekanan khusus diberikan kepada peningkatan kosa kata pelajar. Selain itu, disarankan agar guru memastikan proses pengajaran dan pembelajaran dijalankan dengan menyeronokkan, terutamanya memandangkan pelajar dilihat mempunyai motivasi yang baik untuk mempelajari bahasa Inggeris. Dengan meningkatkan motivasi ini, pelajar akan lebih terdorong untuk memperbaiki semua aspek kemahiran bertutur yang lain.

REFLEKSI

Kajian ini menawarkan pandangan yang bernilai kepada pendidik bahasa mengenai cabaran yang dihadapi oleh pelajar dalam prestasi bertutur mereka. Dengan memahami cabaran-cabaran ini secara mendalam, pendidik boleh menyesuaikan kaedah pengajaran untuk menangani cabaran tersebut dengan lebih berkesan. Penyesuaian tugasan pengajaran yang merangkumi semua komponen yang dikenal pasti, dengan penekanan khusus pada komponen yang dianggap lebih mencabar oleh pelajar, akan membolehkan pendidik memberikan sokongan yang lebih tepat. Pendekatan ini dapat memudahkan peningkatan kecekapan linguistik dalam kalangan pelajar, sekali gus meningkatkan hasil pembelajaran bahasa secara keseluruhan. Tambahan pula, pendidik boleh menilai semula reka bentuk tugasan mereka dengan menilai prestasi bertutur pelajar dari semasa ke semasa, dan menyesuaikan struktur tugasan mengikut keperluan. Proses berulang ini boleh memastikan penambahbaikan berterusan dalam strategi pengajaran, yang seterusnya akan meningkatkan prestasi bertutur pelajar.

Cadangan dan Penambahbaikan

Berdasarkan kajian mengenai cabaran yang dihadapi oleh calon Malaysian University English Test (MUET) dalam penilaian bertutur, terdapat beberapa cadangan yang boleh dilaksanakan untuk meningkatkan penguasaan kemahiran bertutur dalam bahasa Inggeris. Antara cadangan tersebut adalah pembangunan modul pengajaran yang komprehensif yang merangkumi aspek kosa kata, tatabahasa, dan pengucapan, disesuaikan dengan keperluan pelajar serta memberi tumpuan kepada cabaran utama. Selain itu, latihan berfokus pada kosa kata boleh diadakan melalui aktiviti seperti permainan bahasa, kuiz, dan aplikasi pembelajaran yang interaktif. Pendekatan pengajaran berasaskan tugasan (Task-Based Language Teaching, TBLT) juga disyorkan untuk membantu pelajar mengaplikasikan kemahiran bertutur dalam konteks situasi sebenar. Di samping itu, sesi pembelajaran kumpulan boleh diwujudkan bagi membolehkan pelajar berlatih dalam suasana yang menyokong, sekaligus mengurangkan kebimbangan dan meningkatkan keyakinan diri. Penyediaan sumber pembelajaran yang pelbagai seperti video, podcast, dan bahan bacaan berkaitan topik yang sering muncul dalam ujian MUET juga mampu memperluas pengetahuan dan meningkatkan kemahiran bertutur. Untuk pelajar yang mengalami kebimbangan bertutur, bimbingan dan sokongan psikologi seperti sesi kaunseling atau latihan pengurusan stres dapat membantu mereka mengatasi masalah ini. Penilaian berterusan dengan maklum balas yang konstruktif juga penting bagi mengenal pasti dan memperbaiki kelemahan pelajar. Di samping itu, latihan dengan penutur jati bahasa Inggeris, sama ada secara dalam talian atau secara langsung, akan memberi peluang kepada pelajar untuk berlatih dalam situasi autentik. Dengan melaksanakan cadangan-cadangan ini, diharapkan pelajar dapat mengatasi cabaran yang dihadapi dalam penguasaan kemahiran bertutur dan meningkatkan prestasi mereka dalam ujian MUET.

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KEBERKESANAN MODUL LATIHAN INTERVENSI BERFOKUS DAN TERBEZA (MoLIB) DALAM KEMAHIRAN MENULIS KARANGAN NARATIF SECARA BERPANDU DALAM KALANGAN MURID TAHUN TIGA

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ABSTRAK

Kemahiran menulis karangan naratif sering menjadi cabaran bagi murid, terutama bagi mereka yang mengalami kesulitan dalam menghasilkan karangan yang teratur dan menggunakan tatabahasa dengan tepat. Kaedah pengajaran tradisional didapati kurang berkesan dalam membantu murid menguasai kemahiran ini, sekaligus menunjukkan keperluan untuk pendekatan yang lebih berfokus dan disesuaikan mengikut keperluan individu murid. Oleh itu, Modul Latihan Intervensi Berfokus dan Terbeza (MoLIB) merupakan salah satu strategi pengajaran yang mampu memberi bimbingan berpandu, diadaptasi mengikut tahap kebolehan dan kognitif murid, bagi mempertingkatkan pencapaian mereka dalam kemahiran menulis karangan naratif secara berpandu dalam kalangan murid tahun tiga. Kajian ini melibatkan seramai 26 orang murid yang terdiri daripada kumpulan rawatan dan 26 murid yang terdiri daripada kumpulan kawalan sebuah sekolah di Pengkalan Chepa, Kelantan. Kajian ini berbentuk kuantitatif, iaitu melibatkan ujian pra dan ujian pasca, ujian t (independent) dan ujian t (berpasangan), min dan sisihan piawai. Hasil daripada analisis ujian t dalam ujian pasca, pengkaji mendapati terdapat perbezaan yang signifikan antara tahap pencapaian kemahiran menulis karangan naratif secara berpandu antara Kumpulan Kawalan dengan Kumpulan Rawatan, iaitu min 5.54, t (24)= 2.189, (SP= 0.027) (signifikan jika p <0.05). Walaupun peningkatan skornya adalah sederhana namun, penggunaan MoLIB dapat meningkatkan pencapaian murid dalam kemahiran menulis karangan naratif. Selain itu, dapatan juga menunjukkan adanya keberkesanan MoLIB dalam kemahiran menulis karangan naratif bagi peningkatan skor ujian pasca berbanding ujian pra bagi Kumpulan Rawatan, iaitu min -16.31, t (24)= -7.456 dan (SP= 0.001) (signifikan jika p < 0.05). Dapatan menunjukkan bahawa penggunaan MoLIB menunjukkan keberkesanan yang signifikan dalam meningkatkan kemahiran menulis karangan naratif secara berpandu dalam kalangan murid. Di samping itu, MoLIB ini diharapkan agar dapat diimplementasikan secara meluas di seluruh institusi pendidikan untuk membantu lebih ramai murid mengatasi kesulitan dalam kemahiran-kemahiran bahasa yang lain dan seterusnya berpotensi dalam meningkatkan pencapaian akademik mereka secara umumnya.

***Kata Kunci**: Kemahiran menulis, Modul Latihan Intervensi Berfokus dan Terbeza, karangan naratif, pencapaian murid, Keberkesanan*

PENGENALAN

Pendidikan berperanan penting dalam menentukan kemahiran generasi dan kualiti anak muda untuk menyesuaikan diri dalam meningkatkan perubahan peradaban dunia. Masyarakat baharu yang mempunyai kualiti ilmu kendiri yang baik seperti kemahiran dalam penyelesaian masalah, kemahiran dalam menyusun atur dan menggunakan teknologi, kemahiran berkerjasama dalam suasana dan kelompok yang besar dan kreatif dalam menyampaikan idea di era perindustrian yang akan memperoleh dan memberi sesuatu manfaat kepada seseorang individu tersebut. (Derbala *et al*., 2018; Yussof *et al*., 2008; Rasul *et al*., 2009; Penprase, 2018; Wong & Kamisah, 2018; Mazura Sulaiman & Wok Chu Wong, 2018).

Dalam konteks pendidikan, penting untuk mengenali bahawa setiap murid mempunyai cara pembelajaran yang berbeza, sebagaimana dinyatakan dalam Al-Quran mengenai kepelbagaian manusia dalam peringkat roh, kecerdasan, dan jasad (Muttalip, 2020). Oleh itu, guru harus memahami perbezaan dalam kalangan murid, termasuk minat, emosi, dan tahap kognitif, bagi merancang proses pengajaran dan pembelajaran (PdP) yang lebih efektif. Zamri *et al.* (2018) menekankan bahawa pendekatan ini akan membantu dalam memperkukuh nilai dan kepercayaan dalam kalangan murid.

Pedagogi Terbeza menawarkan pendekatan pengajaran yang mengubah suai proses, kandungan, dan produk pembelajaran berdasarkan keupayaan murid (Tomlinson, 2000). Dalam usaha meningkatkan kualiti pengajaran Bahasa Melayu, Kementerian Pendidikan Malaysia (KPM) telah melaksanakan Program Literasi dan Numerasi Sekolah Rendah (PLaN) sejak tahun 2020. MoLIB dihasilkan sebagai panduan bagi guru-guru dalam mencapai objektif PLaN. MoLIB mengandungi proses pengajaran yang terbeza yang meliputi terbeza kandungan, terbeza proses dan terbeza produk. Aplikasi pengajaran MoLIB ini juga memberi fokus kepada pengajaran dan pembelajaran tiga kumpulan berbeza aras kognitif, iaitu aras aras, aras sederhana dan aras tinggi. Institut Pendidikan Guru Malaysia berperanan sebagai penggerak utama dalam penyebaran dan pelaksanaan pendekatan pengajaran terbeza ini untuk memastikan keberkesanan pengajaran kepada murid Tahun 2 dan Tahun 3 (Institut Pendidikan Guru Malaysia, 2020).

Kajian ini bertujuan untuk menilai keberkesanan MoLIB dalam kemahiran menulis karangan naratif secara berpandu bagi murid tahun 3. Menurut KPM (2019), MoLIB diharapkan dapat membantu guru dalam meningkatkan penguasaan murid yang mempunyai pelbagai aras kognitif. Melalui pendekatan yang terstruktur diharapkan penguasaan murid dalam menulis akan meningkat serta membantu mereka berfikir secara kritis dalam menghasilkan penulisan yang berkualiti.

KAJIAN LITERATUR

Kajian Oyunini, S. J. (2023) dilaksanakan bertujuan meneroka keberkesanan MoLIB dalam membantu guru Bahasa Melayu meningkatkan kemahiran berbahasa murid dalam proses pengajaran terutama di sekolah rendah bagi tahap 1. Tempat kajian yang dipilih adalah sebanyak dua buah sekolah rendah. Hasil temu bual bersama guru yang melaksanakan pengajaran berbantukan MoLIB, dapatan hasil kajian membuktikan bahawa guru-guru menguasai penggunaan MoLIB dalam PdP mereka.

Standard Kualiti Pendidikan Malaysia Gelombang 2 (SKPMg2) turut membantu para guru dalam membina objektif yang berfokus. Kajian Oyunini juga telah menunjukkan keberkesanan MoLIB dalam kemahiran berbahasa murid membantu dalam kemahiran pedagogi pengajaran guru Bahasa Melayu. Hasil kajian memperlihatkan bahawa MoLIB sangat memberi impak yang baik untuk meningkatkan kemahiran pedagogi guru Bahasa Melayu khususnya Tahap 1 sekolah rendah. MoLIB yang dibekalkan oleh KPM amat membantu guru-guru dalam meningkatkan tahap penguasaan bahasa Melayu dalam kalangan murid. Oleh itu, tahap penguasaan murid dapat ditingkatkan begitu juga dengan kemahiran berbahasa murid.

Kajian oleh Ansi Konyuo dan Wan Muna Ruzanna (2023) meneliti amalan kaedah pengajaran terbeza dalam kalangan guru Bahasa Melayu Tahun 1, yang dilaksanakan di Zon Barat Sabah, khususnya di daerah Penampang dan Kota Kinabalu. Melalui pemilihan tiga orang guru sebagai peserta, data dikumpulkan menggunakan instrumen analisis dokumen dan temu bual separa berstruktur. Hasil kajian menunjukkan bahawa guru-guru tersebut dapat mengaplikasikan kemahiran menulis ayat dalam kaedah pengajaran terbeza. Oleh itu, adalah penting untuk guru meneroka dan memahami perbezaan dalam kemampuan belajar murid agar tidak menjadi penghalang dalam penguasaan kemahiran menulis ayat Bahasa Melayu, seterusnya memberi manfaat kepada guru untuk terus memperluas potensi murid dalam kemahiran ini.

Selain itu, satu kajian telah dijalankan di Kuching, Sarawak masing-masing di tiga buah sekolah rendah bandar dan luar bandar. Enam orang guru daripada enam buah sekolah rendah kebangsaan dipilih sebagai peserta kajian yang mengajar Bahasa Melayu Tahap 1. Menerusi kajian Jessica Michael (2023) pula menunjukkan bahawa guru-guru Bahasa Melayu Tahap 1 di sekolah rendah kebangsaan melakukan proses PdP bahasa Melayu berpandukan panduan MoLIB melalui pendekatan pengajaran terbeza demi meningkatkan kefahaman murid pelbagai aras pembelajaran pada tahap yang tinggi. Kreativiti dan kesediaan guru dari segi tatacara pelaksanaan dan pendekatan pengajaran terbeza dalam kelas berupaya meningkatkan PdP Bahasa Melayu dalam penguasaan murid. Namun, terdapat masalah yang sering dihadapi oleh guru-guru Bahasa Melayu Tahap 1 di sekolah rendah kebangsaan dalam melaksanakan pendekatan pengajaran terbeza secara berterusan seperti ketidaksediaan guru dalam PdP di dalam bilik darjah yang mempunyai aras pembelajaran murid yang pelbagai serta ilmu pedagogi yang pelbagai berkaitan pendekatan pengajaran yang terbeza dalam kalangan guru adalah terhad. Hasil kajian ini mendapati bahawa pendekatan pengajaran terbeza ini sesuai digunakan dalam PdP Bahasa Melayu bagi murid yang mempunyai pelbagai gaya pembelajaran berupaya meningkatkan penguasaan murid mengikut pembelajaran murid secara holistik.

METODOLOGI

Kajian ini menggunakan reka bentuk kuasi-eksperimen. Kajian yang berbentuk kuantitatif ini melibatkan ujian *t independent* dan ujian *t* berpasangan, min dan sisihan piawai yang bertujuan memberikan gambaran perbezaan signifikan pencapaian kemahiran menulis karangan naratif secara berpandu antara dua kumpulan, iaitu Kumpulan Kawalan dan Kumpulan Rawatan. Responden kajian terdiri daripada 26 orang murid daripada kumpulan kawalan dan 26 orang murid daripada kumpulan rawatan menjadikan keseluruhan murid adalah seramai 52 orang murid tahun tiga di Pengkalan Chepa.

Kajian ini menggunakan ujian pra dan ujian pasca yang mengandungi 50 item soalan. Ujian pra dan ujian pasca ini meliputi empat bahagian, iaitu bahagian A, B, C dan D. Bahagian A mengandungi 10 item berkenaan mengisi tempat kosong dan membina ayat yang lengkap berdasarkan gambar diberi. Bahagian B mengandungi 5 item berkaitan dengan membina ayat yang lengkap menggunakan perkataan berdasarkan gambar. Manakala bahagian C mengandungi 10 item berkaitan dengan membina karangan dengan mengisi tempat kosong. Bahagian D pula berbentuk membina karangan naratif berdasarkan situasi dan gambar yang telah diberi. Analisis kuantitatif menggunakan program SPSS (*Statistical package for social sciences*) perisian SPSS versi 27 dalam kajian ini. Markah ujian pra dan ujian pasca digunakan bagi mengukur setiap item yang dinyatakan. Perkaitan dengan kedua-dua ujian tersebut kemudiannya ditafsir menggunakan peratus, min dan sisihan piawai.

Analisis Faktor Demografi Terpilih Responden

Bahagian ini melaporkan analisis latar belakang murid yang terdiri daripada murid tahun 3, iaitu daripada kelas tahun 3I sebagai kumpulan kawalan manakala kelas tahun 3G daripada kumpulan rawatan. Kaedah kekerapan dan peratusan digunakan untuk menganalisis latar belakang murid. Analisis data latar belakang kajian adalah seperti yang ditunjukkan dalam Jadual 1.

Jadual 1: Analisis Taburan Bilangan Dan Peratusan Murid Mengikut Jantina

Kumpulan	Bilangan	Peratus (%)
Kawalan	26	50
Rawatan	26	50
Jumlah	**52**	**100**

OBJEKTIF KAJIAN

Secara umum, kajian ini bertujuan untuk mengkaji keberkesanan Modul MoLIB dalam kemahiran menulis karangan naratif secara berpandu dalam kalangan murid tahun 3.

Secara khususnya objektif kajian ini adalah seperti:

i. Mengenal pasti perbezaan tahap pencapaian bagi kumpulan kawalan dan kumpulan rawatan kajian dalam penulisan karangan naratif secara berpandu dalam kalangan murid tahun 3.

ii. Mengenal pasti keberkesanan modul MoLIB dalam kemahiran menulis karangan naratif secara berpandu bagi kumpulan kawalan dan kumpulan rawatan.

DAPATAN KAJIAN

Aspek perbezaan pencapaian ujian pra dan ujian pasca dalam kemahiran menulis karangan naratif secara berpandu antara kumpulan kawalan dan kumpulan rawatan dalam kalangan murid tahun 3 dengan menggunakan MoLIB dapat dilihat dalam dapatan dan analisis kajian seperti yang ditunjukkan dalam Jadual 2 di bawah:

Jadual 2: Analisis Ujian-T *Independent* Bagi Perbezaan Pencapaian Kemahiran Menulis Karangan Naratif Secara Berpandu dalam Ujian Pra bagi Kumpulan Kawalan dan Kumpulan Rawatan

Kumpulan		N	t	Min	Sisihan Piawai	Sig (2-Tara)
PRA	Kawalan	26	2.345	65.2308	8.50556	0.002
	Rawatan	26		56.6154	10.92182	0.002

Berdasarkan Jadual 1, analisis menunjukkan skor min ujian pra bagi pencapaian kemahiran menulis karangan naratif secara berpandu menunjukkan bahawa skor min bagi Kumpulan Kawalan ialah 65.2308 dan sisihan piawai ialah 8.50556, manakala skor min pencapaian kemahiran menulis karangan naratif secara berpandu menunjukkan bahawa skor min bagi Kumpulan Rawatan ialah 56.6154 dan sisihan piawai ialah 10.92182. Jika dilihat pada ujian-t terhadap skor markah ujian pra, didapati terdapat perbezaan yang signifikan tahap kemahiran menulis karangan naratif secara berpandu antara Kumpulan Kawalan dengan Kumpulan Rawatan, $t(24) = -3.560$ dan $p = 0.002$ (signifikan jika $p < 0.05$). Perbezaan skor min antara Kumpulan Kawalan dengan Kumpulan Rawatan ialah 8.6154. Dengan itu, jelas bahawa perbezaan pencapaian murid dalam kemahiran menulis karangan naratif antara Kumpulan Rawatan dan Kumpulan Kawalan terjawab. Hipotesis nul (Ho), iaitu tidak ada perbezaan pencapaian yang ketara dalam kemahiran menulis karangan naratif secara berpandu antara kumpulan kawalan dengan kumpulan rawatan ditolak. Sebaliknya, hipotesis alternatif (Ha), iaitu terdapat perbezaan pencapaian yang signifikan dalam kemahiran menulis karangan fakta berpandukan gambar antara kumpulan kawalan dengan kumpulan rawatan diterima. Dengan itu, hipotesis alternatif (Ha) diterima, iaitu terdapat perbezaan pencapaian yang signifikan dalam kemahiran menulis karangan naratif berpandukan gambar antara kumpulan kawalan dengan kumpulan rawatan manakala bagi hipotesis nul (nul) pula ditolak.

Jadual 3: Analisis Ujian-t *Independent* Terhadap Perbezaan Pencapaian Kemahiran Menulis Karangan Naratif Secara Berpandu dalam Ujian Pasca bagi Kumpulan Kawalan dan Kumpulan Rawatan

Kumpulan		N	t	Min	Sisihan Piawai	Sig (2-Tara)
Pasca	Kawalan	26	3.560	67.3846	9.62944	0.027
	Rawatan	26		72.9231	11.27448	0.027

Berpandukan Jadual 3, menunjukkan bahawa skor min ujian pasca bagi pencapaian kemahiran menulis karangan naratif secara berpandu daripada Kumpulan Kawalan ialah 67.3846 dan sisihan piawai ialah 9.62944, manakala skor min daripada Kumpulan Rawatan ialah 72.9231 dan sisihan piawai ialah 11.27448. Jika dilihat pada ujian-t terhadap skor markah ujian pasca, didapati terdapat perbezaan yang signifikan antara pencapaian kemahiran menulis karangan naratif secara berpandu Kawalan dengan Kumpulan Rawatan, $t(24) = 3.560$ dan $p = 0.027$ (signifikan jika $p < 0.05$). Perbezaan skor min antara Kumpulan Kawalan dengan Kumpulan Rawatan ialah 5.5385. Hasil daripada dapatan ini, pengkaji menerima hipotesis alternatif yang menyatakan bahawa terdapat perbezaan yang signifikan dalam skor min antara ujian pasca bagi pencapaian kemahiran menulis karangan naratif secara berpandu oleh Kumpulan Rawatan dengan Kumpulan Kawalan dan menolak hipotesis null yang menyatakan bahawa tidak terdapat perbezaan yang signifikan dalam skor min antara ujian pasca bagi pencapaian kemahiran menulis karangan narartif secara berpandu oleh Kumpulan Rawatan dengan Kumpulan Kawalan.

Jadual 4: Analisis Ujian-t Berpasangan Skor Min Terhadap Keberkesanan MoLIB terhadap Kemahiran Menulis Karangan Naratif Secara Berpandu dalam Kumpulan Rawatan

Kumpulan		N	Min (%)	t	Beza Min (%)	Sisihan Piawai	Sig (2-Tara)
Rawatan	Pra	26	56.62 (56.62)	-7.456	-16.30769 (0.1631)	11.15265	<0.001
	Pasca	26	72.92 (72.92)				

Satu hipotesis alternatif (Ha) diwujudkan, iaitu terdapat kesan yang signifikan terhadap keberkesanan penggunaan modul MoLIB dalam kemahiran menulis karangan naratif secara berpandu berbanding dengan murid yang tidak menggunakan modul MoLIB. Ujian-t berpasangan digunakan untuk membuktikan hipotesis ini melalui perisian SPSS. Ujian-t berpasangan digunakan untuk perbandingan pada kumpulan yang sama. Bagi menguji keberkesanan MoLIB terhadap kemahiran menulis karangan naratif secara berpandu dalam kumpulan rawatan, min kumpulan rawatan bagi ujian pra dan ujian pasca diperlukan. Seramai 26 orang murid terdiri daripada kumpulan rawatan. Min ujian pra bagi kumpulan ini ialah 56.62 ataupun 56.62 peratus manakala min ujian pasca, iaitu sebanyak 72.92 atau 72.92 peratus. Perbezaan min bagi kumpulan rawatan ialah -16.31, iaitu sebanyak -0.1631 peratus. Min ujian pasca bagi kumpulan rawatan adalah lebih tinggi daripada min ujian pra kumpulan rawatan. dapatan juga menunjukkan adanya keberkesanan MoLIB dalam kemahiran menulis karangan naratif bagi peningkatan skor ujian pasca berbanding ujian pra bagi Kumpulan Rawatan, iaitu min -16.31, $t(24) = -7.456$ dan (SP= 0.001) (signifikan jika $p < 0.05$). Oleh itu, jelaslah bahawa hipotesis null ditolak dan hipotesis alternatif diterima.

Jadual 5: Ujian-t berpasangan

Kumpulan		N	t	Min	Sisihan Piawai	Sig (2-Tara)
Pra	Kawalan	26	2.345	65.2308	8.50556	0.002
	Rawatan	26		56.6154	10.92182	0.002
Pasca	Kawalan	26	3.560	67.3846	9.62944	0.027
	Rawatan	26		72.9231	11.27448	0.027

Berdasarkan jadual 4.5, hipotesis nul (Ho) bagi objektif 3, iaitu tidak terdapat kesan yang signifikan terhadap pencapaian menulis karangan naratif secara berpandu menggunakan modul MoLIB dalam kumpulan rawatan ditolak dan hipotesis alternatif (Ha) bagi objektif 3 diterima. Jadual 4.12 menunjukkan nilai signifikan bagi kumpulan rawatan ialah 0.000, iaitu kurang daripada nilai 0.05. Maka, hipotesis alternatif, iaitu terdapat kesan yang signifikan terhadap pencapaian menulis karangan naratif secara berpandu menggunakan modul MoLIB dalam kumpulan rawatan diterima.

PERBINCANGAN

Berdasarkan pencapaian murid dalam ujian pasca antara kumpulan rawatan yang mengalami intervensi pembelajaran melalui MoLIB berbanding dengan kumpulan kawalan yang mengikuti pendekatan konvensional, perbezaan min skor antara kumpulan telah menunjukkan terdapat peningkatan prestasi murid kumpulan rawatan selepas tiga kali proses pengajaran dan proses rawatan dijalankan. Dapatan dikesan juga daripada perbandingan pencapaian kedua-dua kumpulan dalam ujian pra pula, pembentangan dapatan menunjukkan bahawa kumpulan rawatan menunjukkan perbezaan min skor yang kurang berbanding dengan kumpulan kawalan bagi tahap pencapaian kemahiran menulis karangan naratif secara berpandu sebelum sesi pengajaran dan proses rawatan dijalankan.

Dalam konteks ini, memang tidak dinafikan bahawa kumpulan rawatan yang membuat latihan intervensi MoLIB selepas sesi pengajaran guru didapati mempunyai perbezaan skor min yang ketara dengan kumpulan kawalan. Kumpulan rawatan mencapai skor yang lebih tinggi melalui ujian pasca dalam kemahiran menulis karangan naratif secara berpandu berbanding kumpulan kawalan yang tidak menggunakan intervensi MoLIB. Dapatan kajian telah membuktikan penggunaan MoLIB dapat mendorong peningkatan prestasi akademik murid yang memberangsangkan seperti yang dinyatakan dalam kajian Oyunini (2023) mengenai MoLIB menunjukkan bahawa pendekatan MoLIB memberikan impak yang signifikan terhadap perkembangan kemahiran literasi pelajar, khususnya dalam konteks penulisan dan pemahaman membaca. Tambahan pula, kajian Jessica Michael dan Zamri Mahamod (2023) juga mendapati bahawa pendekatan pengajaran berpandukan MoLIB berjaya meningkatkan penglibatan dan penguasaan murid dalam pelbagai aras pembelajaran. Hal ini sekaligus menunjukkan MoLIB membantu guru merancang dan melaksanakan pengajaran yang sesuai dengan tahap murid, terutamanya dalam konteks pembelajaran Bahasa Melayu di sekolah rendah.

Hasil analisis inferensi ujian-t telah membuktikan bahawa terdapat perbezaan yang signifikan dalam skor ujian pra dan skor ujian pasca mereka. Keputusan kajian ini telah memaparkan bahawa keberkesanan MoLIB dalam kemahiran menulis karangan naratif secara berpandu yang dijalankan terhadap murid kumpulan rawatan adalah jelas ketara dalam meningkatkan penguasaan penulisan karangan naratif mereka berbanding sebelum rawatan pembelajaran melalui MoLIB dilaksanakan. Hal ini turut disokong oleh Jessica Michael dan Zamri Mahamod (2023) yang menyatakan keberkesanan MoLIB membolehkan guru merancang pengajaran yang lebih berfokus dan terbeza, sesuai dengan keperluan individu murid. Hal ini dapat dibuktikan melalui peningkatan dalam motivasi murid. Apabila aktiviti pembelajaran disesuaikan dengan minat dan keperluan mereka, pelajar lebih cenderung untuk terlibat secara aktif dan bersemangat dalam proses pembelajaran. Ini membuktikan bahawa MoLIB bukan sahaja membantu dalam pencapaian akademik, tetapi juga dalam membangun sikap positif terhadap pembelajaran. Dengan menggunakan pendekatan ini, guru dapat menyesuaikan aktiviti dan

bahan pengajaran berdasarkan tahap kebolehan pelajar, yang seterusnya meningkatkan kefahaman dan penguasaan mereka dalam segala aspek kemahiran bahasa Melayu.

Secara keseluruhannya, dapatan kajian ini membuktikan keberkesanan Modul Latihan Intervensi Berfokus dan Terbeza (MoLIB) dalam meningkatkan kemahiran menulis karangan naratif secara berpandu dalam kajian ini. MoLIB telah terbukti berupaya dijadikan sebagai salah satu strategi pengajaran yang signifikan dalam meningkatkan pencapaian dan keberkesanan murid dalam penguasaan penulisan karangan, serta memperbaiki motivasi dan sikap mereka terhadap pembelajaran.

RUMUSAN

Secara keseluruhannya, penggunaan MoLIB dalam pengajaran dan pembelajaran kemahiran menulis karangan naratif secara berpandu dalam kalangan murid tahun 3 mampu membuktikan bahawa pendekatan pengajaran yang terstruktur dan disesuaikan dengan keperluan dan kognitif individu bukan sahaja meningkatkan pencapaian akademik murid, tetapi juga membangunkan kemahiran literasi secara menyeluruh. Dapatan kajian menunjukkan peningkatan signifikan dalam skor ujian pasca bagi kumpulan rawatan yang menggunakan MoLIB, berbanding kumpulan kawalan yang tidak terdedah kepada modul ini. Ini menandakan bahawa intervensi berfokus yang berasaskan prinsip pedagogi terbeza dapat membantu murid yang menghadapi kesukaran dalam menulis, dengan memberikan bimbingan yang lebih baik dan struktur yang jelas. Tambahan pula, MoLIB sebagai salah satu intervensi pengajaran yang perlu diperluaskan ini bukan sahaja menjanjikan kemajuan dalam kemahiran menulis karangan naratif, tetapi juga menggariskan potensi besar dalam merevolusikan pendekatan pendidikan yang efektif. Dalam dunia pendidikan yang semakin kompleks, MoLIB bukan sahaja mampu menjadi pemangkin kepada perubahan positif, malahan setiap pelajar berpeluang untuk berkembang dan mencapai kecemerlangan. Melalui usaha kolektif semua pihak, kita dapat memastikan bahawa perjalanan pendidikan ini tidak hanya membentuk individu yang mahir dalam kemahiran berbahasa, tetapi juga menghasilkan generasi yang berfikiran kritis dan kreatif dalam menghadapi cabaran masa depan. Selain itu, keberkesanan MoLIB dalam memupuk motivasi dan minat pelajar terhadap penulisan membuktikan peri pentingnya pemilihan strategi pengajaran yang sesuai dalam mencapai objektif pembelajaran yang lebih holistik. Justeru itu, harapan untuk meluaskan pelaksanaan MoLIB di institusi pendidikan lain adalah selaras dengan keperluan untuk meningkatkan kualiti pengajaran dan pembelajaran dalam konteks pendidikan yang inklusif dan berkesan.

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ENHANCING YEAR 3 PUPILS OF SEKOLAH KEBANGSAAN TENGKU MAHMUD 2'S HANDWRITING LEGIBILITY VIA TEPA PAPER

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ABSTRACT

Handwriting is a language skill that enables individuals to express their thoughts and engage in interpersonal communication via written words. In Malaysia, the curriculum reform intends to achieve 90% literacy acquisition by the end of Year 3. However, a certain number of pupils often struggle with handwriting legibility, which may directly impact their academic progress. The study aimed to explain and explore how "TePa Paper", a writing template with earthy colour tones, helps improve pupils' handwriting legibility in spacing, alignment, and letter size. This action research involved four (4) Year 3 pupils of Sekolah Kebangsaan Tengku Mahmud 2, Besut, Terengganu. The data was collected through pre-test and post-test, as well as interviews and observations. The test items were administered, and scores were given using a self-generated rubric. The qualitative data in the forms of transcripts and observation checklists went through thematic analysis. The findings revealed significant improvement in pupils' ability to write neatly and legibly. The post-test results indicated a marked increase in spacing, alignment, and letter formation, with observational data showing greater pupils' interest in using the intervention. The interview with the teacher highlighted significant learning aspects of "TePa Paper", such as its visual stimulation and scaffolded learning structure. The study concludes that "TePa Paper" is an effective intervention in enhancing pupils' handwriting legibility through guided practice with the integration of visual stimulation and scaffolded learning structure. The success of this study suggests its potential for broader application in ESL Classroom settings to achieve better literacy practice.

Keywords: *ESL Classroom, handwriting, legibility, literacy, TePa Paper.*

INTRODUCTION

Handwriting is an academic skill that enables individuals to express their thoughts and emotions and engage in interpersonal communication via written words. Handwriting is a complex task which requires the coordination of several modality skills, including fine motor skills, language knowledge, and academic readiness—requiring the intertwining of cognitive and physical processes that underpin the handwriting task (Lee et al., 2022). The inability to develop handwriting skills at an early age may lead to lifelong repercussions for a child and affect learning careers as it detracts from one's ability to convey information and ideas. Multiple studies also found that children with subpar handwriting at school are more prone to receive lower grades than those with better handwriting, even if the content is equivalent (Bonneton-Botté et al., 2023; Caravolas et al., 2020). Additionally, having legible handwriting is of utmost importance as children dedicate a significant portion, ranging from 31% to 60% of their classroom time to activities that involve handwriting and other fine motor skills (Amos & Abigail, 2019). Therefore, a child's ability to write legibly and efficiently directly impacts their academic progress.

In Malaysia, the Ministry of Education (MOE), through introducing a new comprehensive reform of the primary education system, Primary School Standard-Based Curriculum (KSSR) in 2011, has given an equal emphasis to English literacy skills by changing parts of the curriculum content. It includes basic reading literacy, phonics, Language Arts, and penmanship (Tajularipin et al., 2015). In

penmanship, the curriculum reform intends to achieve 90% literacy acquisition by Year 3 (or lower primary level) with the help of the LINUS LBI 2.0 programme. Remedial coaching is needed for those who do not meet the literacy standards after three years of schooling as a means of intervention. Thus, this action research aims to solve the problem in handwriting skills among Year 3 pupils before they step into higher primary levels.

Reflection on Past Teaching Experience

During the first practicum phase, I was assigned to Sekolah Kebangsaan Tengku Mahmud 2, located in Besut. I taught Year 3 Azalea in the English Language subject. 3 Azalea is the first class in year 3, comprising 35 pupils, seven boys and 28 girls. Although this school is practising a class streaming system, known as grouping the pupils according to their level of potential and academic achievement (Zakiah & Najihah, 2017), not all pupils in this class are proficient in English. They possessed different levels of proficiency, from low to intermediate and advanced. Based on my teaching experiences, I encountered a few problems faced by the pupils in this class, which related to handwriting legibility. I noticed a few pupils had difficulty writing with neat and legible handwriting. Hence, assessing the pupils' understanding of the lesson content poses some challenges.

An early data collection was carried out at the beginning of the research in the form of document analysis. The pupils' worksheets and notebooks were analysed to observe the specific handwriting problems among the pupils. From the analysis, several issues are committed by the pupils in handwriting exercises, such as inconsistent spacing between letters and words, not writing in a straight line appropriately, and poorly formed letters. Among 35 pupils in Year 3 Azalea, only four were selected as the research participants. Their handwriting problem is more critical than the others, so it is unreadable or slightly readable for the teacher. Figure 1 below shows the sample of the pupil's written work, and other pupils' handwriting problems are based on the compilation of their analysed written works, as shown in Table 1.

Figure 1: Sample of Participant's Written Work

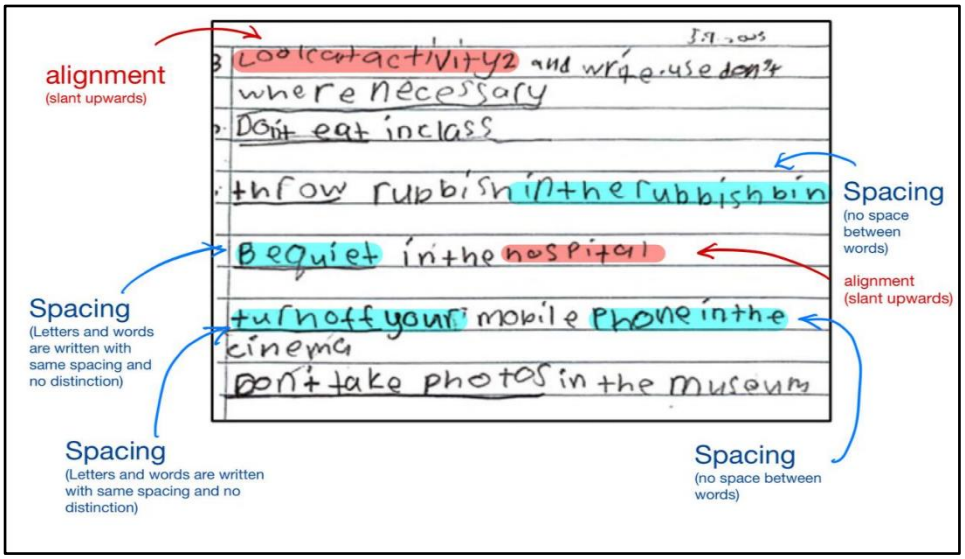


Table 1: Problems in Participants' Handwriting

Participants	Handwriting Problems Specifications	Dimensions
Participant 1	● Slight inconsistencies in maintaining a straight line ● Slight variations in size and slant ● Letters like "n" and "r" appear more fluid in certain words, while they are tighter in others.	● alignment ● letter formation
Participant 2	● Handwriting is slanted upwards ● Letters and words are written with the same spacing and no distinction	● alignment ● spacing
Participant 3	● Letters like "a", "e", and "o" vary in size, with some being wider or more open than others. ● Slight cursive flow between some letters ● Individual letters appear in cramped	● letter formation ● spacing
Participant 4	● Slight inconsistencies in maintaining a straight line ● Inconsistent word spacing and letter spacing ● Letters such as "s", "n", and "g" are poorly formed	● alignment ● spacing ● letter formation

Based on the analysis, it can be concluded that each participant has handwriting problems in at least two dimensions, while Participant 4 showed handwriting problems in all three dimensions tested. Despite coming from the first class, these pupils fail to write legibly, and their handwriting often appears rushed and uneven. This indirectly indicates that mastering legible writing requires more time, practice, and instructions.

Research Focus and Problem Statement

The present study's general focus is improving pupils' handwriting legibility. Handwriting is a language skill that enables individuals to express their thoughts and emotions and engage in interpersonal communication via written words. There are two major components of handwriting: fluency and legibility. Handwriting fluency refers to the speed of forming letters and characters accurately, while handwriting legibility refers to the accuracy of characters and letters' formation (Feng et al., 2017). Handwriting legibility also means the ability to write clearly. There are several standard features affecting handwriting legibility: (1) space between letters and words, (2) size and proportion of letters, (3) the alignment of the letters on a line, (4) writing direction and lastly, (5) the formation of letters (Duran & Karatas, 2019). This action research will only focus on three aspects of handwriting legibility: spacing, alignment, and letter formation.

Handwriting legibility has received comparatively less attention in academic research because it is difficult to measure (Caravolas et al., 2020). However, it might be argued that the practical and educational implications of handwriting that are not legible are more pervasive than the repercussions of slow handwriting (handwriting fluency). Since children spend most of their school hours performing writing activities, they rely heavily on handwriting to ensure they complete tasks. The inability to write neatly and legibly may affect their grades during examinations. Bonneton-Botté et al. (2023) claim that neatly written papers generally receive higher grades than poorly written and unreadable papers. It may be because teachers' assessment of pupils' writing performance is susceptible to various cognitive

biases that may be affected by emotional factors such as stress (Ruusuvisrta et al., 2021). A poorly written paper may affect the teachers' emotions while marking, leading to negative biases when grading the pupils despite the pupils' exceptional knowledge and understanding of the subject matter.

Not only that, in 2019, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was identified, leading to its global spread, which then resulted in the COVID-19 pandemic (Skar et al., 2022). The sudden cancellation of in-class instruction posed unprecedented challenges in the education field regarding its potential adverse effects on pupils' learning. One such concern pertains to the possible influence on pupils' handwriting legibility. Ghanamah et al. (2024) found that children who attended kindergarten and first grade during the pandemic scored poorly on styli-related graph motor tasks. It indicates that those children could not control hand muscles and eye coordination, thus causing a struggle to produce legible and neat handwriting. The participants of this study are in Year 3 of schooling in 2023 and were once in kindergarten during the pandemic era. Hence, the effect of the pandemic on handwriting legibility among pupils, as stated by Ghanamah et al. (2024), is significant to the focus of this study.

Thus, as a way to resolve the handwriting problems among 3 Azalea pupils, TePa Paper will be implemented for the participants with a "Repetitive Dictation" approach as proposed by Duran & Karatas (2019), where the participants are tasked with repeatedly penning the same words or phrases using TePa Paper either independently or with the researcher's assistance during the meeting sessions. This method enables them to reinforce correct letter formation and spacing patterns. This exercise facilitates the development of muscle memory, thereby augmenting participants' capacity to produce handwriting that is both consistent and fluid.

Research Objectives and Research Questions

Research Objectives

1. To improve Year 3 Azalea pupils' handwriting in terms of spacing, alignment and letter formation through TePa Paper.
2. To explore Year 3 Azalea pupils' interest in using TePa Paper to improve handwriting in terms of spacing, alignment and letter formation.
3. To explore how TePa Paper improves Year 3 Azalea pupils' handwriting in terms of spacing, alignment and letter formation.

Research Questions

1. Does TePa Paper improve Year 3 Azalea pupils' handwriting in terms of spacing, alignment and letter formation?
2. Are Year 3 Azalea pupils interested in using TePa Paper to improve their handwriting in terms of spacing, alignment and formation?
3. How does TePa Paper improve Year 3 Azalea pupils' handwriting in terms of spacing, alignment and formation?

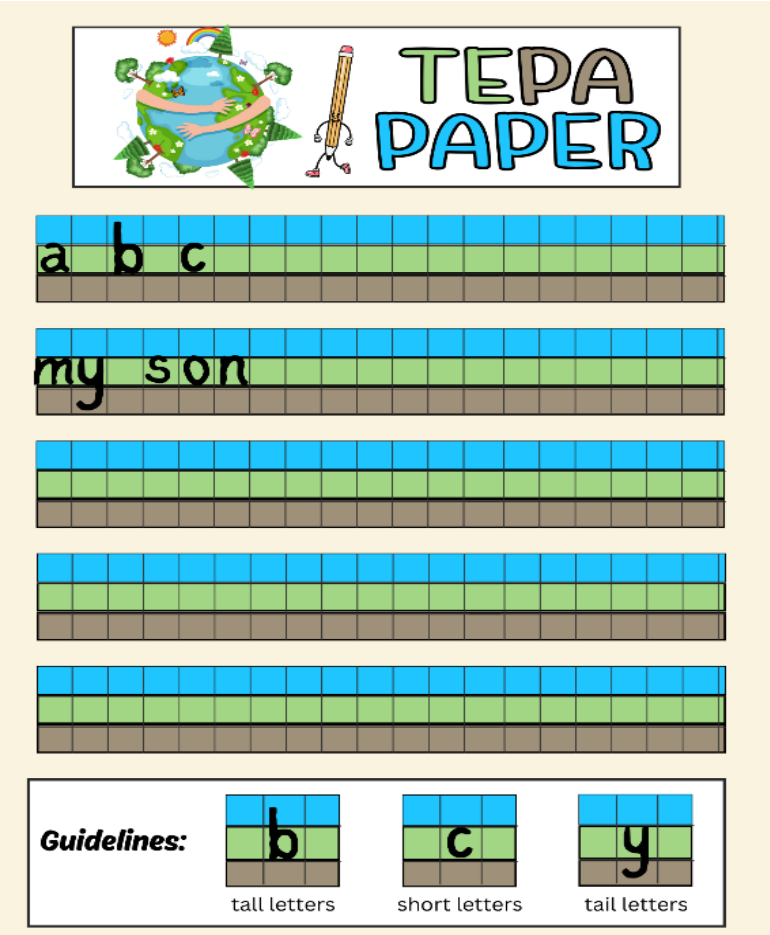
METHODOLOGY

Intervention

The action designed for this action research is called TePa Paper. TePa Paper is the acronym for "Terra Palette Paper,". It is a writing template built with earthy colour tones: sky blue, green, and brown. For this action research, traditional "paper and pen" are used instead of utilising technology such as tablets because paper has a more suitable writing surface than tablets. A smoother writing surface requires additional control of fine motor skills, which can be challenging for the children, likely due to their underdeveloped motor skills (Gerth & Festman, 2023). Thus, traditional pen and paper are

more suitable as mediums of intervention. Next, the writing template comprises three grid lines - top, base, and bottom, which are coloured with different earthy hues. The top grid line is coloured sky blue, green for the base grid line, and brown is coloured on the bottom grid. Line. The visual of the TePa Paper is illustrated in Figure 2 below.

Figure 2: TePa Paper's prototype



First and foremost, an earth colour palette is incorporated in this intervention as a colour-coding system that presents a unique and productive approach to guide pupils in mastering the intricacies of letter formation, spacing and alignment. Each earthy hue is allocated to different types of letters, such as sky blue for tall letters, green for short letters, and brown for tail letters. Several guidelines for practising handwriting using TePa Paper will be explained to the participants before use. Firstly, sky blue, which looks like the vastness of the sky, is used for tall letters, such as 'b', 'd' and 't', and the stick of the letters needs to "reach for the sky" and touch the top grid line. Secondly, green, which stands for lush plants and growth, is used for short letters such as 'a', 'c', and 'o' that "stay on the land" at the same height in the writing space. Thirdly, brown, which reminds one of the rich soils and sturdy tree trunks, is used for tail letters such as 'j', 'p' and 'y', and the tail of letters needs to go "halfway to underground" and touch the bottom grid line. This approach leverages the power of colour psychology and multisensory learning, which can improve their understanding and retention of handwriting principles such as letter formation, spacing, and alignment.

Additionally, incorporating grid lines in the intervention serves as a visual framework that guides the participants in maintaining consistent letter formation, spacing, and alignment. Grid lines consist of two types of lines: vertical and horizontal. Vertical lines help to increase alignment awareness

as they help the participant maintain straight alignment across the page by writing on the line. Meanwhile, horizontal lines will help participants form the letters ideally. These lines serve as a reference for the height and width of each letter while also functioning as spacing guidance. By adhering to this practice, participants will learn to avoid overcrowding or uneven spacing between letters and words.

Research Participants

The research participants of this action research are selected among 4 Azalea pupils of Sekolah Kebangsaan Tengku Mahmud 2. Four (4) pupils were selected using a purposeful sampling technique based on their writing products, as seen from the worksheets and notebooks.

Instrument

This action research will use three data collection methods to answer the research questions: pre and post-test, observation and interview. Data triangulation will be used in this action research to develop a comprehensive understanding of the multiple methods used. Method triangulation refers to using two or more data collection methods in qualitative research to test validity by converging information from different sources (Creswell, 2019). The representation of data triangulation is shown in Figure 3 below.

Figure 3: Data Triangulation Method

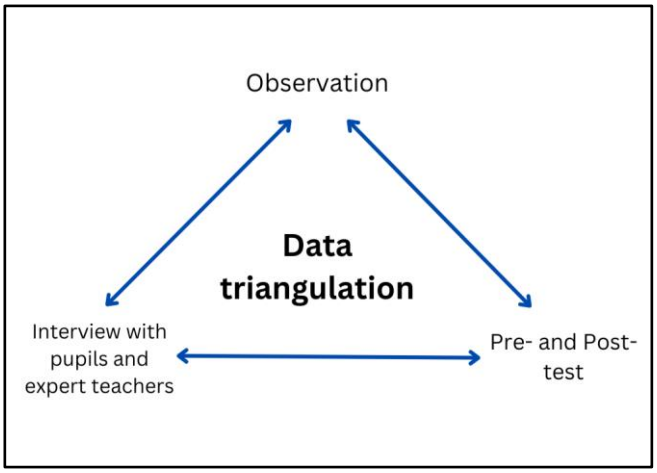


Table 2 below shows the instruments used for each data collection method.

Table 2: Instruments for Data Collection

Research Questions	Instruments used
Does TePa Paper improve Year 3 pupils' handwriting?	● Pre and Post-test
Are the pupils interested in using TePa Paper to improve their handwriting?	● Observation ● Interview
How does TePa Paper improve pupils' handwriting?	● Interview

To answer the first research question, a pre-test and post-test are conducted to assess the effectiveness of the intervention in improving participants' handwriting legibility. A pre-test is undertaken, followed by three intervention meetings. After three sessions, a post-test is carried out to analyse any improvement in handwriting legibility. Then, scores are given based on a self-generated rubric adapted from the Multidimensional Legibility Scale by Yıldız and Ateş (2010) with three dimensions tested: spacing, alignment and formation. Next, an observation and interview with the participants are conducted to answer the second research question, which focuses on assessing pupils' interest in using the intervention. The observation checklist and structured interview questions determine the participants' interests. Lastly, a semi-structured interview with the expert teacher is conducted to answer the third research question.

Implementation of Action

Kemmis and McTaggart's (1988) research design model is used to carry out this action research. This model starts with planning how to solve the problem and determining the necessary actions. It is followed by carrying out the planned actions, observing the outcomes, and finally reflecting on the results.

Stage 1 - Plan

After the problem in handwriting legibility was identified in the earliest stage, a systematic literature review was conducted to see the significance and severity of this problem among pupils. Through careful analysis, an action plan was designed to improve handwriting legibility among Year 3 Azalea pupils in terms of spacing, alignment and letter formation through a writing template. This action incorporated colourful colour codes and grid lines as a framework when writing. The action plan was carried out separately from the lesson hours and conducted in the meeting room as the other pupils from 3 Azalea did not need to receive the treatment like the selected participants. For the management part, a permission letter from IPG was sent to ensure the school was informed of the data collection process.

Stage 2 - Act

At this stage, the intervention was implemented. Before the implementation, they were given a guide on writing using TePa Paper. At first, I played the role of facilitator in guiding the participants through the action. After they were used to it, I only gave as much feedback as they needed when using the action independently. The participants went through three stages of writing practice using TePa Paper. Table 3 below shows the activities carried out for each stage.

Table 3: Activities in the Writing Practice

Date	Stage	Activity	Focused Dimension
2/9/2024	Stage 1	Form letters based on their types accordingly 1) Tall letters: b/d/f/h/k/l/t 2) Small letters: a/c/e/i/m/n/o/r/s/u/v/w/x/z 3) Tail letters: g/j/p/q/y	Letter formation
3/9/2024	Stage 2	Write five words repeatedly 1) Cat 2) Bed 3) Friendly 4) Tummy 5) Happy	Alignment and letter formation

4/9/2024	Stage 3	Write two long sentences repeatedly 1) Today is a sunny day 2) I can be anything I want to be when I want to grow up	Spacing and alignment

Stage 3 - Observe

In this step, the participants' interest in using the action and its effectiveness were observed based on the implementation process. During the implementation process, the participants were observed using an observation checklist to identify their interest in using the action. To see the effectiveness of the action, a pre-test and post-test were conducted after a week of implementation. Then, both scores were compared. After the implementation, an interview was conducted with the participants and the expert teachers using structured and semi-structured interviews, respectively, to identify the effectiveness of the action and pupils' interest in using it.

Stage 4 - Reflect

Finally, the data and feedback were analysed to determine the strengths and shortcomings of TePa Paper. The findings were used to evaluate the need for improvement or suggestions. The conclusion was reached that a second cycle was unnecessary in this research because the results were highly satisfactory. The first cycle was completed successfully.

RESEARCH FINDINGS

Research Question 1: Does TePa Paper improve Year 3 pupils' handwriting?

The Year 3 pupils' handwriting legibility was anticipated to improve significantly after TePa Paper's implementation. To answer the first research question, a pre-test and post-test were conducted to assess the effectiveness of the implementation. An analysis was done based on the score given for each dimension and the total score that determines their handwriting's legibility level. To determine the legibility level of each participant's handwriting, the researcher considered that the lowest total score of all three dimensions to be obtained is 3, and the highest is 9. For the writing of the participants whose total score is 3-5 is not legible, the writing of the participants whose total score is 5.1-7 is intermediately legible, and lastly, the total score is between 7.1-9 is made in the form of legible. This level was fully adapted from the Multidimensional Legibility Scale by Yıldız and Ateş (2010). Table 4 below shows the scores for each participant's pre-test and post-test.

Table 4: Score Analysis for Pre-test and Post-test

	P1		**P2**		**P3**		**P4**	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**	**Pre**	**Post**
Spacing	1.5p	3 p	1.5p	3p	1p	2.5p	1.5p	3p
Alignment	2p	3 p	1.5p	2.5p	1p	3p	1.5p	2.5p
Letter Formation	1.5p	3p	1p	3p	1p	2.5p	1.5p	3p
Total Point	5p	9p	3.5p	8.5p	3p	8p	4.5p	8.5p

Legibility Level of Handwriting	**Intermediately legible**	**Legible**	**Not legible**	**Legible**	**Not legible**	**Legible**	**Not legible**	**Legible**

Next, Figures 4 and 5 below show the sample of Participant 3's pre-test and post-test.

Figure 4: Participant 3's pre-test

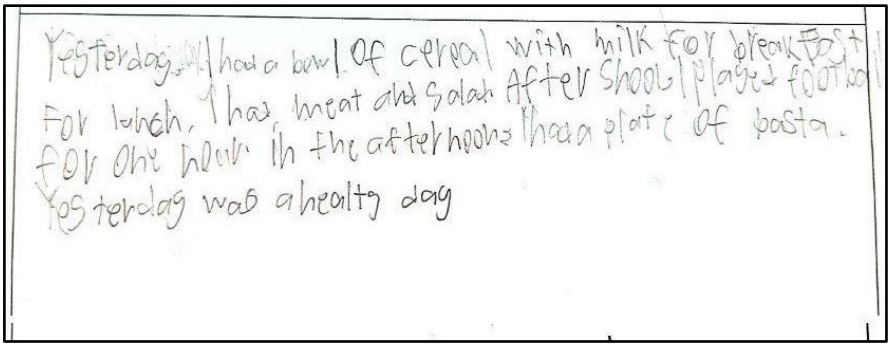
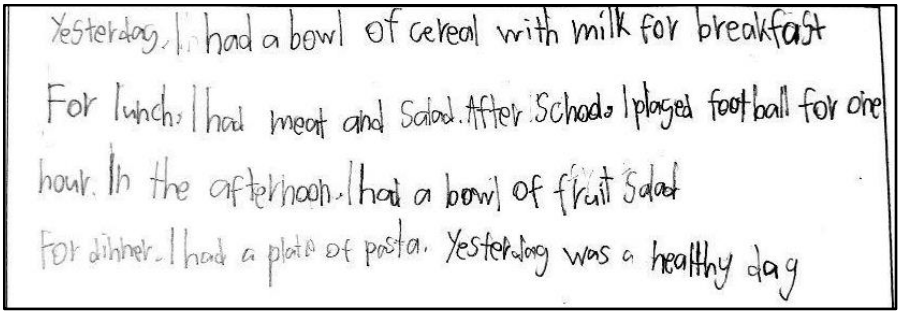


Figure 5: Participant 3's post-test



The score analysis shows that participants' handwriting legibility has improved positively after using TePa Paper. It can be seen by the increased score from the pre-test to the post-test from 5 points to 9 points (P1), 3.5 points to 8.5 points (P2), 3 points to 8 points (P3), and 4.5 points to 8.5 points (P4). Participants 2 and 3 showed the highest improvement, with a 5-point difference from the pre-test and post-test, followed by Participants 1 and 4 with a 4-point difference. Not only that, Participant 1 has managed to get a total score for the post-test, which indicates that his handwriting legibility is exceptionally clear.

Research Question 2: Are the pupils interested in using TePa Paper to improve their handwriting?

Research question 2 explores pupils' interest in using TePa Paper to improve their handwriting legibility. Two instruments, an interview with the participants and an observation checklist, were used to answer this research question. Firstly, the participants were asked five questions in the interview. The table below shows a summary of the participant's responses.

Table 5: Summary of the Interview with the Participants

Interview Questions	Responses (Summary)
1. Do you enjoy using TePa Paper?	Yes
2. Do you feel motivated using TePa Paper?	Yes. The lines make me dizzy
3. What do you like the most about TePa Paper?	The earth's colour
4. Would you recommend TePa Paper to your friends?	Yes. Handwriting becomes prettier
5. If you have a chance, would you use TePa Paper again?	Yes

For the first question, all the participants answered yes confidently. They also feel motivated to use TePa Paper to complete the writing practice. However, one of the participants shared that the use of line patterns integrated into the TePa Paper makes him feel dizzy, thus causing him to feel distracted from completing the practice. Next, all participants unanimously agreed that the earth-tone colour of TePa Paper was the feature they liked the most. They were also ready to recommend TePa Paper to their friends and excited to share the results. Not only that, the responses to the last item show that they want to play TePa Paper again. All the answers to these five questions indicate that the participants enjoy using TePa Paper and are interested in using it again with their friends.

Secondly, data from the observational checklist showed that participants displayed positive responses and behaviour while using TePa Paper. Five items are structured to gauge the participants' behaviour during the implementation. Table 6 below summarises participants' behavioural responses to using TePa Paper.

Table 6: Summary of Observational Checklist

No.	Items (Pupils' behaviour)	Participants			
		P1	P2	P3	P4
1.	Participants' interest in the writing practice.	/	/	/	/
2.	Participants' active participation in using TePa Paper	/	/	/	/
3.	Participants' focus on task completion.	/	/	X	/
4.	Participants' enjoyment in using TePa Paper.	/	/	X	/

5.	Participants' ability to complete the practice within the stipulated time.	/	/	X /

Based on the observation data, all the participants responded positively to items 1 and 2, which indicated their interest in and active participation in using TePa Paper. For items 1, P1 and P2 requested the researcher to do the writing practice again using TePa Paper. Meanwhile, P3 and P4 were amazed by the earth colours integrated into the intervention and asked for more paper. Next, all the participants participated actively in the second item by asking questions and getting feedback on their handwriting from the researcher. Not only that, P2 showed the ability to guide and help the other participants during the implementation. For item 3, all the participants, except P3, focused intensely on completing the given writing practice. P3 gave good attention but was seen to be distracted and passive sometimes.

The fourth item was based on the participants' enjoyment while using TePa Paper. All participants showed positive body language, such as smiling and laughing, during the TePa Paper writing practice. However, P3 showed a sign of confusion and frowning, indicating that he did not enjoy using the TePa Paper like the other participants. The last item was based on the participant's ability to complete the writing practice within the time given. This item assessed the participants' interest in using the intervention, as completing the task efficiently indicates high focus and involvement. All participants except P3 managed to complete the writing practice within 15 minutes. The fact that they were not distracted during the practice demonstrates that their strong interest in the intervention helped them remain attentive and committed to the task. Meanwhile, P3 took more than 15 minutes and always rested in between, indicating that he struggled to maintain focus and may have had difficulty sustaining their interest in the task.

Research Question 3: How does TePa Paper improve pupils' handwriting?

The researcher expects that physical characteristics and a scaffolded learning structure will help the participants improve their handwriting. The researcher interviewed the expert teacher and analysed the data using thematic analysis. The interview data shows that TePa Paper has four different aspects that contribute significantly to facilitating participants' improvement in handwriting. Table 7 below shows the analysis of the expert teacher's answers during the interview.

Table 7: Analysis of Interview Transcription with Expert Teachers

No	Theme	Code	Interview Extract	P
1	Effectiveness	Improve handwriting on a school basis	…improve their handwriting in their daily school days.	4
		Benefit from drilling concept	Yes, we go back to the old days, right, drilling concept!	24
		Stimulate pupils	Kids nowadays need something different. New things, new tools every day	26
2.	Independent Learning	Increase self-motivation	…improve their handwriting in terms of, first of course, their self-motivation	6
		Opportunities to practice	They will have the opportunities to	6

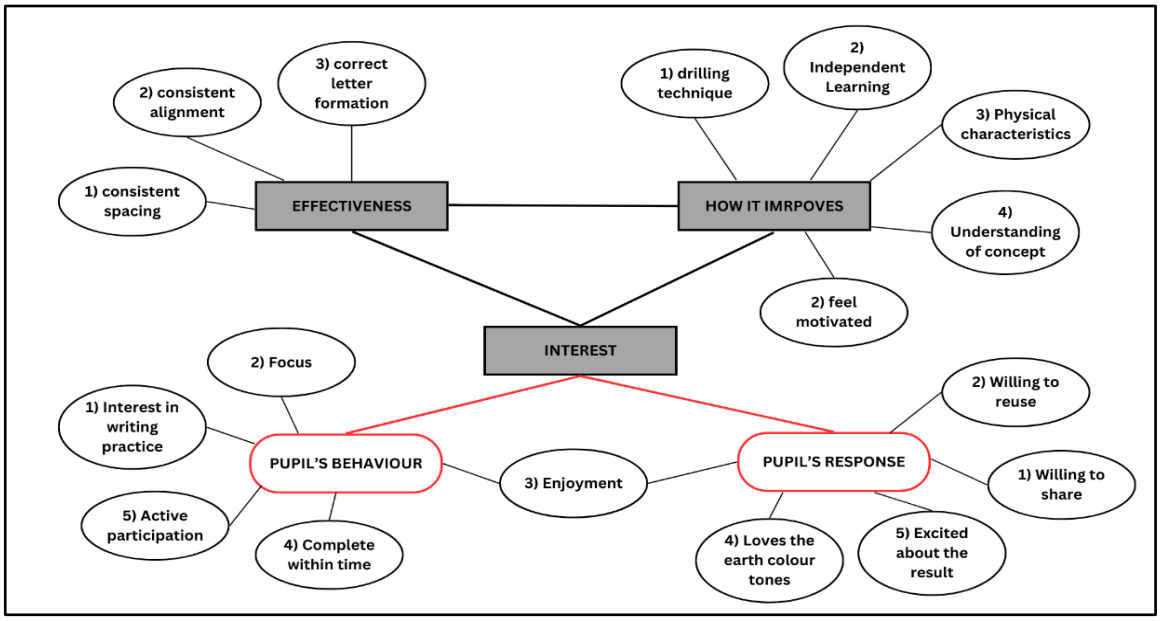
		properly	practice properly…	
		Practice on their own	Yes, they can do it on their own	7
3.	Physical Characteristics	Colours provide guidance	The use of colours for blue, green and brown will help them to guide them on how they are going to write	14
		Grid lines help manage the alignment	…they know how to manage the alignment of their handwriting	16 & 18
		Grid lines help maintain letter size	…they will write in the same size	20
		interesting and colourful paper	…because the paper is interesting and colourful	26
		Familiar colour	…using colour that are familiar with them	24
4.	Understanding of Concept	Each colour represents types of letters	For short letters, still on the green. For the tail letters, down there on earth colour. For tail letters, up to the blue colours.	14
		Familiarity with the Earth concept	The concept of earth is close to the pupils	22

Based on the interview data, there are four different aspects that TePa Paper provides to help improve handwriting legibility. Firstly, TePa Paper's effectiveness lies in its ability to stimulate pupils with its novelty. Drilling writing practice using TePa Paper is a contemporary approach to advocate for more student-centred strategies, combining traditional methods with new tools to engage students actively in their learning. Drilling practice is well practised in educational settings as "the more often English is repeated, the stronger the habit is, and the greater learning will be achieved" (Rika, 2020, p.2). Hence, combining the traditional method with TePa Paper can stimulate the participants even more. Furthermore, TePa Paper fosters participants' autonomous learning by offering opportunities to practise effectively and independently. Participants utilising the TePa Paper can self-assess their handwriting and observe their progress distinctly. Consequently, it provides immediate feedback to participants, essential for fostering independent learning.

The physical characteristics of TePa Paper, such as the earthy colour tone and grid lines, guide the participants in managing the alignment and forming the letter correctly based on the guidelines. Using familiar colours makes the intervention more exciting and appealing to the participants. This corresponds with Goethe's Theory of Color and Emotion (1810), which posits that colours elicit specific emotional reactions influenced by individual experiences and environmental interactions. Using colours that participants encounter daily, TePa Paper makes the learning process more engaging, thus improving the overall effectiveness of the intervention. Additionally, associating different earth hues with different letter types guides the participants in correctly writing tall, short, and tail letters. It exploits their learned associations with the environment, facilitating the connection between letter formation and shape with these nuanced colour indicators, thus reinforcing the accurate placement of each letter type.

The findings of this study are summarised in a spider map diagram, as shown in Figure 6 below.

Figure 6: Summary of Research Findings



DISCUSSION

The study's findings demonstrate a positive development in the participants' handwriting legibility issue. Four participants in the study group could not produce legible writing before the intervention; nevertheless, they could write legibly in the post-test following the intervention. This is a noteworthy discovery. Not only that, but P1 also achieved a perfect score on the post-test. This proves that the combination of the repetitive dictation method and TePa Paper was successful in the study.

The selection of "TePa Paper," featuring earthy colour tones and gridlines, underscores the significance of multisensory learning in facilitating motor skill development. Incorporating colour coding corresponds with prior studies on visual stimulation and cognitive processing, suggesting that youngsters may exhibit more favourable reactions to this intervention. The earthy tones, familiar and grounded in the natural environment, render the paper more approachable and appealing to the participants. This corresponds with Goethe's foundational Theory of Colour and Emotion (1810), which posits that colours elicit specific emotional reactions influenced by individuals' experiences and engagements with their environment. For example, using blue to symbolise the sky led the participants to form tall letters by reaching towards the sky or touching the top gridline. By integrating colours familiar to participants, TePa Paper increases the participants' interest, augmenting the intervention's overall effectiveness. The grid lines serve as a structural guide, facilitating the precise formation of letter shapes and ensuring consistent alignment with little slant during writing.

However, it is crucial to acknowledge that the effectiveness of these multisensory approaches may vary depending on children's individual learning preferences. Not all pupils may see the same visual stimuli as equally advantageous. This constraint is apparent in the instance of a participant who perceived the gridlines as visually overwhelming. It raises questions on the scalability of such interventions across diverse learning needs.

Furthermore, the research highlights the effectiveness of repetitive dictation and the traditional "pen and paper" method, contending that it improves muscle memory and motor control. Drilling, commonly viewed as a traditional method, aims to enhance proficiency via repetition, especially in basic skills like handwriting. B.F. Skinner asserts that repetitive drills enhance learning by reinforcing desired behaviours (Skinner, 1954). Nevertheless, although drilling offers advantages, contemporary

educational research indicates that exclusive reliance on old methods may not address the varied learning requirements, particularly in today's evolving classrooms. The statement taken from the interview, "we go back to the old days" (p.24), indicates a preference for traditional ways, yet it may imply a lack of innovation. In contrast, the contemporary approach promotes a student-centred strategy that integrates old techniques with innovative tools to actively include pupils in their education. Thus, although drilling can be effective for handwriting, it must be complemented with contemporary approaches to address the evolving needs of pupils.

The stages of writing practice outlined in the research are well-justified by the present study conducted by Duran and Karatas (2019), which asserts that writing challenges frequently originate from letter writing. The action research employed a structured, scaffolded approach that prioritised letter formation, proceeded to alignment, and culminated in spacing, mirroring Duran and Karatas' technique to address handwriting challenges. During the initial phase, participants concentrated solely on correctly forming letters by classifying them into tall, short, and tail categories. By initially targeting letter formation, the intervention ensured that the participants could focus on mastering the basic shapes and structure of letters before moving to more complex aspects. The intricacy of the writing process is escalating progressively. The second and third stages emphasise the improvement in spacing and alignment by writing words and sentences repeatedly. In conclusion, the structured focus on letter formation initially, as demonstrated in this research, corresponds with Duran and Karatas' belief that emphasising this foundational phase is essential for resolving broader handwriting problems.

REFLECTION

Upon entering the Year 3 classroom, I held high expectations regarding the children's handwriting, presuming that handwriting would be fine with the pupils after being taught since pre-school. However, it was a startling revelation that, even at this level, some pupils faced difficulties with handwriting legibility. Instead of solely focusing on core language skills like listening, speaking, reading, and writing, I realised I needed to dedicate time to improving their handwriting. Handwriting, after all, is a prerequisite for effective writing, allowing pupils to express their ideas clearly. The most significant feature that prominently improves the pupils' handwriting is the use of earth colour tones. Since the pupils interact with these colours daily, it provides a sense of familiarity and can be easily understood by them. Despite its simplicity, this method brought noticeable improvement. Reflecting on this, I realised that handwriting had not received the attention it deserved, particularly among these pupils, who were part of the "COVID generation" that mainly underwent online learning without face-to-face teacher guidance. These children missed crucial early guidance due to school disruptions and need more targeted support. Thus, it is the teacher's role to ensure their handwriting skills are addressed, as it is critical for their academic progress.

Further neglect may result in more complications down the road because these pupils are expected to perform more complicated academic tasks as they progress. Through TePa Paper, I have provided a workable solution to the problem, which may be adopted or adapted by other teachers dealing with the same issue.

SUGGESTION FOR FUTURE RESEARCH

For long-term action, it is highly recommended that this research be conducted over an extended period. This research only takes one week to implement; however, handwriting entails numerous processes and procedures, and achieving proficient handwriting cannot be accomplished in a short period. Similarly, Duran & Karatas (2019) posit that handwriting involves training motor skills and the interplay of memory and orthographic processes in recalling letterforms and automatically translating these shapes onto paper. Consequently, it needs additional time to achieve mastery. Moreover, a researcher may undertake this investigation as a lifelong process, commencing from pupils' early educational years to facilitate the documentation and enhancement of developmental progress over time.

This longitudinal method facilitates ongoing observation of the progression of pupils' handwriting, cognitive, and motor skills, thereby documenting essential developmental milestones.

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KEBERKESANAN MoLIB DALAM MENINGKATKAN KEMAHIRAN MEMBINA AYAT MURID TAHUN TIGA

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ABSTRAK

Modul Latihan Intervensi Berfokus dan Terbeza (MoLIB) merupakan satu modul yang dibangunkan sebagai panduan serta rujukan untuk guru merancang pengajaran dan pembelajaran secara berfokus dan terbeza bagi pelaksanaan PdP mata pelajaran Bahasa Melayu (BM) yang berkesan. Kajian ini berbentuk kuasi eksperimen dan menggunakan kaedah kuantitatif. Kuasi eksperimen merupakan reka bentuk kajian perbandingan antara kumpulan-kumpulan iaitu kumpulan kawalan dan kumpulan rawatan bagi menentukan kesan sesuatu rawatan atau intervensi. Kajian ini berobjektifkan untuk mengenal pasti tahap pencapaian murid tahun tiga dalam kemahiran membina ayat, mengukur perbezaan tahap pencapaian kemahiran membina ayat antara kumpulan kawalan dan kumpulan rawatan pada Ujian Pra dan Ujian Pos serta menilai keberkesanan MoLIB terhadap pencapaian kumpulan rawatan dalam kemahiran membina ayat. Teori Kecerdasan Pelbagai oleh Gardner (1983) merupakan teori yang menyatakan bahawa setiap individu mempunyai pelbagai jenis kecerdasan. Oleh itu, Teori Kecerdasan Pelbagai menjadi asas bagi mendasari kajian ini. Hal ini kerana Modul Latihan Intervensi Berfokus dan Terbeza (MoLIB) menyediakan pengajaran yang terbeza kepada murid pelbagai aras selaras dengan teori tersebut. Kajian ini melibatkan seramai 40 orang responden dari sebuah sekolah rendah di daerah Kota Bharu. Kajian ini berbentuk deskriptif dan inferensi serta menggunakan instrumen set soalan iaitu Ujian Pra dan Ujian Pos. Nilai signifikan (2-tailed) ialah 0.05. Keseluruhannya, MoLIB sememangnya telah memberikan kesan yang signifikan terhadap tahap pencapaian kemahiran membina ayat Tahun Tiga terutama kepada kumpulan yang menerima intervensi iaitu kumpulan rawatan. Skor min bagi Ujian Pra kumpulan rawatan iaitu sebelum menerima intervensi ialah 27.17 (SP=19.92) manakala skor min bagi Ujian Pos kumpulan rawatan selepas menerima intervensi ialah 41.00 (SP=22.9). Dapatan kajian menunjukkan MoLIB dalam kemahiran membina ayat Bahasa Melayu memberi kesan yang baik kepada murid dalam kumpulan rawatan. Di samping itu, kajian ini mencadangkan kajian selanjutnya untuk meningkatkan lagi keberkesanan MoLIB dalam meningkatkan kemahiran berbahasa sekali gus meningkatkan lagi kualiti pendidikan di Malaysia.

***Kata Kunci**: MoLIB, membina ayat, rawatan, kawalan, keberkesanan*

PENGENALAN

Melihat realiti dasar dunia pendidikan masa kini yang sering berubah-ubah telah memberikan cabaran yang besar kepada para tenaga pendidik. Hal ini dapat dilihat dengan jelas apabila Kementerian Pelajaran Malaysia (KPM) telah menghentikan pengasingan kelas (*streaming class*) mengikut tahap penguasaan murid bermula 2019.

Kesan dari pemansuhan pengasingan kelas, kepelbagaian murid yang berada di dalam bilik darjah yang sama pasti akan wujud. Kepelbagaian ini dapat dikaitkan dengan kebolehan murid, pencapaian murid yang pelbagai, minat, kesediaan untuk belajar, latar belakang murid dan profil pembelajaran murid (Zurina *et al*.). Hakikatnya, cabaran utama yang perlu dihadapi oleh para pendidik pada ketika ini adalah dari aspek tahap kecerdasan murid, kebolehan murid dan pencapaian murid yang pelbagai. Pernyataan

ini dikukuhkan dengan Teori Kecerdasan Pelbagai yang dibangunkan oleh Gardner (1983) yang memperlihatkan setiap manusia mempunyai kecerdasan pelbagai yang tersendiri. Kesamarataan proses pengajaran dan pembelajaran bahasa Melayu bagi murid yang mempunyai tahap kecerdasan pelbagai di dalam bilik darjah memerlukan satu amalan pendekatan pengajaran guru bahasa Melayu yang berkualiti dan berkesan. Menurut Noor Lela dan Afrina (2020), pengajaran berkualiti dan berkesan merujuk kepada aktiviti pengajaran dan pembelajaran yang aktif dan mampu memberi impak terhadap pencapaian murid bagi menguasai proses pembelajaran yang lebih bermakna.

Institusi Pendidikan Guru Malaysia (IPGM) menjadi peneraju dalam melaksanakan program literasi dan numerasi demi mencapai hasrat kemenjadian murid menjelang 2025 melalui inisiatif #24. Program Literasi dan Numerasi Sekolah Rendah (PLaN) perlu dilaksanakan secara kemas dan tersusun bagi menjamin kemenjadian murid dalam penyampaian ilmu dan kemahiran oleh para guru. Oleh itu, Modul Literasi dan Numerasi Berfokus dan Terbeza dibina untuk membantu para guru Bahasa Melayu dan Matematik sekolah rendah dalam menguasai dan melaksanakan pendekatan pedagogi berfokus dan terbeza. Modul Latihan Intervensi Berfokus dan Terbeza (MoLIB) merupakan sebuah modul yang dibangunkan sebagai panduan dan bahan sokongan serta rujukan untuk para guru merancang pengajaran dan pembelajaran secara berfokus dan terbeza bagi pelaksanaan PdP mata pelajaran Bahasa Melayu (BM). IPGM juga berfungsi sebagai jentera utama dalam mengintegrasikan Modul Latihan Intervensi Berfokus dan Terbeza (MoLIB) bagi menjayakan pedagogi terbeza dalam bilik darjah dengan lebih berkesan. MoLIB mulai dilaksanakan pada September hingga Oktober 2019 di 54 buah sekolah melibatkan daerah Sepang Selangor, Pitas Sabah dan Julau Sarawak. Dapatan daripada pelaksanaan rintis berkenaan, usaha untuk menambah baik MoLIB telah dilaksanakan bagi menjadikan modul ini lebih mudah digunakan dalam pengajaran dan pembelajaran. Sehubungan dengan itu, MoLIB telah diperluas pelaksanaannya kepada semua sekolah rendah Kementerian Pendidikan Malaysia (KPM) mulai tahun 2020.

Modul Latihan Intervensi Berfokus dan Terbeza (MoLIB) jelas membantu para guru Bahasa Melayu dan Matematik sekolah rendah dalam menguasai dan melaksanakan pendekatan pedagogi berfokus dan terbeza sekali gus memastikan murid mendapat kesamarataan pembelajaran tanpa membezakan dari segi tahap seterusnya memperoleh pencapaian yang cemerlang.

KAJIAN LITERATUR

Tidak banyak kajian yang menyelidik tentang amalan pelaksanaan dan keberkesanan MoLIB dalam pengajaran dan pembelajaran bahasa Melayu. Satu kajian yang bertujuan untuk mengkaji 'Keberkesanan Modul Latihan Intervensi Berfokus dan Terbeza (MoLIB) Terhadap Kemahiran Pedagogi Guru Bahasa Melayu Sekolah Rendah telah dijalankan oleh Sherone dan Wan Muna (2023). Dapatan kajian mereka telah menunjukkan keberkesanan MoLIB dalam membantu pengajaran guru Bahasa Melayu meningkatkan kemahiran berbahasa murid.

Satu lagi kajian telah dijalankan oleh Roa'ani dan Azlifah. Menurut Roa'ani dan Azlifah (2019), tujuan utama kajiannya adalah untuk mengenal pasti keberkesanan Pendekatan Pedagogi Terbeza (PPT) dalam PdPc Bahasa Melayu kelas Peralihan. Dapatan kajian mereka menunjukkan terdapat perbezaan yang jelas di antara Ujian Pra dan Ujian Pos tentang penglibatan diri murid. Ujian Pra sebelum intervensi dengan nilai 11.69% dan Ujian Pos selepas intervensi dengan nilai 78.63% dengan perbezaan yang paling ketara iaitu 66.94%. Dalam kajian ini juga, mendapati bahawa murid mempunyai sikap yang positif iaitu menglibatkan diri dalam proses pembelajaran secara aktif terhadap pendekatan Pedagogi Terbeza berbanding sebelum menerima intervensi, murid hanya bersikap pasif. Perbezaan antara skor ini mengesahkan bahawa kajian ini telah membuktikan penggunaan PPT oleh guru berupaya menghasilkan pengajaran dan pembelajaran yang berkesan dalam kalangan murid yang berbeza latar belakang.

Selain itu juga, satu kajian telah dijalankan oleh Revathi *et al*. (2014) tentang kekangan dalam pengajaran dan pembelajaran dari persepsi guru dan aspek murid. Hasil dapatan kajian telah mendapati bahawa responden kajian terkesan dengan peruntukan masa yang diperuntukkan untuk pengajaran dan pembelajaran bahasa Melayu serta beban tugas yang semakin meningkat sehingga menjejaskan tumpuan serta mengganggu PdP yang dirancang. Jessica Michael dan Zamri Mahamod (2023) pula telah menjalankan satu kajian tentang amalan dan masalah pendekatan pengajaran terbeza berpandukan MoLIB oleh guru Bahasa Melayu Sekolah Rendah kebangsaan. Dapatan kajian mereka menunjukkan bahawa jumlah murid yang ramai dalam sesebuah kelas menjadi cabaran bagi guru Bahasa Melayu menggunakan pendekatan ini kerana guru perlu meneliti keperluan murid yang berbeza dan bilangan murid yang terlalu ramai. Selain daripada itu, dapatan soal selidik mengenai kekangan dari aspek murid kebanyakan daripada responden mengakui bahawa murid tidak boleh menulis dengan struktur ayat yang betul, murid menulis ayat tergantung, tidak mahir membina ayat aktif, sering melakukan kesalahan tanda baca, ejaan, imbuhan dan pembinaan ayat dengan kekurangan perbendaharaan kata menyebabkan murid gagal membina ayat dengan ayat yang gramatis.

Danial Muttalip (2020), dalam kajiannya yang bertajuk Pelaksanaan Pendekatan Pengajaran Terbeza dalam kalangan Guru Bahasa Melayu Yang Mengajar di Sekolah Rendah Pedalaman Kategori 3. Kajian ini bertujuan untuk mengenal pasti tahap pelaksanaan amalan pengajaran terbeza dalam kalangan guru Bahasa Melayu di sekolah. Dapatan kajian menunjukkan tahap pelaksanaan amalan pengajaran terbeza dalam kalangan guru Bahasa Melayu yang mengajar di sekolah rendah pedalaman kategori 3 berada pada tahap sederhana rendah. Min keseluruhan yang diperoleh ialah min 2.47. Hal ini bermakna pelaksanaan amalan pengajaran terbeza ini masih belum meluas dilaksanakan di sekolah rendah walaupun responden membuat perancangan dan menentukan hasil pembelajaran berdasarkan kemampuan anak murid mereka. Pelaksanaan pengajaran terbeza tidak banyak diaplikasikan dalam PdP kerana guru kurang pengetahuan dan belum memahami dengan mendalam cara pelaksanaannya di dalam kelas Bahasa Melayu.

METODOLOGI

Kajian ini menggunakan reka bentuk kuasi eksperimen. Kajian ini turut menggunakan kaedah kuantitatif yang melibatkan inferensi ujian-*t independent* dan ujian-*t* berpasangan yang bertujuan memberikan gambaran keberkesanan MoLIB dalam meningkatkan kemahiran membina ayat murid tahun tiga terutamanya dalam kumpulan murid rawatan. Responden kajian terdiri daripada 40 orang responden tahun tiga di sebuah sekolah rendah dalam daerah Kota Bharu yang dibahagikan kepada dua kumpulan iaitu 20 orang dalam kumpulan kawalan dan 20 orang dalam kumpulan rawatan.

Jadual 1: Analisis Kumpulan Responden

Kumpulan	Bilangan	Peratus
Kumpulan Kawalan	20	50.0
Kumpulan Rawatan	20	50.0
Jumlah	**40**	**100**

Jadual 1 menunjukkan bilangan unit responden. Jumlah bilangan responden adalah 40 orang. Dari jumlah ini seramai 20 orang tahun tiga (50%) merupakan responden bagi kumpulan kawalan manakala 20 orang responden tahun tiga (50.0%) merupakan responden bagi kumpulan rawatan.

Selain itu, kajian ini turut menggunakan set soalan berbentuk Ujian Pra dan Ujian Pos mengandungi 15 item soalan meliputi tiga bahagian iaitu bahagian A, B dan C . Bahagian A mengandungi 5 item soalan berkenaan dengan menyusun perkataan membentuk ayat yang lengkap. Bahagian B mengandungi 5 items soalan berkenaan dengan membina ayat berdasarkan perkataan yang telah diberikan dan disesuaikan dengan situasi pada gambar. Manakala bahagian C mengandungi 5 item soalan berkenaan dengan membina ayat yang lengkap dan gramatis berdasarkan situasi pada gambar. Bentuk soalan yang digunakan dalam set soalan ini merupakan soalan jenis terbuka. Analisis kuantitatif dalam kajian ini menggunakan perisian SPSS (*Statistical Package For Social Sciences*) versi 29.0. Markah Ujian Pra dan Ujian Pos digunakan bagi mengukur setiap item yang dinyatakan dan kemudiannya ditafsir menggunakan peratus, min dan sisihan piawai. Nilai signifikan (*2-Tailed*) pada aras 0.05 juga digunakan bagi mengukur terdapat nilai yang signifikan atau pun tidak terhadap data yang dianalisis.

OBJEKTIF KAJIAN

Objektif kajian ini adalah untuk:

1. Mengenal pasti tahap pencapaian murid Tahun 3 dalam kemahiran membina ayat.

2. Mengukur perbezaan tahap pencapaian kemahiran membina ayat antara kumpulan kawalan dengan kumpulan rawatan pada Ujian Pra dan Ujian Pos.

3. Menilai keberkesanan MoLIB terhadap pencapaian kumpulan rawatan dalam kemahiran membina ayat.

DAPATAN KAJIAN

Objektif 1: Mengenal pasti tahap pencapaian murid dalam kemahiran membina ayat murid tahun tiga.

Dapatan dan analisis kajian ditunjukkan seperti dalam Jadual 2 di bawah:

Jadual 2: Markah pencapaian ujian pra bagi kumpulan kawalan dan kumpulan rawatan

Jumlah Pra	Kumpulan Kawalan	Kumpulan Rawatan
4	0	3
6	0	4
7	0	1
8	1	0
9	1	1
11	2	2
12	1	0
14	2	0
15	3	0
16	2	3
17	2	0
18	1	2
19	1	0
20	1	1
21	2	0
22	0	1
23	1	2
Jumlah	**20**	**20**

Jadual 3: Tahap pencapaian murid dalam kemahiran membina ayat murid tahun tiga

Tahap		Kumpulan Kawalan (frekuensi/peratus)	Kumpulan Rawatan (frekuensi/peratus)
Asas	(0 hingga 9)	2 (6.67%)	9 (30%)
Sederhana	(10 hingga 19)	14 (46.67%)	7 (23.33%)
Tinggi	(20 hingga 30)	4 (13.33%)	4 (13.33%)

Berdasarkan Jadual 3, jadual ini merujuk kepada tahap pencapaian ujian pra kumpulan kawalan dan kumpulan rawatan. Tahap pencapaian responden telah dibahagikan kepada tiga iaitu tahap asas, tahap sederhana dan tahap tinggi.

Markah yang ditetapkan untuk tahap asas ialah 0 hingga 9. Bilangan responden yang mencapai tahap asas bagi kumpulan kawalan ialah seramai 2 orang iaitu 6.67 peratus, manakala bilangan responden kumpulan rawatan pula ialah seramai 9 orang iaitu 30 peratus.

Markah yang ditetapkan untuk tahap sederhana ialah 10 hingga 19. Bilangan responden yang mencapai tahap sederhana bagi kumpulan kawalan ialah seramai 14 orang iaitu 46.67 peratus, manakala bilangan responden kumpulan rawatan pula ialah seramai 7 orang iaitu 23.33 peratus.

Markah yang ditetapkan untuk tahap tinggi ialah 20 hingga 30. Bilangan responden yang mencapai tahap tinggi bagi kumpulan kawalan ialah seramai 4 orang iaitu 13.33 peratus, manakala bilangan responden kumpulan rawatan pula ialah seramai 4 orang iaitu 13.33 peratus.

Berdasarkan Jadual 3 ini juga dapat menunjukkan responden di sebuah sekolah rendah dalam daerah Kota Bharu mempunyai pengetahuan sedia ada tentang kemahiran membina ayat. Namun begitu, kumpulan rawatan menunjukkan terdapat responden pada tahap asas yang lebih ketara berbanding kumpulan kawalan. Jelasnya responden mampu meningkatkan kemahiran membina ayat dengan baik jika pengajaran dan pembelajaran yang diselaraskan dilaksanakan mengikut aras masing-masing.

Objektif 2: Membandingkan pencapaian murid dalam kemahiran membina ayat antara kumpulan kawalan dengan kumpulan rawatan.

Dapatan dan analisis kajian ditunjukkan seperti dalam Jadual 4 di bawah:

Jadual 4: Ujian-*t* Perbezaan Skor Min antara Kumpulan Kawalan dengan Kumpulan Rawatan dalam Ujian Pos

		Skor Min					
Kumpulan	**Ujian**	**n**	**Min**	**Sisihan Piawai**	**Nilai-*t***	**Signifikan (*2-tailed*)**	**df**
Rawatan	Ujian Pos	20	41.00	22.894	0.502	0.619	38
Kawalan	Ujian Pos	20	38.00	13.783	0.502		

*Sig. pada aras 0.05 (*2-tailed*)

Merujuk kepada Jadual 4, dapatan daripada kajian menunjukkan pencapaian Ujian Pos kumpulan rawatan dalam kemahiran membina ayat lebih baik berbanding kumpulan kawalan. Pencapaian kumpulan rawatan dengan min 41.00 dan sisihan piawai 22.894 diikuti pencapaian kumpulan kawalan dengan min 38.00 dan sisihan piawai 13.783. Jadual ini juga menunjukkan tidak terdapat perbezaan yang signifikan pencapaian Ujian Pos antara dua kumpulan kerana nilai signifikan (*2-tailed*) ialah 0.619 lebih besar berbanding 0.05. Namun begitu, masih terdapat perbezaan nilai min antara dua kumpulan iaitu sebanyak 3.00.

Objektif 3: Menilai keberkesanan MoLIB dalam meningkatkan kemahiran membina ayat kumpulan rawatan Tahun 3.

Dapatan dan analisis kajian ditunjukkan seperti dalam Jadual 4 di bawah:

Jadual 5: Ujian-*t* Perbezaan Skor Min Ujian Pra dan Ujian Pos bagi Kumpulan Rawatan

Kumpulan	Ujian	n	Skor Min	Sisihan Piawai	Nilai-*t*	Signifikan (*2-tailed*)	df
Rawatan	Ujian Pra	20	27.17	19.921	-8.148	0.01	19
	Ujian Pos	20	41.00	22.894			

*Sig. pada aras 0.05 (*2-tailed*)

Berdasarkan Jadual 5, dapatan kajian menunjukkan perbezaan skor min antara kumpulan kawalan dengan kumpulan rawatan pada Ujian Pos. Skor min ujian pra bagi kumpulan rawatan adalah 27.17 manakala sisihan piawai adalah 19.921. Skor min ujian pos bagi kumpulan rawatan pula adalah 41.00 dan sisihan piawai adalah 22.894. Nilai signifikan (2-*tailed*) adalah 0.01. Dengan itu, perbezaan ini dapat membuktikan bahawa terdapat kesan yang signifikan MoLIB terhadap pencapaian murid kumpulan rawatan dalam meningkatkan kemahiran membina ayat. Hal ini kerana nilai signifikan (*2-tailed*) 0.01 adalah lebih kecil berbanding aras signifikan 0.05.

PERBINCANGAN

Dapatan kajian ini menunjukkan bahawa tahap penguasaan responden bagi kumpulan kawalan dan kumpulan rawatan adalah yang agak sama iaitu pada tahap sederhana dalam kemahiran membina ayat sebelum intervensi dilaksanakan. Namun begitu, beberapa responden dari kumpulan rawatan menunjukkan jumlah dan peraturasan yang lebih ketara pada tahap penguasaan yang rendah berbanding kumpulan kawalan. Sebelum itu, Ujian Pra telah dijalankan kepada kedua-dua kumpulan iaitu kumpulan kawalan dan kumpulan rawatan selama 60 minit. Tujuan ujian ini adalah untuk mencapai objektif kajian yang pertama iaitu mengenal pasti tahap pencapaian murid dalam kemahiran membina ayat murid tahun tiga.

Dapatan kajian juga menunjukkan perbezaan pencapaian murid tahun tiga dalam kemahiran membina ayat antara kumpulan kawalan dengan kumpulan rawatan. Data menunjukkan skor min kumpulan rawatan dalam ujian pos adalah 41.00 dan skor min kumpulan kawalan dalam ujian pos ialah 38.00. Oleh itu, perbezaan skor min antara dua kumpulan adalah sebanyak 3.00. Namun begitu, tidak terdapat perbezaan signifikan pencapaian murid dalam kemahiran membina ayat antara kumpulan kawalan dan kumpulan rawatan kerana nilai signifikan (*2-tailed*) adalah 0.619. Hal ini kerana nilai signifikan ini besar daripada aras signifikan 0.05. Meskipun begitu, skor min kumpulan rawatan dalam ujian pos lebih tinggi berbanding dengan skor min kumpulan kawalan dalam ujian pos menunjukkan masih terdapat perbezaan antara dua kumpulan sekali gus membuktikan peningkatan pencapaian murid dalam kumpulan rawatan. Dapatan ini juga dengan jelas membuktikan MoLIB ini dapat membantu meningkatkan kemahiran membina ayat jika pelaksanaan ini dilakukan secara berterusan. Hal ini demikian kerana, pelaksanaan MoLIb yang dijalankan kepada kumpulan rawatan hanya sebanyak tiga kali sahaja mengakibatkan objektif kedua ini tidak terlalu tercapai. Oleh itu satu program yang proaktif perlu dilaksanakan oleh pihak berkenaan untuk mendedahkan golongan pendidik dengan MoLIB ini agar keberkesanan MoLIB ini dapat dilihat dengan lebih meluas.

Kajian ini turut memperlihatkan keberkesanan MoLIB terhadap pencapaian murid kumpulan rawatan dalam meningkatkan kemahiran membina ayat . Data yang dianalisis melalui SPSS menunjukkan bahawa nilai min Ujian Pra iaitu 27.17 (SP=19.92) dan nilai min Ujian Pos iaitu 41.00 (SP=22.89). Jelaslah bahawa terdapat perbezaan nilai min Ujian pra dengan Ujian Pos sebanyak 13.83 dan nilai signifikan (*2-tailed*) adalah 0.01. Dengan itu, ini dapat membuktikan bahawa terdapat kesan yang signifikan MoLIB terhadap pencapaian murid kumpulan rawatan dalam meningkatkan kemahiran membina ayat. Hal ini kerana nilai signifikan (*2-tailed*) 0.01 adalah lebih kecil berbanding aras signifikan 0.05. Tidak dapat dinafikan bahawa MoLIB ini sememangnya memberikan impak yang baik kepada murid dalam meningkatkan kemahiran berbahasa di samping dapat membantu golongan pendidik mengurangkan beban bagi menjalani pengajaran dan pembelajaran dengan pendekatan pedagogi terbeza. Tuntasnya, Modul Latihan Intervensi Pedagogi Berfokus dan Terbeza (MoLIB) menjadikan sesi pembelajaran lebih efektif dan menarik sekali gus dapat memberikan input dalam bentuk pelbagai mengikut aras murid.

RUMUSAN

Secara keseluruhannya, kajian ini membuktikan bahawa Modul Latihan Intervensi Berfokus dan Terbeza (MoLIB) memberi kesan yang baik dalam meningkatkan kemahiran membina ayat. MoLIB mempunyai kelebihan seperti menjadikan sesi pengajaran dan pembelajaran lebih aktif, *responsive* dan juga menyediakan pengajaran dan pembelajaran yang sesuai mengikut aras murid. Namun begitu, amalan pelaksanaan MoLIB dalam pengajaran dan pembelajaran di sekolah rendah belum lagi diperluas dan diaplikasikan secara menyeluruh. Oleh itu satu usaha untuk memperkenalkan MoLIB perlu dilaksanakan secara lebih meluas bagi memberi pendedahan kepada golongan pendidik tentang MoLIB yang merupakan rujukan dan panduan dalam aktiviti pengajaran dan pembelajaran.

Modul Latihan Intervensi Berfokus dan Terbeza (MoLIB) ini mempunyai banyak kelebihan untuk dipraktikkan seperti mana yang diperkatakan oleh Dr. Rusmini Binti Ku Ahmad, Rektor IPGM semasa modul ini diperkenalkan dan kini beliau merupakan Ketua Jabatan Bahagian Pembangunan Kurikulum,"Dengan adanya MoLIB, penyampaian ilmu dan kemahiran bahasa Melayu dapat disalurkan dengan lebih tepat dan sampai kepada kumpulan sasarannya".

Sebagai rumusannya, hasil daripada kajian ini mendapati murid menunjukkan sikap yang positif terhadap pengaplikasian MoLIB dalam pengajaran dan pembelajaran. Pendedahan tentang pendekatan terbeza menerusi MoLIB sememangnya sangat perlu ditekankan selari dengan aspek pengajaran dan pembelajaran kerana guru perlu meneliti keperluan murid yang berbeza. Dengan adanya rujukan dan panduan menerusi MoLIB, membolehkan golongan pendidik mempelbagaikan pendekatan dan kaedah yang sesuai dan menarik untuk diaplikasikan dalam kelas. Tambahan lagi, rasional MoLIB digandingkan dengan Teori Kepelbagaian Kecerdasan oleh Gardner (1983), mengukuhkan lagi bahawasanya setiap murid mempunyai kecerdasan yang pelbagai dan berhak untuk mendapatkan pengajaran dan pembelajaran yang sesuai dengan aras murid itu sendiri. Oleh itu semua pihak yang berkepentingan seperti kementerian dan juga institusi terlibat perlu mengambil inisiatif dengan menyebarluas modul ini dengan sebaiknya agar para pendidik yang terlibat dapat mengaplikasikan kaedah terkini selaras dengan kepelbagaian aras murid. Selain itu program dan kursus yang berkaitan perlu dilaksanakan bagi membekalkan dan mendedahkan golongan pendidik terhadap penggunaan MoLIB bagi mewujudkan persekitaran pengajaran yang lebih bermakna.

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MENINGKATKAN PENGUASAAN KEMAHIRAN MEMBACA SUKU KATA TERBUKA DAN SUKU KATA TERTUTUP (KV + KVK) DALAM KALANGAN MURID TAHUN LIMA DENGAN MENGGUNAKAN MODUL BIBALIZAM

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ABSTRAK

Membaca merupakan kemahiran yang paling asas dalam aktiviti pembelajaran manusia. Oleh itu kemahiran membaca sangat penting dalam kehidupan manusia tanpa mengira latar belakang dan usia. Lantaran itu, kajian ini dijalankan dengan tujuan untuk membantu murid-murid meningkatkan penguasaan kemahiran membaca suku kata terbuka dan suku kata tertutup (kv+kvk) bagi mata pelajaran Bahasa Melayu tahun lima. Selain itu, kajian ini juga ingin melihat bagaimana tahap penerimaan murid terhadap penggunaan modul BiBaLiZam dalam proses kemahiran membaca suku kata terbuka dan suku kata tertutup (kv+kvk). Seterusnya, kajian ini juga mengkaji sejauh mana kesan penggunaan modul BiBaLiZam dalam meningkatkan pencapaian murid dalam kemahiran membaca perkataan suku kata terbuka dan suku kata tertutup (kv+kvk). Kajian ini telah dijalankan di sebuah sekolah di Besut, Terengganu. Kajian tindakan dijalankan secara kualitatif dengan sampel kajian terdiri daripada 5 orang murid dan seorang guru di sebuah sekolah di Besut. Kajian ini dilaksanakan dalam tempoh 4 minggu. Kajian ini menggunakan kaedah modul bijak baca BiBaLiZam sebagai pemboleh ubah tidak bersandar dan pencapaian akademik sebagai pemboleh ubah bersandar. Pengumpulan data yang dibuat melalui instrument pemerhatian, soal selidik, temu bual dan analisis dokumen. Oleh yang demikian, penggunaan modul bijak baca BiBaLiZam diperkenalkan bagi memudahkan murid membaca suku kata terbuka dan tertutup (kv+kvk) dengan lancar dan cepat. Secara keseluruhan, modul bijak baca BiBaLiZam memberi sumbangan dalam meningkatkan penguasaan murid dalam kemahiran membaca suku kata terbuka dan tertutup (kv+kvk) bagi mata pelajaran Bahasa Melayu. Justeru itu, pengkaji yakin bahawa kaedah menggunakan modul "BiBaLiZam" ini dapat meningkatkan penguasaan kemahiran membaca suku kata terbuka dan suku kata tertutup (kv+kvk) dalam kalangan murid tahun lima.

Kata Kunci: *Modul BibaLizam, suku kata terbuka, suku kata tertutup,cerita pendek*

PENGENALAN

Pendekatan modular merupakan salah satu model pengajaran dan pembelajaran (PdP) alternatif yang boleh digunakan dalam pelaksanaan kurikulum persekolahan. Penyampaian kandungan melalui pendekatan modular adalah bersifat fleksibel dengan objektif pembelajaran yang jelas dan mudah difahami oleh murid.

Menurut Marian (2005), kandungan modul direka untuk menghubung jalinkan antara keperluan belajar, tujuan, hasil, sumber pembelajaran, teknik dan strategi PdP serta kriteria pentaksiran. Ciri-ciri tersebut menyebabkan tajuk yang hendak disampaikan dapat diterima oleh murid dengan lebih efisien dan berkesan mengikut keupayaan dan kebolehan murid. Pendekatan modular juga membantu murid

menilai tahap kemajuan mereka melalui sesi perbincangan mereka dengan guru semasa proses PdP dijalankan.

Standard Kurikulum Bahasa Malaysia distrukturkan dengan menggunakan pendekatan modular untuk memastikan penguasaan kecekapan berbahasa yang baik. Pendekatan modular bermaksud memecahkan kemahiran kepada unit-unit kecil yang dikenali sebagai modul. Modul Kemahiran Membaca memberikan tumpuan pada kemahiran membaca di samping penggabung jalinan kemahiran bahasa yang lain.

Kemahiran membaca merujuk keupayaan murid membaca dengan sebutan, intonasi, jeda, dan kelancaran yang betul. Penekanan perlu diberikan pada aspek pemahaman dan penaakulan pelbagai bahan secara kritis dengan menggunakan teknik-teknik membaca. Di samping itu, melalui modul kemahiran membaca murid juga berupaya menghayati teks yang dibaca. Teknik pengajaran yang membolehkan murid menguasai kemahiran membaca dalam mata pelajaran Bahasa Melayu adalah wajar dilakukan oleh para guru Bahasa Melayu.

Membaca merupakan satu proses yang dinamik dan kompleks. Ia melibatkan keupayaan membaca dengan pantas, memahami dan mengingatkan fakta, dan berkebolehan membuat interprestasi dengan bijak dan analitis. Menyedari betapa pentingnya lakuan membaca dalam kehidupan masa kini, seharusnya setiap individu menguasai kemahiran tersebut. Seseorang yang menguasai kemahiran membaca dengan baik, bermakna berjaya merobohkan tembok pemisah yang besar antara dirinya dengan lautan ilmu yang telah sedia ada wujud dalam pelbagai bentuk. Ketika seseorang itu membaca, ia sebenarnya sedang berkomunikasi secara langsung dan sedar akan bahan bacaannya.

Menguasai kemahiran membaca bukanlah satu kerja yang mudah kerana ia hanya dapat dilakukan melalui proses pengajaran dan pembelajaran secara formal. Membaca merupakan pencatuman beberapa proses yang kompleks iaitu proses mengamati, mengingat, mendengar dan membezakan bunyi-bunyi dengan tepat dan jelas, menyebut lambang-lambang huruf yang mewakili bunyi-bunyi tertentu untuk membentuk perkataan dan memindahkan lambang-lambang yang dibaca kepada sistem kognitif untuk difaham dan diterjemah.

Justeru, penggunaan modul bijak baca BiBaLiZam dalam proses pengajaran dan pembelajaran mata pelajaran bahasa Melayu adalah satu teknik pengajaran yang sangat sesuai. Hal ini kerana penggunaan modul bijak baca BiBaLiZam akan dapat membantu murid lebih fokus, boleh membuat intepretasi dan lebih mudah memahami topik. Guru-guru Bahasa Melayu perlulah menggunakan pelbagai teknik pengajaran dan pembelajaran yang baharu dan inovatif bagi memudahkan pemahaman murid dalam kemahiran membaca.

Refleksi Pengajaran dan Pembelajaran

Kemahiran membaca adalah satu kemahiran yang penting bagi mata pelajaran Bahasa Melayu. Setiap murid mesti menguasai kemahiran membaca dengan baik. Lantaran itu, kali pertama saya masuk kelas 5 Elit, saya meminta murid membaca bahan petikan cerita pendek yang telah diberikan kepada murid. Petikan cerita tersebut mengandungi perkataan suku kata terbuka dan suku kata tertutup (kv+kvk). Persepsi pertama saya mengatakan seramai 18 orang murid kelas 5 Elit semestinya dapat membaca dengan baik. Tetapi sangkaan saya meleset, jauh sekali untuk mencapai objektif saya pada hari itu. Alangkah terkejutnya saya apabila terdapat satu kumpulan murid dalam kelas itu tidak dapat membaca petikan yang diberikan.

Menurut Leferre (1973), membaca merupakan satu proses yang berkait rapat dengan bahasa, iaitu membaca sebagai *a language related process*. Menurut Cohen (1990) membaca memerlukan kemahiran mentafsir serta pemikiran yang tinggi untuk memahami makna daripada teks yang bercetak. Membaca juga merupakan proses kemahiran yang aktif bagi mengintepretasi makna dan mendapat pengetahuan daripada bahasa tulisan dan visual. Berdasarkan situasi tersebut, saya telah membuat

beberapa tinjauan awal. Antaranya ialah ujian pengesanan kemahiran membaca kepada seramai 18 orang murid di dalam kelas 5 Elit. Ujian pengesanan yang dijalankan ialah membaca 10 perkataan suku kata terbuka dan 10 perkataan suku kata tertutup (kv+kvk).

Hasil daripada ujian pengesanan tersebut, didapati lima orang daripada mereka tidak boleh membaca perkataan tersebut. Ini disebabkan mereka tidak boleh membatangkan suku kata terbuka dan suku kata tertutup (kv+kvk). Keadaan ini menunjukkan tahap penguasaan mereka dalam kemahiran membaca dan mengeja adalah lemah. Ini akan mengakibatkan mereka tidak tahu apa yang terdapat di dalam petikan dan seterusnya tidak dapat menjawab soalan yang diberikan. Situasi ini sebenarnya telah merisaukan pengkaji. Kerisauan ini berasaskan bahawa betapa pentingnya kemahiran membaca dapat dikuasai oleh murid-murid tahun lima.

Apabila kemahiran membaca tidak dapat dikuasai oleh murid-murid, kemahiran berbahasa yang lain tidak dapat diteruskan dengan jayanya. Peserta kajian ini tidak mempunyai kemahiran membaca suku kata terbuka dan suku kata tertutup (kv+kvk). Masalah membaca dalam kalangan murid tahun lima adalah sesuatu luar biasa bagi saya. Kemahiran membaca adalah merentas semua mata pelajaran dan kelemahan dalam kemahiran membaca akan menyebabkan pencapaian rendah dalam mata pelajaran di sekolah. Adalah menjadi tugas guru mengesan kelemahan membaca muridnya dan seterusnya menjalankan pengajaran pemulihan bacaan dengan segera.

Berbagai-bagai kaedah dan teknik mengajar bacaan boleh digunakan oleh guru tetapi hendaklah sesuai dengan kebolehan membaca murid. Menurut Abdul Rasid dan Zulkafli (2008) masalah menguasai kemahiran membaca dan menulis menjadikan murid lemah dan tidak berminat dalam mata pelajaran Bahasa Melayu adalah akibat ketidakcekapan mereka menguasainya. Permasalahan membaca yang ada dalam diri murid adalah seperti keliru mengecam huruf besar dan huruf kecil semasa membaca, tidak membunyikan perkataan dengan betul dan tepat, tidak dapat menyebut perkataan yang dieja serta sering meninggalkan perkataan yang tidak diketahui makna atau gagal membunyikannya.

Hal ini menimbulkan pola bacaan yang merangkak dan pastinya menjadikan murid-murid tidak memahami maklumat dan makna bahan bacaan tersebut. Murid ini juga lemah dan tidak berminat mencari maklumat yang terdapat dalam gambar rajah atau bahan ransangan yang diberikan oleh guru untuk membaca dengan baik. Seseorang itu perlu menguasai kemahiran membaca dengan baik dan dapat menguasai kemahiran tersebut. Kegagalan seseorang murid untuk menguasai kemahiran membaca menyebabkan murid tidak dapat membaca dengan lancar dan tidak dapat memahami apa yang dibaca olehnya.

Pernyataan Masalah dan Fokus Kajian

Berdasarkan refleksi masalah pengajaran dan pembelajaran kemahiran membaca kelas 5 Elit didapati seramai lima orang murid tidak dapat menguasai kemahiran membaca suku kata terbuka dan suku kata tertutup (kv+kvk). Permasalahan berkaitan kemahiran membaca suku kata terbuka dan suku kata tertutup (kv+kvk) perlu diatasi dengan segera bagi meningkatkan kemahiran membaca. Bagi mengesahkan kewujudan masalah daripada persepsi pelajar satu soal selidik telah dilaksanakan kepada lima orang murid kelas 5 Elit tersebut.

Dapatan soal selidik maklum balas murid didapati 4 orang murid tidak dapat menguasai kemahiran membaca suku kata terbuka dan suku kata tertutup (kv+kvk). Mereka tidak dapat membatangkan dua suku kata terbuka dan dua suku kata tertutup (kv+kvk) dengan betul dan tepat. Mereka juga tidak menunjukkan minat dan kesungguhan semasa pengajaran dan pembelajaran berlangsung. Hal ini menganggu kelancaran pengajaran dan pembelajaran saya. Apabila mereka diberi latihan dalam bentuk lembaran kerja didapati murid ini tidak dapat menjawab dengan betul. Malah, terdapat juga seorang murid yang langsung tidak menjawab latihan tersebut.

Murid-murid ini dilihat termenung dan cuba meniru rakan-rakan lain untuk mendapatkan jawapan. Kumpulan ini kurang memberi tindakbalas semasa pengajaran dan pembelajaran berlangsung. Mereka lebih berminat untuk bercakap sesama mereka dan lebih suka membuat aktiviti lain seperti bermain-main semasa proses pengajaran. Selain itu juga, murid-murid ini sering tidak hadir ke sekolah. Kelima-lima orang murid ini juga menunjukkan markah yang kurang memuaskan mengikut skema pemarkahan.

Fokus kajian ini bertumpu kepada lima orang murid yang tidak dapat menguasai kemahiran membaca suku kata terbuka dan suku kata tertutup (kv+kvk). Mempunyai sedikit ilmu dalam program di sekolah lama dalam membudayakan kemahiran membaca, saya memilih isu ini kerana menyedari bahawa 5 orang peserta kajian tersebut amat memerlukan bimbingan khusus dan kaedah inovasi tertentu. Maka atas kesedaran inilah, saya memperkenalkan BiBaLiZam yang jelas sangat membantu murid membaca suku kata terbuka dan suku kata tertutup (kv+kvk) dengan lancar.

Objektif dan Soalan Kajian

Berasaskan fokus kajian, objektif umum kajian adalah untuk membantu guru menyelesaikan masalah murid yang tidak dapat membaca suku kata terbuka dan suku kata tertutup (kv+kvk) dengan cepat.

Manakala objektif khusus yang dirangka adalah seperti berikut:

i. Membantu murid membaca suku kata terbuka dan suku kata tertutup (kv+kvk) dengan cepat menggunakan kaedah modul bijak baca BiBaLiZam.
ii. Meningkatkan minat murid dalam membaca perkataan yang mengandungi suku kata terbuka dan suku kata tertutup (kv+kvk).

Berdasarkan objektif kajian yang ditetapkan dua soalan kajian telah diutarakan seperti berikut:

i. Bagaimanakah tahap penerimaan murid terhadap penggunaan modul BiBaLiZam dalam proses kemahiran membaca suku kata terbuka dan suku kata tertutup (kv+kvk).
ii. Sejauh manakah kesan penggunaan modul BibaLizam dalam meningkatkan pencapaian murid dalam kemahiran membaca perkataan suku kata terbuka dan suku kata tertutup (kv+kvk).

METODOLOGI

Intervensi/Strategi Tindakan

Dalam melaksanakan pengajaran menggunakan modul BibaLizam dalam mata pelajaran Bahasa Melayu, guru menjalankan proses pengajaran dan dan pembelajaran mengikut Jadual 1 yang telah ditetapkan berdasarkan kognitif murid. Menurut Abdullah (2007) menyatakan bacaan nyaring merupakan peringkat yang pertama mempelajari bahasa. Pada peringkat bacaan ini, pembaca perlu memperlengkapkan diri dengan pengetahuan mengenali bentuk-bentuk simbol penulisan, mengetahui makna -makna perkataan serta tahu menyebut dengan bentuk secara nyaring.

Semasa membaca secara nyaring pembaca perlulah berhati-hati daripada sebutan huruf serta dapat menyesuaikan diri dengan intonasi sesuatu ayat. Trelease (1996), pula berpendapat membaca nyaring kepada anak-anak boleh mendatangkan banyak faedah. Ibu bapa yang membaca kuat kepada anak-anak bukan sahaja dapat meningkatkan kemahiran membaca anak mereka tetapi kemahiran-kemahiran lain yang berkaitan dengan kemahiran membaca.

Beberapa langkah perlu dilakukan semasa melaksanakannya.

Jadual 1: Pelaksanaan Modul BibaLizam.

Langkah pelaksanaan	Aktiviti	Strategi Tindakan
Langkah 1	Memperkenalkan modul BiBaLizam kepada murid melalui slaid power point.	Menghasilkan modul yang bersesuaian dengan masalah murid.
Langkah 2	Memulakan pengajaran dan pembelajaran dengan memperkenalkan perkataan yang mengandungi suku kata terbuka dan suku kata tertutup (kv+kvk) dalam modul BibaLiZam.	Menarik minat untuk belajar dan memahami sebutan.
Langkah 3	Aktiviti membaca perkataan yang mengandungi suku kata terbuka dan suku kata tertutp (kv+kvk) dengan suara yang nyaring.	Kemahiran bertutur sedang diaplikasikan.
Langkah 4	Murid menyebut perkataan suku kata terbuka dan tertutup (kv+kvk) secara berulang kali.	Latih tubi dijalankan untuk memantapkan sebutan murid yang lemah.
Langkah 5	Murid diminta membaca cerita pendek yang mengandungi suku kata terbuka dan suku kata tertutup (kv+kvk) yang terdapat dalam modul BibaLIzam secara individu.	Berjaya menyebut dengan sebutan yang betul dan boleh membaca cerita pendek.

Peserta Kajian

Seramai 5 orang murid tahun 5 Elit mata pelajaran Bahasa Melayu terlibat dalam kajian.

Instrumen/Strategi Penilaian

Data dikumpul sepanjang pelaksanaan pengajaran dan pembelajaran. Kaedah pengumpulan data dilakukan daripada ujian pengesanan awal dan ujian pengesanan akhir. Dalam usaha untuk mengesan kelemahan-kelemahan peserta kajian, pengkaji telah menggunakan 3 kaedah iaitu: soal selidik, temu bual tidak berstruktur dan analisis dokumen.

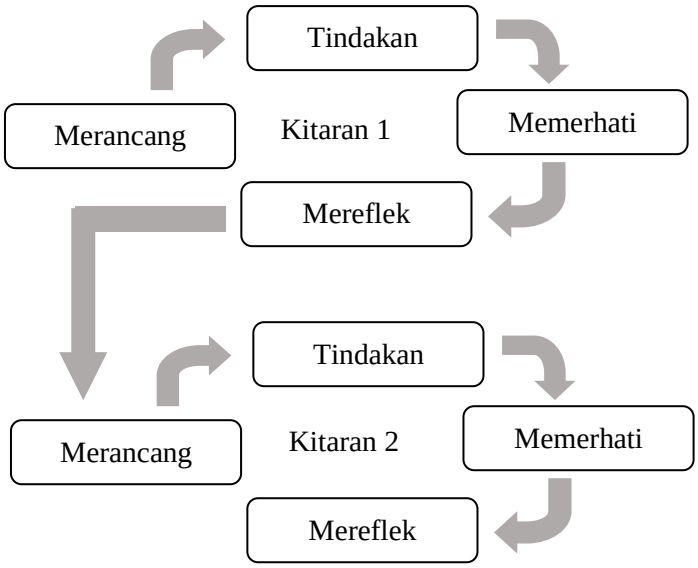
Ketiga-tiga kaedah ini digunakan untuk mengesan kelemahan peserta kajian bagi membantu mereka menguasai kemahiran membaca dengan lancar dan cepat.

Jadual 2: Pelaksanaan Strategi Penilaian

Strategi penilaian	Catatan
Ujian pengesanan awal	Murid-murid akan diuji dalam ujian pengesanan awal.
Pemerhatian	Pemerhatian dilakukan berdasarkan sikap dan minat murid terhadap kemahiran membaca.
Temu bual	Dapat respon yang baik.
Soal selidik	Melihat perubahan subjek kajian.
Analisis dokumen	Analisis dibuat berdasarkan ujian pengesanan awal dan ujian pengesanan akhir dalam aspek kemahiran membaca.
Ujian akhir	Melihat keberkesanan.
Membuat analisis	Membuat rumusan perbandingan.

Pelaksanaan Tindakan

Kajian ini merupakan kajian tindakan. Reka bentuk kajian tindakan ini dilaksana berdasarkan model Kemmis dan McTaggart (1988). Kemmis dan Mc Taggart (1988) mengutarakan empat langkah dalam setiap kitaran kajian yang melibatkan merefleksi, merancang, bertindak dan memerhati. Menurut model ini, kajian tindakan bergerak dalam satu kitaran yang berterusan melibatkan empat peringkat seperti dalam Rajah 1.



Rajah 1: Kitar Kajian Tindakan Kemmis dan McTaggart (1988)

Langkah 1: Merefleksi /Refleksi Awal

Kajian ini bertitik tolak daripada proses refleksi yang dilakukan oleh saya dalam mengenal pasti kekuatan, kelemahan serta masalah yang ada pada peserta kajian dalam pengajaran dan pembelajaran. Saya telah melaksanakan proses pengumpulan awal data bagi mengenal pasti masalah utama yang dihadapi murid kelas ini. Proses ini dilaksanakan dalam bentuk pemerhatian, temu bual, soal selidik dan analisis dokumen.

Langkah 2: Merancang

Setelah mengenal pasti masalah yang dihadapi, saya telah merancang tindakan-tindakan bagi merawat masalah yang dihadapi oleh subjek kajian. Fokus utama saya ialah mengatasi kelemahan membaca perkataan suku kata terbuka dan suku kata tertutup (kv+kvk).

Langkah 3: Bertindak

Saya telah memilih kaedah menyebut dan membaca nyaring serta merancang aktiviti yang bersesuaian dengan kemahiran membaca yang hendak diajar dalam modul BibaLizam yang disediakan.

Langkah 4: Memerhati

Pada peringkat pemerhatian dan refleksi ini, saya telah meneliti serta membuat penilaian mengenai kajian yang telah dijalankan. Dapatan data yang diperoleh dicatat dan dianalisis dengan baik bagi mengetahui hasil kajian sama ada ianya memberi kesan positif atau sebaliknya. Sekiranya keputusan yang didapati kurang memuaskan, saya akan memulakan kitaran kedua dengan melakukan penambaikan atau pengubahsuaian tindakan yang dijalankan.

DAPATAN KAJIAN

Pencapaian murid dianalisis berdasarkan pelbagai kaedah kajian yang telah dijalankan bagi kedua-dua kitaran tindakan. Didapati 100 % murid telah menunjukkan penguasaan pencapaian kemahiran membaca suku kata terbuka dan suku kata tertutup (kv+kvk) dengan baik serta memuaskan.

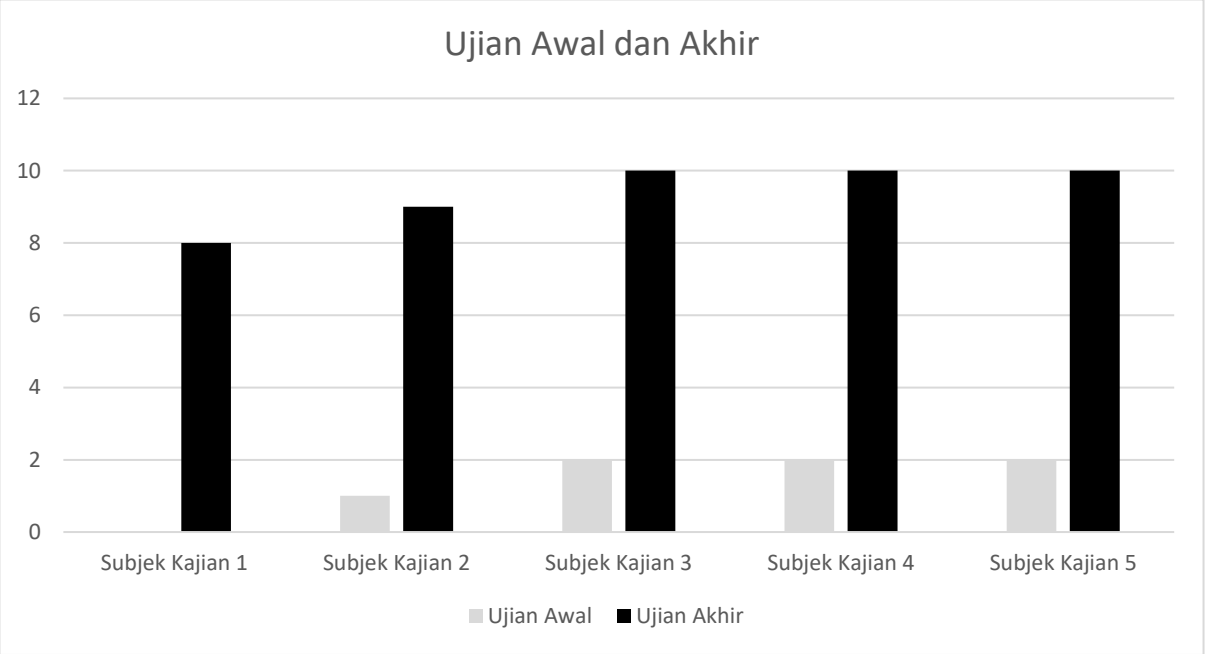
Analisis dokumen dijalankan telah menunjukkan perkembangan dan peningkatan subjek Bahasa Melayu. Ini adalah untuk melihat tahap peningkatan kemahiran bacaan asas suku kata terbuka dan tertutup (KV+KVK) dengan menggunakan modul BibaLiZam terhadap subjek kajian. Analisis dokumen ini juga menjawab kepada soalan kajian saya yang pertama iaitu: **meningkatkan penguasaan kemahiran membaca suku kata terbuka dan suku kata tertutup (kv + kvk) dalam kalangan murid tahun lima dengan menggunakan modul BiBaLiZam.**

Jadual 3: Peratus markah lembaran kerja sebelum dan selepas intervensi

Analisis	Sebelum intervensi	Peratus %	Selepas intervensi	Peratus %	Jumlah peningkatan %
Subjek kajian 1	0/10	0	8/10	80	80
Subjek kajian 2	1/10	10	9/10	90	90
Subjek kajian 3	2/10	20	10/10	100	80
Subjek kajian 4	2/10	20	10/10	100	80
Subjek kajian 5	2/10	20	10/10	100	80

Jadual di atas menunjukkan perbezaan markah sebelum kajian dan selepas kajian. Didapati semua subjek kajian tidak mencapai tahap minimum penguasaan kemahiran asas membaca suku kata terbuka dan tertutup (KV+KVK) yang diperoleh daripada saringan yang diberi. Sebaliknya pula subjek kajian menunjukkan peningkatan prestasi selepas menggunakan *modul BibaLiZam* markah adalah melepasi lulus daripada markah sebelumnya. Ini menunjukkan adanya peningkatan jumlah markah yang positif apabila menggunakan *modul BibaLiZam* ini.

Hal ini juga dapat dilihat melalui graf di bawah:



Rajah 2: Graf Perkembangan Hasil latihan Murid sebelum dan selepas intervensi.

Temu bual dijalankan bagi mengukuhkan lagi jawapan persoalan kajian saya. Objektif kajian ini diukur berdasarkan instrumen temu bual saya dengan subjek kajian. Untuk melengkapkan kajian ini, saya juga telah mengadakan sesi temu bual secara berstraktur untuk mengesan masalah yang dihadapi oleh kesemua subjek kajian. Temu bual ini dijalankan semasa pengajaran dan pembelajaran di dalam kelas. Berikut adalah hasil temu bual saya dengan subjek kajian saya.

Jadual 4: Transkrip Temubual sikap dan minat membaca subjek kajian

Soalan / Respon Temu bual

1. Adakah kamu minat membaca?Mengapa?

Subjek	Jawapan	Catatan
Subjek kajian 1	Tidak, susah hendak membaca	Hanya seorang peserta kajian menyatakan minat untuk membaca manakala empat orang yang lain tidak minat atau tidak pasti.
Subjek kajian 2	Tidak minat, saya tidak pandai membaca	
Subjek kajian 3	Minat juga. Saya suka baca buku kartun	
Subjek kajian 4	Tidak minat. Susah nak mengeja	
Subjek kajian 5	Tidak tahu. Mak tak ajar membaca	

2. Mata pelajaran apa yang awak paling minat? Mengapa?

Subjek	Jawapan	Catatan
Subjek kajian 1	PJ, saya suka main bersama kawan-kawan	Hanya seorang peserta kajian menyatakan minat mata pelajaran Bahasa Melayu dan minat belajar membaca.
Subjek kajian 2	Saya suka pendidikan seni	
Subjek kajian 3	Tak tau. (menjawab sambil acuh tidak acuh)	
Subjek kajian 4	Muzik, bleh nyanyi-nyanyi	
Subjek kajian 5	Saya nak belajar bahasa Melayu	

Jadual 5: Analisis Data Soal Selidik Sebelum dan Selepas kajian dijalankan

Item Pernyataan (Sikap terhadap bacaan) Kajian	Analisa Kajian			
	Sebelum Kajian		Selepas kajian	
	Ya	Tidak	Ya	Tidak
Adakah kamu minat membaca?	2	3	5	0
Adakah kamu pandai membaca?	1	4	4	1
Adakah kamu selalu membaca di rumah?	1	4	4	1
Adakah ibu bapa kamu membantu kamu membaca di rumah?	1	4	3	2

Berdasarkan jadual 5 di atas, didapati ada perubahan ketara dari sudut sikap subjek kajian terhadap kemahiran membaca sebelum dan selepas intervensi dijalankan. Sebelum intervensi hanya dua orang menyatakan tidak minat untuk membaca tetapi selepas kajian sikap mereka telah berubah di mana semua subjek kajian sudah mempunyai sikap suka membaca. Empat orang pula mengaku sudah pandai membaca dan seorang lagi tidak berani untuk meyatakan dia tidak pandai membaca.

Jadual 6 : Analisis data pencapaian murid dalam membaca suku kata terbuka dan suku kata tertutup

Kumpulan sasaran	Membaca Suku Kata Terbuka		Membaca Suku Kata tertutup	
	Ujian Awal	Ujian Akhir	Ujian Awal	Ujian Akhir
Subjek kajian 1	2/5	5/5	1/5	5/5
Subjek kajian 2	2/5	5/5	2/5	5/5
Subjek kajian 3	1/5	5/5	2/5	5/5
Subjek kajian 4	0/5	4/5	0/5	5/5
Subjek kajian 5	2/5	5/5	1/5	5/5

Secara keseluruhan pencapaian murid dalam mata pelajaran Bahasa Melayu telah meningkat setelah proses pengajaran dan pembelajaran menggunakan modul BiBaliZam dilaksanakan. Dapatan ini jelas menunjukkan pengajaran dan pembelajaran menggunakan modul BiBaLiZam memberi sumbangan positif terhadap pencapaian murid dalam mata pelajaran bahasa selepas pengajaran menggunakan modul BiBaLiZam.

Dapatan temu bual murid turut menjelaskan bahawa penggunaan modul BiBaLiZam dalam proses pengajaran dan pembelajaran bahasa telah menarik minat murid terhadap mata pelajaran bahasa. Secara keseluruhan, murid telah mengetahui banyak kebaikan penggunaan modul BiBaLiZam dalam pengajaran bahasa. Murid telah menunjukkan penerimaan positif terhadap penggunaan modul BiBaLiZam dalam proses pengajaran dan pembelajaran bahasa adalah menggalakkan. Dapatan kajian menunjukkan pencapaian murid berpencapaian rendah dapat dipertingkat dengan penggunaan modul BiBaliZam dalam proses pengajaran dan pembelajaran bahasa.

Malahan, dapatan kajian ini telah memberi implikasi kepada murid. Dapatan kajian ini menunjukkan murid-murid berpencapaian rendah dapat meningkatkan pencapaian mereka dalam mata pelajaran Bahasa Melayu dengan penggunaan teknik modul BiBaLizam sebagai satu teknik pembelajaran bahasa di sekolah. Proses pembelajaran menggunakan modul BiBalizam bagi pelajar yang berpencapaian rendah adalah salah satu cara pembelajaran yang boleh membantu murid meningkatkan pencapaian mereka.

Seterusnya, dapatan kajian ini dapat membantu pihak panitia Bahasa Melayu di sekolah dalam usaha meningkatkan pencapaian mata pelajaran Bahasa Melayu. Hasil dapatan kajian menunjukkan pencapaian murid dalam mata pelajaran Bahasa Melayu telah meningkat setelah didedahkan dengan pengajaran menggunakan modul BiBaLizam ke atas murid terlibat.

Dapatan kajian ini dapat membuka minda pihak panitia Bahasa Melayu di sekolah untuk menjadikan teknik pengajaran modul BiBaLiZam sebagai satu teknik pengajaran yang perlu digunakan oleh semua guru bahasa. Sehubungan itu, pihak panitia bahasa hendaklah mengambil inisiatif menggalakkan guru-guru Bahasa Melayu menggunakan modul BiBaLiZam.

PERBINCANGAN

Perbincangan kajian ini merangkumi aspek penggunaan modul BibaliZam untuk meningkatkan pencapaian mata pelajaran bahasa bagi murid tahun lima. Kajian ini juga membincangkan tahap penerimaan murid terhadap penggunaan modul BiBaLiZam dalam kalangan murid yang dirawat. Hal ini menunjukkan penggunaan modul BiBaLiZam berkesan dalam meningkatkan pencapaian murid.

Manakala tahap penerimaan murid terhadap penggunaan modul BiBaliZam dalam proses pengajaran dan pembelajaran bahasa secara keseluruhannya pada tahap sederhana positif. Sikap positif yang ditunjukkan oleh murid yang mengikuti pengajaran ini jelas dilihat dari segi kesungguhan dan minat mereka membaca buku teks. Penerimaan yang positif terhadap penggunaan modul BiBaliZam

dalam proses pengajaran dan pembelajaran amat penting dalam usaha guru menarik minat murid mempelajari mata pelajaran bahasa menggunakan modul BiBaLiZam.

Murid boleh melahirkan idea-idea yang bernas, membuat keputusan dan menyelesaikan masalah. Kemahiran berfikir adalah proses berfikir yang lebih tinggi. Kemahiran menaakul membantu dalam membuat pertimbangan secara logik, rasional, adil dan saksama (PPK, 1999). Secara keseluruhan, murid boleh menerima dengan baik penggunaan modul BiBaLiZam sebagai satu teknik pengajaran dalam mata pelajaran bahasa. Penggunaan modul BiBaLiZam dalam pengajaran dan pembelajaran bahasa memberi kesan positif dalam meningkatkan pencapaian murid.

Analisa secara deskriptif bagi ujian pengesanan dan ujian latihan menunjukkan wujudnya peningkatan yang ketara dalam pencapaian ujian latihan berbanding ujian pengesanan. Hasil analisis deskriptif temu bual guru dan murid menunjukkan penggunaan modul BiBaLiZam telah banyak membantu para murid dalam meningkatkan keupayaan menterjemah idea-idea dalam mata pelajaran Bahasa Melayu.

Malahan, perubahan sikap murid terhadap mata pelajaran Bahasa Melayu telah berlaku daripada kurang berminat kepada berminat dalam mata pelajaran ini. Dapatan ini adalah selaras dengan dapatan Abedah Ismail dan Norhaini Hassan (2004) dan Ahman Man (2005). Jelaslah bahawa penggunaan modul BiBaLiZam sangat berkesan dalam meningkatkan pencapaian murid dalam mata pelajaran bahasa.

Secara keseluruhan, penggunaan modul BiBaliZam sebagai salah satu teknik pengajaran bahasa sangat berkesan dalam meningkatkan pencapaian murid dalam mata pelajaran bahasa. Dapatan kajian jelas menunjukkan berlakunya perubahan sikap murid terhadap mata pelajaran bahasa selepas didedahkan kepada pengajaran menggunakan modul BiBaLiZam.

Pencapaian murid dalam mata pelajaran bahasa telah meningkat dengan ketara selepas diajar menggunakan modul BiBaLiZam. Kebanyakan murid telah menunjukkan minat yang tinggi terhadap mata pelajaran bahasa yang secara tidak langsung telah meningkatkan pencapaian mata pelajaran Bahasa Melayu tersebut.

REFLEKSI

Secara keseluruhan, murid boleh menerima dengan baik penggunaan modul BiBaLiZam sebagai satu teknik pengajaran dalam mata pelajaran bahasa. Penggunaan modul BiBaLiZam dalam pengajaran dan pembelajaran bahasa memberi kesan positif dalam meningkatkan pencapaian murid. Analisa secara deskriptif bagi ujian pengesanan dan ujian latihan menunjukkan wujudnya peningkatan yang ketara dalam pencapaian ujian latihan berbanding ujian pengesanan. Hal ini menunjukkan pengajaran menggunakan modul BibaLiZam telah dapat meningkatkan pencapaian murid dalam mata pelajaran Bahasa Melayu. Kesan positif penggunaan modul BiBaLiZam dapat dilihat hasil daripada temu bual dengan murid.

Cadangan/Penambahbaikan

Penggunaan modul bijak baca BiBaLiZam yang dilaksanakan oleh pengkaji sebagai satu kaedah yang boleh digunakan oleh gur u-guru bahasa Melayu dalam PdPc. Walau bagaimanapun, keberkesanan intervensi ini boleh ditingkatkan lagi dengan menggabungkan elemen interktif dalam talian yang lain seperti Quiziz, Flippped Classrooom dan sebagainya. Gabungan in boleh dilaksanakan dalam kajian seterusnya melibatkan topik-topik yang berlainan.

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MOON PHASES TRACKER: MENINGKATKAN PEMAHAMAN MURID TAHUN 5 TENTANG KONSEP FASA-FASA BULAN

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ABSTRAK

Kajian ini dijalankan adalah untuk melihat keberkesanan 'MOON PHASES TRACKER' dalam usaha menambahbaik pengajaran guru mengenai topik fenomena fasa-fasa bulan. Kumpulan sasaran kajian adalah murid Tahun 5 Cemerlang. 5 Cemerlang merupakan kelas keempat daripada enam kelas yang terdapat di sekolah ini. Seramai 32 orang murid terlibat sebagai peserta kajian. Melalui tinjauan awal yang dijalankan menggunakan teknik pengajaran konvensional, didapati murid tidak dapat menjawab soalan ujian dengan baik. Hasil tinjauan menunjukkan bahawa mereka kurang memahami konsep bagaimana fenomena fasa bulan berlaku. Perancangan tindakan telah memfokuskan kepada 'MOON PHASES TRACKER' dengan pelaksanaan aktiviti interaktif Flipped Classroom yang merupakan proses pembelajaran yang berpusatkan murid. Murid belajar melalui penerokaan dengan menggunakan alat sebagai media untuk mengumpul maklumat, menyelesaikan masalah dan memahami konsep. Dapatan kajian diperolehi daripada soalan ujian yang dibuat sebanyak dua kali. Ujian pos dijalankan sebelum guru membuat penambahbaikan dalam pengajaran manakala ujian pra dibuat selepas guru melakukan intervensi dalam pengajaran. Data yang diperolehi daripada kedua-dua ujian ini dianalisis untuk melihat perbezaan pencapaian. Jelas menunjukkan peningkatan pencapaian murid dalam ujian pos berbanding ujian pra. Di samping itu juga, penerapan standard asas dalam PAK21 seperti komunikasi, kolaboratif, pemikiran kritis, kreativiti serta aplikasi nilai murni dan etika didapati dapat memupuk budaya kerjasama, meningkatkan kemahiran komunikasi dan daya imaginasi murid juga dapat dikembangkan. Lebih membanggakan bahawa, perlaksanaan pdpc menggunakan 'MOON PHASES TRACKER' dapat meningkatkan kefahaman murid tahun 5 Cemerlang tentang Konsep kejadian fasa-fasa bulan.

***Kata Kunci**: Flipped Classroom, Moon Phases Tracker, Fenomena Fasa-fasa Bulan, kerjasama, kemahiran komunikasi, daya imaginasi*

PENGENALAN

Bulan merupakan satelit semulajadi Bumi yang mempunyai pengaruh besar ke atas fenomena alam seperti air pasang surut dan kalendar lunar. Salah satu fenomena yang menarik berkaitan dengan bulan adalah fasa-fasa bulan yang berulang setiap bulan. Kajian mengenai fasa-fasa bulan ini membantu kita memahami bagaimana cahaya matahari memantul pada permukaan Bulan, menjelaskan perubahan visual Bulan yang dapat dilihat dari Bumi. Dalam mata pelajaran Sains Tahun 5, topik Fasa Bulan menjadi cabaran besar bagi guru untuk memastikan murid memahami konsep ini demi mencapai objektif pembelajaran.

Pendekatan yang digunakan oleh guru-guru harus bersesuaian dengan tahap perkembangan murid agar pembelajaran menjadi lebih menarik, berkesan, dan bermakna. Menurut Leo Ann Mean (1995), terdapat beberapa faktor penurunan prestasi dalam mata pelajaran Sains, termasuk kekurangan alat bantu mengajar yang menarik dan sesuai. Penggunaan teknik pengajaran konvensional seperti papan tulis dan syarahan semata-mata tidak mampu menarik minat pelajar untuk menguasai sesuatu topik (Rohizan dan Badrul, 2003). Dr. Sidek Baba (2003) juga menyatakan bahawa penekanan terhadap teknik hafalan menyebabkan murid gagal berfikir secara saintifik dan kreatif. Oleh itu, pembelajaran yang berkesan harus mendorong peningkatan motivasi pelajar, kemahiran berfikir, serta pembelajaran sepanjang hayat.

Menyedari cabaran ini, pengkaji berpendapat bahawa satu anjakan dalam strategi pengajaran diperlukan. Penggunaan alat bantu mengajar yang lebih berkesan diharapkan mampu memberi impak positif terhadap minat, pemahaman dan prestasi peperiksaan murid.

Refleksi Pengajaran dan Pembelajaran

Semasa menjalankan aktiviti pengajaran dan pembelajaran bagi topik Fasa Bulan, terdapat kebimbangan mengenai cabaran tinggi dalam menyampaikan konsep kejadian fasa-fasa bulan. Perbincangan antara guru-guru yang mengajar topik ini turut membangkitkan masalah yang dihadapi oleh murid dalam aspek mengingat, memahami konsep abstrak dan menghubungkaitkan fenomena tersebut. Keputusan peperiksaan menunjukkan bahawa murid sering gagal membuat lakaran bentuk fasa bulan dengan tepat.

Penggunaan teknik konvensional seperti papan tulis dan syarahan tidak mencukupi untuk menarik minat murid terhadap topik ini. Sejak 1996, Kementerian Pelajaran Malaysia (KPM) telah memberi keutamaan kepada teknologi maklumat dan komunikasi (TMK) dalam kelas untuk meningkatkan motivasi murid dan membantu mereka mengingat konsep-konsep baru yang dipelajari. Perisian teknologi maklumat juga dianggap sebagai alat produktiviti yang membantu guru dalam pengajaran dan pembelajaran (PdP) serta tugasan lain (Rohizan dan Badrul, 2003).

Oleh itu, pengkaji percaya bahawa penekanan berlebihan terhadap hafalan menyebabkan murid tidak berfikir secara saintifik. Strategi pengajaran yang berpusatkan guru menjadikan komunikasi sehala, di mana murid menjadi pasif, kurang minat, dan sukar memahami konsep.

Pernyataan Masalah dan Fokus Kajian

Berdasarkan refleksi pengajaran dan pembelajaran topik fasa-fasa bulan dalam kelas pengkaji serta analisis terhadap laporan prestasi peperiksaan lepas, didapati bahawa pemahaman murid mengenai konsep ini perlu ditingkatkan. Perbincangan antara guru-guru dari beberapa kelas juga mengesahkan masalah ini. Sebagai sebahagian daripada kajian, satu temubual telah dijalankan melibatkan murid-murid dari beberapa kelas yang berbeza bagi mengenalpasti sejauh mana kebenaran masalah yang dikenal pasti. Hasil daripada temubual tersebut menunjukkan bahawa sebahagian besar murid menganggap topik ini penting untuk pembelajaran mereka, namun tahap minat dan kefahaman mereka masih minimum. Mereka juga mencadangkan penggunaan alat bantu mengajar yang lebih sesuai dan menarik, serta menyarankan agar unsur permainan dimasukkan ke dalam pengajaran untuk meningkatkan minat mereka.

Bagi mengesahkan masalah ini dengan lebih lanjut, satu soal selidik telah dijalankan terhadap murid-murid Tahun 5 Cemerlang yang terdiri daripada 32 orang pelajar. Antara soalan yang diajukan dalam soal selidik ini ialah:

1. Adakah anda berminat dengan topik ini?
2. Adakah anda rasa topik ini penting untuk pembelajaran anda?
3. Sejauh mana anda memahami topik yang diajar?
4. Apakah cara pengajaran yang dapat membantu meningkatkan minat anda terhadap topik ini?

Dapatan soal selidik menunjukkan bahawa hanya 28.1% murid berminat dengan topik ini, manakala selebihnya, iaitu 71.9% kurang atau tidak berminat. Walaupun begitu, 90.6% daripada murid menyatakan bahawa mereka menganggap topik ini penting untuk pembelajaran mereka, dengan hanya 6.3% yang menganggap topik ini kurang penting. Namun, tahap kefahaman murid terhadap topik ini sangat rendah, di mana hanya 9.4% murid yang benar-benar memahami konsep fasa-fasa bulan. Hal ini menunjukkan bahawa walaupun majoriti murid mengakui kepentingan topik ini, mereka masih tidak berminat dengan cara pengajaran yang digunakan.

Jurang yang besar antara minat dan kepentingan topik ini menunjukkan bahawa sebahagian besar murid, walaupun kurang berminat, masih menganggap topik ini penting. Namun, mereka memerlukan pendekatan pengajaran yang lebih menarik dan inovatif yang dapat membantu mereka memahami konsep dengan lebih baik. Mereka berharap guru dapat memperkenalkan kaedah pengajaran yang lebih interaktif dan mampu menjadikan pembelajaran lebih menyeronokkan dan berkesan.

Respon pelajar melalui soal selidik ini selaras dengan pemerhatian pengkaji terhadap penglibatan pelajar dalam kelas serta hasil temubual dengan beberapa orang murid. Isu utama yang dikenal pasti adalah kelemahan guru dalam menggunakan kaedah pengajaran yang sesuai dan efektif, yang gagal menarik minat murid dan tidak mengambil kira faktor kesediaan murid. Kesan daripada ini, prestasi murid dalam peperiksaan turut terjejas.

Atas keprihatinan terhadap isu ini, pengkaji telah memilih untuk menggunakan satu alat bantu mengajar yang dinamakan *MOON PHASES TRACKER*, iaitu gabungan antara model maujud dan pembelajaran berbantukan komputer bagi menyampaikan konsep fasa bulan dengan lebih berkesan dan bermakna. Alat bantu ini bukan sahaja mampu membantu guru menyampaikan maklumat dengan cara yang lebih menyeronokkan dan mesra murid, malah ia juga mudah dikendalikan oleh murid.

Gabungan model maujud dan pembelajaran berbantukan komputer ini juga dapat membantu guru merangsang penggunaan pelbagai deria murid serta membolehkan mereka menghubungkaitkan antara benda konkrit dengan fakta abstrak. Elemen kolaboratif juga dimasukkan dalam aktiviti penyelesaian masalah semasa sesi pengajaran. Penggunaan alat ini relevan dengan fokus kajian dan sesuai digunakan dalam merealisasikan pembelajaran abad ke-21, yang berkonsepkan kaedah *Flipped Classroom*.

Penggunaan *MOON PHASES TRACKER* diharapkan dapat meningkatkan minat, kefahaman, dan prestasi murid dalam topik ini serta memberi impak positif terhadap pembelajaran mereka secara keseluruhan.

Objektif dan Soalan Kajian

Berasaskan fokus kajian, objektif umum kajian adalah guru dapat meningkatkan kefahaman murid terhadap konsep pembentukan fasa-fasa bulan melalui penggunaan *MOON PHASES TRACKER*

Manakala objektif khusus yang dirangka adalah seperti berikut:

i. mengenalpasti minat murid terhadap topik Fasa-fasa Bulan menggunakan *MOON PHASES TRACKER*
ii. mengenalpasti kefahaman murid terhadap pembentukan Fasa-fasa Bulan menggunakan *MOON PHASES TRACKER*

Berdasarkan objektif kajian yang ditetapkan, dua soalan kajian telah diutarakan seperti berikut:

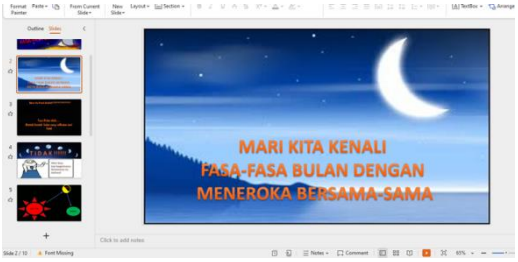
i. Adakah murid minat mempelajari topik Fasa-fasa Bulan menggunakan *MOON PHASES TRACKER*?
ii. Adakah murid dapat meningkatkan kefahaman terhadap pembentukan Fasa-fasa Bulan menggunakan *MOON PHASES TRACKER*

METODOLOGI

Intervensi/Strategi Tindakan

Berdasarkan kaedah dan strategi yang telah dirancang, pengkaji telah mencipta satu alat bantu mengajar yang bertujuan membantu murid memperoleh gambaran sebenar kejadian fasa-fasa bulan secara lebih berkesan dan bermakna. Alat ini digunakan bersama video pengajaran yang disertakan dengan beberapa soalan interaktif yang telah disediakan oleh pengkaji. Gabungan ini dapat dilihat seperti yang ditunjukkan dalam Rajah 1.

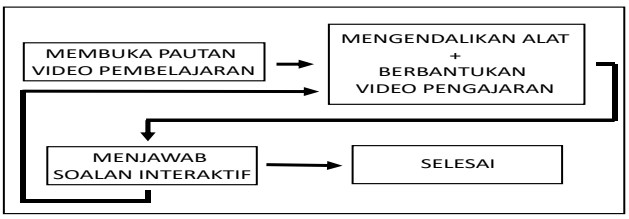
Alat



Video Pengajaran

Rajah 1: Alat dan Video Pengajaran Berbantukan Komputer

Proses pembelajaran ini dijalankan berasaskan kaedah pengajaran *Flipped Classroom*. Kaedah ini menekankan pengajaran yang berpusatkan murid, melibatkan dua fasa pengajaran, iaitu pembelajaran secara bersemuka dan e-pembelajaran di luar bilik darjah (Bahador, Kasri & Ibrahim, 2019; Emparan, Radhiah & Baki, 2019). Dalam pendekatan ini, guru bertindak sebagai fasilitator ketika pembelajaran bersemuka, manakala murid diberi kebebasan untuk meneruskan pembelajaran secara kolaboratif bersama rakan atau secara individu di luar bilik darjah untuk memantapkan kefahaman mereka. Pembelajaran ini boleh diulang sehingga murid memperoleh konsep yang jelas seperti ditunjukkan dalam Rajah 2.



Rajah 2: Carta alir proses pembelajaran intervensi menggunakan 'MOON PHASES TRACKER'

Gabungan elemen model maujud dan pembelajaran berbantukan komputer menghasilkan *MOON PHASES TRACKER* yang dilaksanakan menggunakan Kaedah *Flipped Classroom*. Kaedah ini diharapkan dapat memberi kesan positif terhadap sikap dan hasil pembelajaran murid.

Peserta Kajian

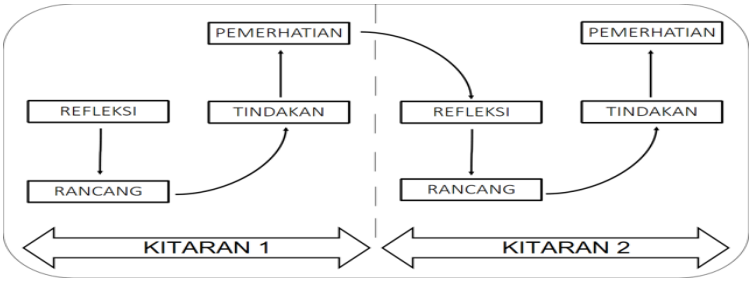
Kajian ini melibatkan seramai 32 orang murid dari kelas 5 Cemerlang yang merupakan kelas berprestasi sederhana.

Instrumen/Strategi Penilaian

Data dikumpulkan sepanjang pelaksanaan pengajaran dan pembelajaran menggunakan dua kaedah utama iaitu soal selidik dan ujian. Soal selidik dijalankan sebelum dan selepas intervensi untuk mengukur perubahan dari segi minat dan kefahaman murid terhadap topik yang dipelajari. Selain itu, data ujian dikumpulkan melalui ujian pra (sebelum intervensi) dan ujian pos (selepas intervensi). Kedua-dua jenis data ini dianalisis untuk membuat perbandingan dan menilai tahap penguasaan serta motivasi murid terhadap topik tersebut.

Pelaksanaan Tindakan

Kajian ini dilaksanakan menggunakan Model Kajian Tindakan Kemmis & McTaggart (1988) seperti yang ditunjukkan dalam Rajah 3.



Rajah 3: Model Kajian Tindakan Kemmis & Mc Taggart (1988)

Model ini terdiri daripada empat langkah dalam setiap kitaran kajian, iaitu:

1. **Merefleksi** - Menilai masalah yang wujud.
2. **Merancang** - Menyusun strategi untuk mengatasi masalah.
3. **Bertindak** - Melaksanakan intervensi yang dirancang.
4. **Memerhati** - Mengkaji kesan intervensi dan membuat penambahbaikan.

Proses ini bergerak dalam kitaran yang berterusan, di mana setiap kitaran memerlukan tindakan susulan berdasarkan refleksi yang dilakukan. Kemmis dan McTaggart (1988) mencadangkan bahawa proses kajian tindakan ini bermula dengan tinjauan awal terhadap masalah yang timbul di dalam bilik darjah. Setelah masalah dikenalpasti, penyelidik membuat perancangan dan memberikan intervensi yang diperlukan. Seterusnya, pemerhatian dibuat untuk menilai keberkesanan intervensi dan penambahbaikan dilakukan melalui refleksi yang berterusan.

Dalam kajian ini, murid daripada kelas 5 Cemerlang dipilih untuk mengikuti intervensi ini kerana mereka mengalami masalah dalam memahami konsep Fasa-fasa Bulan, yang menyebabkan mereka kurang aktif dan kurang motivasi semasa proses pembelajaran.

DAPATAN KAJIAN

Pengajaran yang menggabungkan dua elemen utama, iaitu model maujud dan pembelajaran berbantukan komputer, melalui penggunaan *MOON PHASES TRACKER* telah dijalankan oleh pengkaji bagi menangani dua isu utama, iaitu minat murid dan kefahaman murid terhadap topik fasa-fasa bulan. Setelah melalui beberapa proses dalam intervensi ini, pengalaman dan pengetahuan murid diuji semula melalui soalan-soalan yang setara. Soalan soal selidik diberikan untuk mendapatkan maklum balas mengenai pengalaman murid dengan intervensi yang dilalui, manakala ujian pos dijalankan untuk mengukur pengetahuan dan kefahaman murid selepas intervensi.

Data yang diperolehi daripada kedua-dua instrumen ini dianalisis dalam dua bahagian:

- Analisis data soal selidik sebelum dan selepas intervensi
- Analisis data ujian pra dan ujian pos

Analisis Data Soal Selidik Sebelum dan Selepas Intervensi

Melalui analisis data soal selidik, didapati bahawa selepas intervensi dijalankan, 100% murid menunjukkan minat terhadap topik yang diajar, dengan 37.5% murid melaporkan mereka sangat berminat dan 62.5% lagi menyatakan mereka berminat. Peningkatan ini jelas ketara apabila dibandingkan dengan data soal selidik sebelum intervensi, di mana hanya 28.1% murid yang berminat dengan topik tersebut.

Jadual 1: Perbandingan Minat Murid terhadap Topik yang Diajar Sebelum dan Selepas Intervensi

Tahap Minat	Sebelum Intervensi	Selepas Intervensi
Sangat Berminat	0%	37.5%
Berminat	28.1%	62.5%
Kurang Berminat	71.9%	0%

Berdasarkan Jadual 1, peratusan murid yang berminat terhadap topik yang diajar selepas intervensi meningkat secara signifikan kepada 100%, berbanding hanya 28.1% sebelum intervensi. Ini menunjukkan peningkatan minat sebanyak 71.9%. Peningkatan ini memperlihatkan kejayaan intervensi dalam menarik minat murid dan meningkatkan motivasi mereka terhadap pembelajaran topik fasa-fasa bulan.

Analisis Data Ujian Pra dan Ujian Pos

Setelah murid selesai menjalani ujian pos, data dianalisis dan dibandingkan dengan ujian pra untuk menilai peningkatan pencapaian mereka selepas intervensi. Terdapat empat bahagian soalan yang dikemukakan dengan soalan 1 terbahagi kepada empat sub-soalan seperti dalam Jadual 2.

Jadual 2: Peratus Murid Menjawab Betul bagi Soalan 1

Soalan	Peratus Murid Menjawab Betul
1a	100%
1b	100%
1c	100%
1d	100%

Berdasarkan Jadual 2, 100% murid berjaya menjawab dengan betul untuk soalan 1a, 1b, 1c, dan 1d. Ini adalah soalan asas yang perlu diketahui oleh murid sebelum meneruskan penerokaan topik fasa-fasa bulan. Pencapaian penuh ini menunjukkan bahawa murid mempunyai asas pengetahuan yang kukuh selepas intervensi.

Jadual 3: Peratus Murid Menjawab Betul bagi Soalan 2

Soalan	Peratus Murid Menjawab Betul
2	90.6%

Bagi soalan 2, yang meminta murid menyatakan tempoh peredaran lengkap bulan mengelilingi bumi, 90.6% murid berjaya menjawab dengan tepat. Namun, 3 orang murid gagal menjawab dengan betul. Pengkaji berpendapat bahawa kegagalan ini mungkin disebabkan oleh kecuaian atau kegagalan mengingat fakta. Ini dapat dibuktikan berdasarkan Jadual 3.

Jadual 4: Peratus Murid Menjawab Betul bagi Soalan 3

Soalan	Peratus Murid Menjawab Betul
3	100%

Bagi soalan 3, yang meminta murid melakar bentuk-bentuk fasa bulan dari fasa 1 hingga fasa 8, 100% murid berjaya menjawab dengan betul. Ini merupakan pencapaian yang membanggakan dan menunjukkan bahawa murid telah menguasai kemahiran melakar fasa-fasa bulan dengan tepat. Ini dapat dibuktikan berdasarkan Jadual 4.

Jadual 5: Peratus Murid Menjawab Betul bagi Soalan 4

Soalan	Peratus Murid Menjawab Betul
4	97%

Berdasarkan Jadual 5, bagi soalan 4 yang meminta murid menamakan fasa-fasa bulan, 97% murid berjaya menjawab dengan betul, manakala 2 orang murid gagal menamakan fasa ke-4 dan ke-6 dengan tepat. Pengkaji mengandaikan bahawa kesalahan ini mungkin disebabkan oleh kecuaian atau kegagalan mengingat fakta.

Secara keseluruhannya, dapatan daripada ujian pos menunjukkan pencapaian yang baik dan pengkaji membuat perbandingan data antara ujian pra dan ujian pos untuk menilai peningkatan pencapaian murid setelah melalui intervensi.

Perbandingan Ujian Pra dan Ujian Pos

Merujuk kepada Jadual 6, perbandingan dibuat bagi setiap soalan. Bagi soalan 1, tidak terdapat perbezaan antara ujian pra dan ujian pos kerana semua murid telah berjaya menjawab dengan betul sejak ujian pra. Bagi soalan 2, terdapat peningkatan sebanyak 9.5%, di mana hanya 2 orang murid gagal menjawab dengan betul dalam ujian pos, berbanding 3 orang dalam ujian pra.

Bagi soalan 3 dan 4, yang berkaitan dengan melakar fasa-fasa bulan dan menamakan fasa-fasa bulan, purata markah murid dalam ujian pra adalah hanya 23%. Namun, selepas intervensi, purata markah meningkat dengan ketara, iaitu sebanyak 47% lebih tinggi dalam ujian pos. Peningkatan ini menunjukkan intervensi yang dijalankan berjaya memperbaiki kefahaman murid secara signifikan.

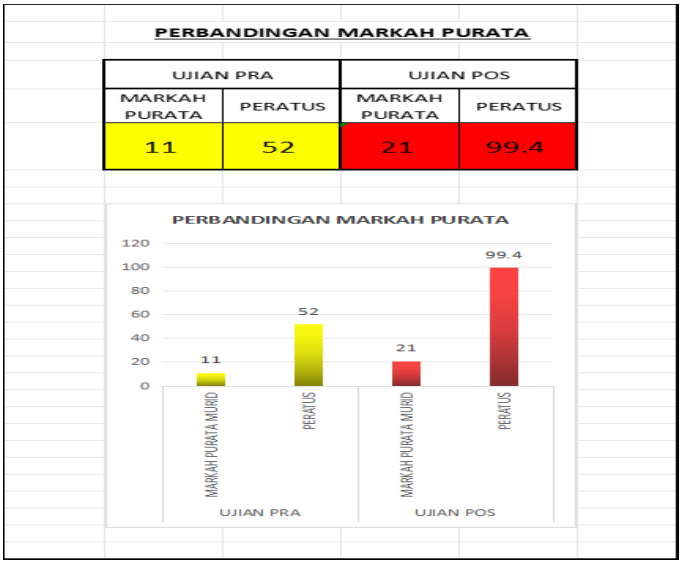
Jadual 6: Perbandingan Peratusan Murid yang Menjawab Betul dalam Ujian Pra dan Ujian Pos

Soalan	Ujian Pra	Ujian Pos	Peningkatan
Soalan 1	100%	100%	0%
Soalan 2	90.6%	100%	9.5%
Soalan 3	23%	70%	47%
Soalan 4	23%	70%	47%

Perbandingan Ujian Pra dan Ujian Pos

Dalam analisis pencapaian akademik murid, markah purata yang diperoleh dalam ujian pos menunjukkan prestasi yang luar biasa, hampir mencapai 100%, iaitu 99.4%. Pencapaian ini boleh dianggap sebagai kejayaan yang signifikan apabila dibandingkan dengan ujian pra yang hanya mencapai markah purata sebanyak 52%. Ini dapat dibuktikan dalam Rajah 4.

Secara lebih terperinci, jumlah markah purata yang diperoleh oleh murid dalam ujian pos adalah 21 markah, manakala dalam ujian pra, murid hanya memperoleh 11 markah daripada jumlah markah penuh 21. Peningkatan ini jelas menunjukkan kemajuan yang ketara dalam pemahaman dan penguasaan subjek oleh murid.



Rajah 4: Perbandingan Ujian Pra dan Pos

Pencapaian yang memberangsangkan dalam ujian pos ini mencerminkan keberkesanan pendekatan pengajaran yang telah diterapkan sepanjang tempoh pembelajaran.

PERBINCANGAN

Sebelum murid diperkenalkan dengan alat meneropong fasa-fasa bulan, mereka terlebih dahulu perlu menonton video pembelajaran. Penyediaan video ini bertujuan memberikan ruang kepada murid untuk memahami konsep asas berkaitan topik fasa-fasa bulan. Guru akan memastikan bahawa murid mempunyai asas yang kukuh dalam penggunaan alat tersebut dengan cara yang betul melalui sesi bimbingan semasa kelas bersemuka.

Di bahagian akhir video, soalan-soalan interaktif disediakan selepas murid menonton dan menggunakan alat. Soalan-soalan ini dirancang untuk membantu murid meningkatkan tahap kefahaman dan daya ingatan mereka terhadap apa yang dipelajari. Pengkaji mengambil kira faktor ini seiring dengan perkembangan sistem pendidikan di seluruh dunia, sistem pendidikan di negara kita juga mengalami perkembangan pesat. Penggunaan Teknologi Maklumat dan Komunikasi (TMK) dalam bilik darjah telah diberi keutamaan oleh Kementerian Pelajaran Malaysia (KPM) sejak tahun 1996【1】. Ini bukan sahaja meningkatkan motivasi murid, tetapi juga merangsang ingatan mereka terhadap ilmu baharu yang dipelajari. Di samping itu, perisian penyampaian TMK dianggap sebagai alat produktiviti yang dapat membantu guru dalam proses pengajaran dan pembelajaran (PdP) serta tugasan lain【2】.

Melalui intervensi yang telah dijalankan, guru memberi peluang kepada murid untuk menyambung pembelajaran di luar bilik darjah untuk memperkukuhkan kefahaman mereka terhadap topik yang dipelajari dengan mengulangi tontonan video melalui kaedah Flipped Classroom yang telah diintegrasikan dengan Google Classroom. Dengan ini, pembelajaran dapat diulang sehingga mereka memahami konsep dengan jelas. Pelaksanaan kaedah Flipped Classroom memberi peluang kepada setiap murid untuk mengikuti aktiviti dengan berkesan, seperti saranan Bergmann dan Sams (2012), yang dapat meningkatkan penguasaan dan motivasi murid melalui penggunaan teknologi (Reidsema et al., 2017). Pengintegrasian teknologi juga mendekatkan pelajar dengan konsep penting, membolehkan mereka memahami setiap fasa pembelajaran secara individu (Arnold-Garza, 2014).

Bahan bantu mengajar memainkan peranan penting dalam meningkatkan pemahaman pelajar terhadap pembelajaran. Justeru pengkaji telah mempelbagaikan alat bantu dalam pengajaran. Kajian terdahulu mendapati bahawa penggunaan bahan bantu mengajar mempunyai kesan positif terhadap kecemerlangan akademik pelajar serta kaedah pengajaran yang diamalkan. Jasmi et al. (2011) dan Ilias et al. (2013) mendapati bahawa penggunaan bahan bantu mengajar mampu menumpukan perhatian pelajar sepanjang proses PdP dan meningkatkan pembelajaran yang cekap. Penggunaan gambar dan visual dalam bahan bantu mengajar membantu pelajar dalam proses ingatan (Abdullah et al., 2015).

Bagi sesi pembelajaran di luar bilik darjah, murid boleh membina alat meneropong yang telah diperkenalkan dalam bilik darjah menggunakan sebiji bola pingpong dan alat teropong daripada kad manila. Alat ini sangat ringkas dan mudah dibina, terutamanya jika dilakukan secara kolaboratif dengan rakan-rakan. Tutorial untuk membina alat ini juga ada disediakan dalam Google Classroom memudahkan lagi murid membuat rujukan ketika membina alat. Walaupun alat ini nampak ringkas, impaknya terhadap kefahaman murid adalah sangat ketara. Dalam konteks ini, guru berfungsi sebagai fasilitator semasa pembelajaran bersemuka, manakala murid boleh menyambung pembelajaran di luar bilik darjah secara kolaboratif atau individu untuk memperkukuhkan kefahaman mereka terhadap topik yang dipelajari.

Menurut Rashidi (1986), kaedah Pengajaran dan Pembelajaran Berbantukan Komputer (PBK) dapat mencipta persekitaran pembelajaran yang baharu dan suasana yang sihat serta menyeronokkan untuk pelajar. Walau bagaimanapun, Rashidi juga menyatakan bahawa komputer tidak boleh menggantikan peranan guru dalam proses pengajaran dan pembelajaran. Peranan guru sebagai fasilitator atau pembimbing adalah penting untuk menggerakkan dan menghidupkan perbincangan serta penerokaan ilmu di kalangan pelajar. Respons murid terhadap soalan interaktif yang disediakan dalam video membantu guru mengenal pasti kelemahan mereka, dan pada waktu ini sesi bimbingan dijalankan. Bimbingan guru tertumpu kepada konsep bagaimana bentuk-bentuk bulan terhasil pada fasa-fasa tertentu. Dengan pendedahan kepada konsep awal ini, murid akan merasa lebih teruja untuk terus meneroka dan terlibat secara aktif dalam aktiviti yang dijalankan.

REFLEKSI

Dalam kajian tindakan ini, pengkaji menggunakan *MOON PHASES TRACKER*, iaitu gabungan alat teropong yang dicipta khas untuk melihat perubahan bentuk bulan, berpandukan video pengajaran berdurasi tujuh minit yang disertakan dengan soalan-soalan interaktif. Proses pembelajaran yang dijalankan adalah berdasarkan kaedah pengajaran yang berpusatkan murid, melibatkan dua fasa pengajaran dan pembelajaran: secara bersemuka dan e-pembelajaran di luar bilik darjah.

Beberapa perkara penting perlu diambil kira dalam pelaksanaan intervensi ini, termasuk:

I. Kesediaan Peralatan

Kesediaan peralatan adalah aspek yang sangat penting. Alat teropong yang disediakan oleh guru adalah terhad kepada penggunaan dalam kelas semasa sesi pembelajaran bersemuka. Menyedari perkara ini, video tutorial untuk membina alat ini juga ada disediakan dalam *Google Classroom* memudahkan lagi murid membuat rujukan supaya aktiviti dapat dijalankan dengan lancar. Dalam konteks ini juga, pembelajaran secara kolaboratif dengan rakan-rakan sangat ditekankan oleh guru.

II. Pengalaman dan Kemahiran Menggunakan Komputer

Sebagaimana yang dinyatakan, *MOON PHASES TRACKER* adalah gabungan penggunaan alat teropong dan video pembelajaran yang menyelitkan soalan-soalan interaktif. Kemahiran dan kecekapan dalam mengendalikan komputer adalah penting di kalangan murid. Oleh itu, guru memastikan murid menjalankan aktiviti secara kolaboratif dengan rakan-rakan agar mereka dapat saling membantu antara satu sama lain.

III. Pemantauan Guru Semasa Sesi E-Pembelajaran

Adalah agak sukar bagi guru untuk melihat sejauh mana murid memanfaatkan video pembelajaran di luar kelas. Namun, melalui pengintegrasian video dalam *Google Classroom*, guru berpeluang untuk memantau aktiviti murid menerusi aplikasi tersebut. Guru juga dapat melihat respons murid ketika menjawab soalan-soalan interaktif.

Kesimpulannya, pelaksanaan *MOON PHASES TRACKER* dalam kajian tindakan ini menunjukkan potensi yang besar dalam meningkatkan pemahaman murid mengenai fasa-fasa bulan. Dengan penglibatan aktif murid dalam proses pembelajaran, diharapkan hasil pembelajaran dapat dicapai dengan lebih berkesan.

Cadangan/Penambahbaikan

Secara umum, 'MOON PHASES TRACKER' telah terbukti sangat berkesan bagi murid, menunjukkan bahawa pendekatan baharu ini bukan sahaja lebih menyeronokkan tetapi juga membantu meningkatkan kefahaman dalam pembelajaran mereka. Murid menunjukkan peningkatan yang signifikan dalam pemahaman mengenai fasa-fasa bulan selepas intervensi. Walau bagaimanapun, berdasarkan hasil kajian yang diperoleh, pengkaji mendapati terdapat beberapa aspek yang perlu diperbaiki dan dipertingkatkan untuk memastikan hasil kajian lebih tepat, serta mempunyai nilai keesahan dan kebolehpercayaan yang lebih tinggi. Oleh itu, perkara-perkara berikut dicadangkan untuk kajian pada masa hadapan:

a) Penggunaan Persampelan yang Lebih Besar

Dalam kajian ini, adalah disarankan agar penggunaan persampelan yang lebih besar dilaksanakan dengan melibatkan semua murid tahun 5 di sekolah ini. Penumpuan tidak seharusnya hanya pada satu kelas dari aras sederhana, tetapi juga merangkumi murid dari aras cerdas, sederhana, dan lemah. Dengan cara ini, generalisasi dapat dibuat dengan lebih tepat.

b) Peluasan Skop Kajian

Kajian ini sebaiknya tidak terhad kepada sebuah sekolah sahaja, tetapi melibatkan beberapa sekolah lain yang berdekatan untuk pengambilan sampel. Tujuannya adalah untuk mendapatkan sampel dari pelbagai latar belakang. Dengan demikian, hasil kajian dapat diperoleh dengan lebih tepat dan mempunyai nilai keesahan serta kebolehpercayaan yang tinggi.

c) Penambahan Kaedah Kajian Lapangan

Merujuk kepada Huraian Sukatan Pelajaran Sains (2003) terbitan Pusat Perkembangan Kurikulum, Kementerian Pelajaran Malaysia, bidang dan aktiviti dalam mata pelajaran Sains bergantung kepada kemahiran dan teknik pengajaran yang ingin diterapkan. Kajian Sains Sekolah Rendah menekankan kepada empat konsep asas, iaitu eksperimen, lawatan keluar, projek, dan pemerhatian. Justeru itu, dalam kajian akan datang, adalah sebaiknya pengkaji menambah satu lagi kaedah, iaitu Kajian Lapangan. Melalui kaedah Kajian Lapangan, guru dapat memantapkan lagi kefahaman murid mengenai pembentukan fasa-fasa bulan. Kaedah ini amat sesuai untuk Topik Fasa-fasa Bulan kerana ia membolehkan guru memperbaiki penyampaian konsep dengan mendedahkan pengalaman sebenar di luar bilik darjah.

Dalam melaksanakan kaedah ini, guru perlu menyediakan masa yang sesuai untuk murid mengumpul maklumat melalui inkuiri-penemuan. Selain itu, guru juga harus memastikan tempat yang sesuai, peralatan yang mencukupi, serta menyediakan bahan yang sesuai untuk mengumpul maklumat.

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ENHANCING THE FORMATION OF ALPHABET AMONG YEAR 2 TOMAN PUPILS AT SEKOLAH KEBANGSAAN TEMBILA THROUGH THE USE OF KINETIC ABC

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ABSTRACT

Alphabet formation is a fundamental skill in early education, yet many pupils struggle with it, leading to difficulties in writing and overall academic performance. The study addresses the prevalent issue of disorganised and incorrect alphabet formation through Kinetic ABC, which can hinder literacy development and negatively impact pupils' confidence in their writing abilities. Three male participants from 2 Toman class at SK Tembila were selected based on an initial test, which revealed improper letter formation manifested through reversed letters, wrong starting points for the curves and inconsistent use of uppercase and lowercase letters. The intervention uses a tactile, visual and auditory learning approach, which is a sand-filled box paired with alphabet cards as a reference and an interactive 'Open the Box' game in order to engage multiple senses, enhance motor skills, and provide a more engaging and effective way to learn alphabet formation. Data were collected using a triangulation method, incorporating initial and final tests, document analysis, and interviews. Quantitative data were analysed through descriptive statistics and qualitative ones through comparison and thematic analysis. The findings indicate a significant improvement in the participants' ability to form the alphabet correctly after the intervention. The thematic analysis revealed a high level of interest and engagement from the pupils, suggesting that Kinetic ABC's multisensory and play-based elements effectively maintained motivation and facilitated learning. The final test results demonstrated marked progress in the participants' alphabet formation skills, reflecting the overall success of the intervention. In conclusion, Kinetic ABC approach successfully enhanced the alphabet formation skills of the selected pupils, offering a promising strategy for addressing similar challenges in early education settings. The study supports the integration of multisensory and play-based learning tools in the classroom to foster better learning outcomes.

Keywords: *formation, alphabet, Kinetic ABC, multisensory approach*

INTRODUCTION

Alphabet serves as the fundamental building blocks of language and communication, playing a pivotal role in literacy development worldwide. Across cultures and continents, the recognition and formation of alphabet form the cornerstone of educational systems, enabling individuals to decode and encode written information essential for academic success and participation in society (Elimelech & Aram, 2020). Across diverse linguistic contexts, the recognition and formation of the English alphabet serve as the gateway groundwork for fluency and comprehension in English (Aerila et al., 2019). In the Malaysian educational context, the significance of the alphabet is emphasised through the implementation of the "back to basics" curriculum principle advocated by the Malaysian Ministry of Education. As reflected in the Standards-based English Language Curriculum (SBELeC), this principle emphasises a return to foundational skills and knowledge, recognising the essential role of alphabetic literacy in laying the groundwork for pupils' overall academic success and lifelong learning (Ministry of Education Malaysia, 2013). By focusing on these core skills, the curriculum aims to ensure pupils

develop a solid foundation in both English and Malay, enabling them to communicate effectively and access information across various domains. It is impossible to overestimate the significance of alphabetic formation at the primary school level, especially during Year 1 and 2. According to Treiman (2021), acquiring the skill of precisely constructing the alphabet from the beginning is crucial, as it creates precise and uniform letter forms those pupils will continue to use throughout their later years of schooling. Therefore, this action research aims to solve the problem of alphabet formation among Year 2 pupils before they step into the next level or standard.

Reflection On Teaching and Learning

I was assigned to complete the first phase of my three-month practicum at SK Tembila in Besut, where I was tasked to teach English Language for Year 2 Toman, a low-performing class. While with these pupils, I identified a significant issue that could severely hinder their long-term English language skills, especially in writing. The Year 2 Toman pupils exhibited a concerning lack of proficiency, struggling notably with proper alphabet formation. According to the Ministry of Education (2015) in The Road Map (2015–2025), proficiency in alphabet formation should be established even in preschool years. However, witnessing this deficit in a Year 2 classroom was alarming. When reviewing their worksheets and workbooks, I often felt disappointed by my inability to comprehend their writing, especially their alphabet formation. When I ask them to read what they have written, they even find it challenging to recognise the words because the letters are so poorly formed, confusing them. This highlights the severity of the issue.

The pupils faced multiple challenges in forming the alphabet, leading to numerous errors that affected the clarity of their work. A common issue was writing the alphabet in the wrong orientation; for instance, some pupils drew "a" in a clockwise motion instead of the correct anticlockwise direction, causing it to resemble an "o". Additionally, I observed incorrect starting points for curves and lines, such as pupils beginning the curve of "r" in the middle, making it look like an "h". Reversible letters also posed a problem, with "d" and "b" frequently confused. Some letters like "g" lacked the necessary curves, making them appear as "q". Moreover, uppercase and lowercase letters were often misused; pupils would write a capital "T" in the middle of a word or forget the sharp edges of a capital "M", which makes it look like a small “m”.

I conducted a document analysis of their English and Malay workbooks to assess the situation. I assigned an initial test where pupils rewrote ten words related to the Free Time topic. Document analysis is crucial for identifying specific alphabet formation problems as it provides detailed insights into common errors and patterns made by the participants, allowing for targeted interventions. The results of the document analysis have been attached below. On the other hand, rewriting tests as early data collection is beneficial since the pupils actively copy the alphabet, which allows for direct assessment of their alphabet-forming skills (Devolli, 2023). This initial assessment revealed that three out of 24 pupils were classified as low achievers, scoring only 1 or 2 out of 10, indicating significant difficulties in their alphabet formation skills.

Figure 1: Example of document analysis (Participant B*)*

Table 1: Results of document analysis

Participant	Before Intervention	
	English Language Worksheet	**Malay Language Worksheet**
Participant 1	• "e" written as "g" (shape confusion) • Small "a" written with a long line above, resembling the letter "d" (overextension) • "s" reversed to look like an unedged "z" (reversal error)	• Small "a" written with a long line below, resembling the number "9" (overextension) • "p" written with a line above the curve (extra stroke)
Participant 2	• Small "a" written with a long line below, resembling the number "9" (overextension) • Small "k" written as capital "K" (capitalization error)	• Small "a" written with a long line below, resembling the number "9" (overextension) • Small "i" written without the dot (missing dot error) • "b" written as "d" (mirror error) • "n" written as "h" (extra stroke)
Participant 3	• write "a" in clockwise direction make it looks like "o" (Shape confusion) • Small "t" written as capital "T" (capitalization error) • "r" written as "v" (shape confusion) • "s" reversed to look like an unedged "z" (reversal error) • "w" flipped to look like a capital "M" (inversion error)"	• Small "i" written as capital "I" (capitalization error) • "n" written as "h" (extra stroke) • write "a" in clockwise direction make it looks like "o" (Shape confusion)

Table 2: Scores for the initial test

SCORE	PERFORMANCE	NUMBER OF PUPILS
0-3	Low Achieving	3
4-7	Moderate	12
8-10	High Achieving	9

Problem Statement and Research Focus

The general focus of the present study is on enhancing Year 2 Toman pupils' formation of the alphabet. Generally, the formation of an alphabet is closely related to the mastery of penmanship, where pupils must be able to accurately shape each letter (Mathwin et al., 2022). Moreover, according to Alston and Taylor (2017), many children ages 7 to 14 have handwriting problems. They added that common penmanship problems are listed, such as incorrect alphabet formation, poor alignment, reversals, the uneven size of letters, irregular spacing between letters, and slow motor speed. However, in this action research, the focus will only be on incorrect alphabet formation and reversals. Moreover, unfortunately, it is proven that poor alphabet formation is common among children in regular and special education classrooms (Bergman & McLaughlin, 2018). Thus, it has been apparent that young pupils struggle greatly with alphabet formation when it comes to their writing skills.

Research on alphabet formation is essential due to its significant impact on primary school pupils' educational development. This foundational skill is crucial for pupils in Year 1 and 2, ensuring their writing is legible and comprehensible, influencing their performance on assessments or examinations for their upcoming schooling years (Bahagian Pembangunan Kurikulum, 2017). Poor alphabet formation can lead to disorganised writing, making it imperative to identify and address these challenges through innovative teaching strategies, such as the Kinetic ABC, which can enhance engagement and learning outcomes. Furthermore, collaboration with teachers from different subjects, such as the Malay language, strengthens the research focus, as their insights into pupils' difficulties in alphabet formation provide a comprehensive understanding of the issue, supporting the need for effective interventions in the classroom environment. The research is also relevant for schools using the current curriculum, often called classroom-based assessment. In order to conduct classroom assessment, the teacher must provide an engaging and entertaining learning environment rather than relying on conventional teaching approaches. Teachers may use Kinetic ABC as instructional material in the classroom rather than utilising it only as an intervention tool.

The primary reason for the disorganised alphabet formation among pupils is their difficulty in recalling the shapes of the alphabet and the process of forming them (Mathwin et al., 2023). They also point out that a lack of attention from teachers regarding penmanship, particularly alphabet formation, contributes to this issue. Teachers often prioritise completing worksheets over focusing on handwriting, which encourages pupils to rush through tasks without paying attention to the organisation of their letter formation. This issue is exacerbated by the need for more progress in fine motor skills, essential for synchronising the small muscles in the hands and fingers required for tasks such as grasping a pencil and shaping letters. Furthermore, Skar et al. (2023) support this by highlighting the detrimental effects of the COVID-19 pandemic on handwriting. A study conducted in Norway found that first-grade pupils who experienced remote learning during the pandemic had significantly lower scores in handwriting fluency, including alphabet formation, compared to cohorts before the pandemic. This decline was attributed to the reduced in-person instruction, which hindered the development of motor skills crucial for handwriting. Additionally, Payne and Isaacs (2020) suggest that many pupils lack the necessary hand-eye coordination and control for precise alphabet formation, further impairing their writing abilities. Consequently, this combination of factors has led to improper alphabet formation, making it a significant challenge in this class.

In essence, addressing challenges in alphabet formation among Year 2 Toman pupils at Sekolah Kebangsaan Tembila is paramount for laying a solid foundation for their academic journey and future success. Ensuring pupils understand how to form the alphabet appropriately will enable them to create tidy, clear writing that is understandable to everyone.

Objectives and Research Questions

Based on the research focus, the general objective of the research is to enhance Year 2 Toman pupils' formation of the alphabet through Kinetic ABC.

The research objectives are as follow:

1) To enhance Year 2 Toman pupils' alphabet formation using Kinetic ABC.
2) To describe Year 2 Toman pupils' interest in using Kinetic ABC to enhance their alphabet formation.
3) To explain how Kinetic ABC helps Year 2 Toman pupils form the alphabet.

Based on the research objectives, three research questions have been formulated as follow:

1) Does Kinetic ABC enhance Year 2 Toman pupils' formation of the alphabet?
2) Are Year 2 Toman pupils interested in using Kinetic ABC to enhance their alphabet formation?
3) How does Kinetic ABC help Year 2 Toman pupils form the alphabet?

RESEARCH METHODOLOGY

Intervention

The action developed for this action research is Kinetic ABC. The term implies kinaesthetic movements and alphabetic elements. The action is in the form of a bright box with alphabet designs on top. Opening the box reveals sand where pupils may practise alphabet formation. According to Widener (2015), sand contains poly (dimethyl siloxane), a hydrophobic substance that keeps sand particles together. It may also be shaped into various forms. Thus, pupils may construct any alphabet on it and redo the letter by shaking the sandbox repeating until they master it. Furthermore, the ability to move smoothly in the sand allows one to look at initial markings, lines, and formations, which develops fine motor skills and hand-eye coordination, which are needed to form an alphabet (Clements & Millbank, 2018). Besides that, three slots will be on top of the box once opened. The first slot will include alphabet cards in uppercase and lowercase letters, while the second and third slots will be empty. This is for conceptual purposes so pupils can refer to how to form an alphabet. A QR code is supplied. Teachers get the "Open the Box" game template when they scan. This game has 26 boxes, and pupils take turns picking one. After hearing a specific alphabet sound from the game, the pupil must choose the alphabet pair cards from the first slot and place them in the second (uppercase) and third (lowercase) slots. Example: The sound 'A' is made, and pupils should pick the pair of "a" and insert the uppercase version in the second slot and the lowercase version in the third slot. They may then form the alphabet on the sand using their index finger. These supplies are for an early stage. The alphabet cards may be removed once pupils understand the concepts and can create words without assistance. Pupils will now only utilise the QR code and Kinetic ABC box. Recapitulating, Kinetic ABC incorporates three senses: sight, touch, and hearing. Orton Gillingham advocates a multisensory learning approach as it engages multiple senses, enhancing memory retention (Schlesinger & Gray, 2017).

Figure 2: Kinetic ABC

Research Participants

The research participants of this action research are selected among Year 2 Toman pupils of Sekolah Kebangsaan Tembila. Three (3) pupils were selected using a purposeful sampling technique based on their lowest test scores in the initial test compared to their classmates and poor performance in document analysis of their Malay and English worksheets.

Assessment Instruments

This action research will use three data collection methods to answer the research questions: initial and final tests, document analysis and semi-structured interview. Quantitative data to be specified from initial and final tests were collected to evaluate the effectiveness of Kinetic ABC, serving as primary evidence. On top of that, document analysis of both English and Malay worksheets was conducted to confirm the effectiveness of Kinetic ABC. At the same time, interviews with participants and mentor teacher aimed to address two research questions regarding the interest shown by pupils and how Kinetic ABC enhances alphabet formation. Data triangulation will be used in this action research to understand the multiple methods comprehensively. Method triangulation refers to using two or more data collection methods in qualitative research to test validity by converging information from different sources (Denzin, 2017). The representation of data triangulation is shown in Figure 3 below.

Figure 3: Triangulate Methods

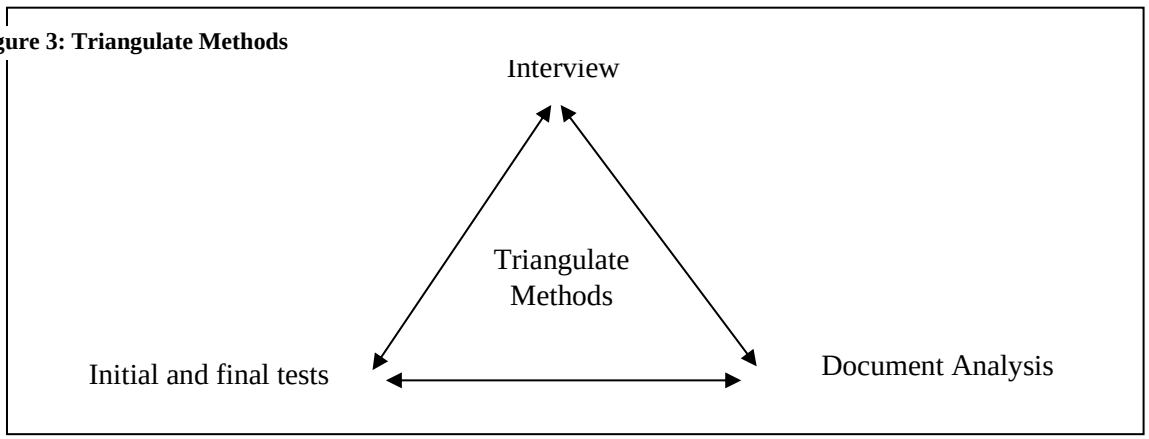

Table 3: Instruments Used to Collect Data

Research Questions	Instruments Used
Research Question 1 Does Kinetic ABC enhance Year 2 Toman pupils' formation of the alphabet?	Document Analysis Initial and Final Tests
Research Question 2 Are Year 2 Toman pupils interested in using Kinetic ABC to enhance their formation of the alphabet?	Interview
Research Question 3 How does Kinetic ABC help Year 2 Toman pupils form the alphabet?	Interview

Implementation Of Action

Action research is fundamentally a series of sequential steps, including planning, action, and reflection. This research uses the action research model developed by Kemmis and McTaggart (1988) to address the research questions. Kemmis and McTaggart proposed a spiral model comprising four stages: planning, acting, observing, and reflecting. This model serves as a valid justification for the researcher to utilise it, as it effectively illustrates the process of comprehending how to act to improve an educational situation, as depicted in the diagram above.

Stage 1 - Plan

The researcher observed that Year 2 Toman pupils struggled with alphabet formation during English lessons. After identifying the problem at the earliest stage, a systematic literature review was conducted to determine its significance and severity among pupils. Document analyses of their English and Malay workbooks were conducted to confirm this issue, along with an initial test to assess their alphabet formation skills. An action plan was developed to solve the issue, a multisensory activity that could accurately enhance their ability to form the uppercase and lowercase alphabet.

Stage 2 – Act

The intervention, called 'Kinetic ABC,' focused on kinaesthetic learning or tactile approach to improve alphabet formation. Pupils used their index fingers to form the alphabet in the sand while referencing alphabet cards. Initially, the cards provided guidance, but as the pupils progressed, the cards were gradually removed to promote independent alphabet formation.

Table 4: Process of action

Date	Stage	Activity
2/9/2024	Stage 1	1. The researcher introduces the alphabet cards and lets the pupils familiarise themselves with them. 2. Practice forming the alphabet on sand using Kinetic ABC with the help of the alphabet cards. 3. Practice until the letter "M."

3/9/2024	Stage 2	4. Practice forming the alphabet on sand using Kinetic ABC with the help of the alphabet cards. 5. Practice until the letter "Z".
4/9/2024	Stage 3	6. Take out the alphabet cards and let the pupils form the alphabet on the sand based on their understanding of alphabet formation.

Stage 3 – Observe

The researcher evaluated the effectiveness of the intervention by administering a final test and comparing it with the initial test results. Document analyses of the pupils' Malay workbooks confirmed improved alphabet formation skills. This is to determine whether the pupils practice and internalise proper alphabet formation outside the ESL classroom, specifically in their Malay class, which also involves working with the alphabet. Additionally, interviews with the participants and the mentor teacher provided insights into the pupils' interest in the action and how it enhanced their alphabet formation.

Stage 4 – Reflect

The collected data and feedback were analysed to assess the strengths and weaknesses of Kinetic ABC. The results demonstrated significant success, concluding that a second intervention cycle was unnecessary. The first cycle achieved the desired outcomes, and no further adjustments were deemed necessary.

RESEARCH FINDINGS

Research Question 1: Does Kinetic ABC enhance Year 2 Toman pupils' alphabet formation?

It is believed that Year 2 Toman pupils' alphabet formation will improve significantly after Kinetic ABC's implementation. To answer the first research question, initial and final tests were conducted to assess the effectiveness of the implementation. A descriptive statistical analysis using percentages is done based on the score attained by the pupils in the given worksheet. To determine the participants' alphabet formation skills, the researcher considers that the lowest total marks must be between 0-3, moderate level 4-7, and the highest level 8-10, meaning they have mastered the alphabet formation skill. The table below shows the scores for each participant's initial and final tests.

Table 5: Percentage Analysis for Initial and Final tests

Participants	Initial Test		Final Test		Improvement
	Marks (10)	(%)	Marks (10)	(%)	(%)
P1	1	10	6	60	50
P2	2	20	10	100	80
P3	2	20	8	80	60

The percentage analysis shows that participants' alphabet formation has improved positively after using Kinetic ABC. It can be seen by the increased percentage from the initial test to the final test from 10% to 60% (P1), 20% to 100% (P2), and 20% to 80% (P3). Participant 2 showed the most significant improvement, with an 80% difference from the initial and final tests, followed by Participants 3 and 1, with 60% and 50% differences respectively. Not only that, Participant 1 managed to get a total score for the final test, which indicates that his alphabet formation was completely accurate.

To answer the first research question, document analysis was conducted to confirm the effectiveness of the Kinetic ABC intervention in addressing alphabet formation problems in both English and Malay subjects. The researcher reviewed English and Malay worksheets before the intervention, along with Malay worksheets after the intervention, to assess whether participants had normalised their alphabet formation across subjects. By comparing these documents, the researcher aims to determine whether Kinetic ABC has positively influenced the pupils, shown no change or had a negative impact on their alphabet formation skills. The table below shows the comparison of the document analysis.

Table 6: Comparison of document analysis

Participant	**Before Intervention**		**After Intervention**
	English Language Worksheet	**Malay Language Worksheet**	**Malay Language Worksheet**
Participant 1	• "e" written as "g" (shape confusion) • Small "a" written with a long line above, resembling the letter "d" (overextension) • "s" reversed to look like an unedged "z" (reversal error)	• Small "a" written with a long line below, resembling the number "9" (overextension) • "p" written with a line above the curve (extra stroke)	• No errors
Participant 2	• Small "a" written with a long line below, resembling the number "9" (overextension) • Small "k" written as capital "K" (capitalization error)	• Small "a" written with a long line below, resembling the number "9" (overextension) • Small "i" written without the dot (missing dot error) • "b" written as "d" (mirror error) • "n" written as "h" (extra stroke)	• No errors
Participant 3	• write "a" in clockwise direction make it looks like "o" (Shape confusion)	• Small "i" written as capital "I" (capitalization error) • "n" written as "h" (extra stroke)	• "r" resembles "v" (shape confusion)

	• Small "t" written as capital "T" (capitalization error) • "r" written as "v" (shape confusion) • "s" reversed to look like an unedged "z" (reversal error) • "w" flipped to look like a capital "M" (inversion error)"	• write "a" in clockwise direction make it looks like "o" (Shape confusion)	

The document analysis indicates a significant improvement in the participants' alphabet formation skills following the Kinetic ABC intervention. This improvement is clearly reflected in comparing errors recorded in the worksheets. Participant 1 exhibited remarkable progress, reducing errors from three in the English worksheet and two in the Malay worksheet before the intervention to zero errors in the Malay worksheet afterwards. Participant 2 also showed substantial advancement, with errors decreasing from two in the English worksheet and four in the Malay worksheet to none in the Malay worksheet after the intervention. Similarly, Participant 3 improved, reducing errors from five in the English worksheet and three in the Malay worksheet to just one error in the Malay worksheet following the intervention. The flawless performance of Participants 1 and 2 is compelling evidence that the Kinetic ABC intervention is highly effective in addressing alphabet formation problems. Overall, the findings underscore the significant strides all participants have made in alphabet formation skills, highlighting the positive impact of the Kinetic ABC intervention on their learning outcomes.

Research Question 2: Are Year 2 Toman pupils interested in using Kinetic ABC to enhance their alphabet formation?

Research question 2 explores pupils' interest in using Kinetic ABC to enhance their alphabet formation. Semi-structured interviews with the participants and mentor teacher were used to answer this research question. First, the participants were asked five interview questions. Then, the mentor teacher was asked four questions to address this research question. The table below summarises the participants' and mentor teacher's responses.

Table 7: Summary of the Interview with the Participants

Interview Questions	Responses (Summary)
1. Do you enjoy using Kinetic ABC?	I enjoyed it a lot.
2. Do you feel motivated using Kinetic ABC?	Yes, because I can play and it is something new.
3. What do you like the most about Kinetic ABC?	The sand: can play and not tiring as practice writing in a book.
4. Would you feel bored using Kinetic ABC for a extended period?	No, because it is fun
5. Would you recommend Kinetic ABC to your friends?	Yes.
6. Do you have fun learning with Kinetic ABC?	Yes, it is more fun.

7. Would you practise writing the alphabet with Kinetic ABC on your own without the teacher asking?	Yes

Table 8: Summary of the interview with the mentor teacher

Interview Questions	Responses (Summary)
1. Do you think the pupils enjoy forming the alphabet through Kinetic ABC?	Yes, they really enjoy it! The hands-on part makes it fun for them.
2. Will the pupils be motivated to learn alphabet formation using Kinetic ABC?	Yes, when they have fun while learning, their motivation really goes up!
3. Do the pupils have fun learning to form the alphabet using Kinetic ABC?	Yes of course. It is something different from the rest.
4. Will the pupils voluntarily learn the alphabet using Kinetic ABC during their free time?	Yes, they will. This kind of activity really attracts them.

For the first question, all participants said they enjoyed using Kinetic ABC during the action implementation. They felt motivated by its novelty and the opportunity to play while learning. This supports one of the essential elements of the researcher's development of Kinetic ABC, which is to enhance alphabet formation through play-based learning. Allee-Herndon et al.(2022) acknowledge that play-based learning boosts pupils' motivation by making the learning process more engaging and enjoyable, allowing children to explore and discover concepts through interactive and hands-on activities, which fosters a more profound interest in the material and encourages intrinsic motivation to learn. When asked about their favourite feature, they all mentioned enjoying the tactile element, especially sand, as it made the learning process fun and less tiring compared to traditional book-based writing practice. None of the participants felt bored with the prolonged use of Kinetic ABC, citing that it remained fun throughout. Additionally, all participants indicated they would recommend the game to their friends and that they had more fun learning with it. Finally, the participants confirmed they would voluntarily practise writing alphabets with Kinetic ABC without teacher supervision. These responses clearly demonstrate that Kinetic ABC was well-received, interesting, and motivating for the pupils, making it a practical and fun tool for learning alphabet formation.

Similarly, the mentor teacher's responses supported these findings. The insights from the mentor teacher are significant, as she observed the entire process of implementing the action, offering firsthand reflections on the pupils' interest and engagement throughout the approach. The teacher observed that the pupils thoroughly enjoyed the hands-on nature of Kinetic ABC, which made learning more fun and engaging. In addition, the teacher noted that the pupils' motivation increased significantly when using Kinetic ABC. Making the learning process fun encouraged the pupils to stay focused and motivated to improve their alphabet formation skills. The teacher acknowledged that Kinetic ABC offers fun learning to learn alphabet formation, noting that its novelty and uniqueness make it stand out from more traditional approaches. The teacher also believed that the pupils would willingly use Kinetic ABC during their free time, as it was an activity that naturally attracted their interest. This further reinforces the idea that Kinetic ABC is an enjoyable and motivating tool for teaching alphabet formation to young learners.

Research Question 3: How does Kinetic ABC help Year 2 Toman pupils form the alphabet?

The researcher expects that the nature of sand, which enables the practice of forming the alphabet and a conceptual reference through alphabet cards, will help the participants enhance their formation of the alphabet. The researcher interviewed the participants and mentor teacher and analysed the data using thematic analysis. The interview data shows that Kinetic ABC has seven different aspects that contribute significantly to facilitating participants' enhancement in alphabet formation. Table 7 below shows the analysis of the participants' and expert mentor's answers during the interview.

Table 9: Analysis of interview transcription with participants and mentor teacher

No	Theme	Code	Descriptions
1	Tactile experience through sand	Increase enjoyment	It helps them enjoy making letters.
		Convenient	Because I can draw in the sand, and playing with it does not hurt my hand like writing in a book.
		Remember better	When they are involved physically, they remember better.
		Long-lasting	Sure, it will make a lasting positive impact.
2.	Practicing nature	Allow try and error multiple times	Because I can try writing the letters multiple times until I get it right.
		Increase confidence	It allows them to learn from their mistakes without pressure, which builds confidence.
3.	Positive environment	No pressure	Because I can finish writing ABCs slowly until I get it right.
4.	Alphabet cards	Visual aids	Because I can see how to write Yes, they are useful as references.
		Recognition of alphabet shapes	It helps them remember the correct shapes and as guidance also.
6.	Finger as writing tool	Enhance motor skills	Using their fingers to shape the letters enhances their motor skills because some of their hands and fingers are still hard.
		Improve finger coordination	……finger coordination also could be attained through your project as it is essential for holding writing tools and forming letters accurately when they shift to write on paper using pencil.
7.	Reinforcement	Reinforce memory	Definitely, it reinforces their memory even more. It encourages them to recall

			what they have learned, strengthening their understanding.

Based on the data, Kinetic ABC supports alphabet formation through seven key themes that enhance the learning experience for pupils. Primarily, tactile experience through sand significantly increased pupils' enjoyment of learning. The sensory nature of forming the alphabet in the sand engaged them deeply and created lasting memories of how to form each letter accurately. Shaping the alphabet deepened their understanding and made the learning experience more memorable, as they involved physical through kinaesthetic movements, effectively strengthening memory retention. This aligns with Dewey (1938), where he discusses the importance of experiential learning, which includes physical engagement in the learning process. He emphasised that learning is most effective when pupils engage physically with their environment, allowing them to apply theoretical knowledge to practical activities. In the context of alphabet learning, the process of forming the alphabet in sand offers pupils hands-on experience, moving from alphabet recognition to correct alphabet formation. Also, this method was more convenient, as pupils noted that drawing in the sand was less strenuous on their hands compared to traditional pencil writing, allowing them to learn alphabet formation more enthusiastically.

Furthermore, the practising nature of Kinetic ABC allowed pupils to engage in trial and error without feeling pressured. They could attempt writing letters multiple times until they mastered the correct formation, which helped build their confidence. This flexible, low-pressure approach enabled pupils to learn from their mistakes and gradually improve their skills. Moreover, the positive environment created by Kinetic ABC encouraged pupils to practise at their own pace, free from the pressure of time constraints. This stress-free atmosphere supported their persistence in practising until they achieved the correct alphabet formation, enhancing both the effectiveness and enjoyment of the learning process.

Additionally, alphabet cards served as important visual aids throughout the learning experience. These cards helped pupils recognise and remember the correct shapes of the alphabet, providing a visual reference that reinforced their accuracy and understanding during practice. Also, using fingers as a writing tool played a crucial role in developing fine motor skills. For pupils whose hand coordination was still developing, tracing the alphabet with their fingers improved their finger coordination. It was essential for holding writing tools and forming letters accurately when transitioning to paper-based writing. Finally, reinforcement was another important theme identified. The reinforcement feature enhances alphabet formation by allowing pupils to deepen their understanding while practising letter formation in the sand. After removing the alphabet cards, pupils are encouraged to rely on their memory to recall what they have learned. This approach further strengthens their memory, solidifying their grasp of alphabet shapes and improving their comprehension of alphabet formation. As pupils develop the ability to complete tasks autonomously without guidance, they strengthen their understanding, build confidence, and foster long-term retention. In this context, reinforcement involves strategies educators use to strengthen and encourage desired learning outcomes.

DISCUSSIONS

The findings of this study indicated an improvement in Year 2 Toman pupils' alphabet formation skills following the implementation of Kinetic ABC. Initially, three participants struggled to form the alphabet correctly, demonstrating significant challenges in their alphabet formation skills. However, the final test results revealed that all participants accurately formed the alphabet, with Participant 2 achieving a perfect score (100%). In addition to the test results, the document analysis further corroborated these findings by showcasing a marked reduction in errors across the participants' worksheets. Participants who previously displayed multiple errors in their English and Malay worksheets demonstrated significant improvements, with some achieving flawless performances post-intervention. This substantial progress, evidenced by both the test outcomes and document analysis,

underscores the effectiveness of the Kinetic ABC in enhancing pupils' alphabet formation skills and solidifies the intervention's role in addressing alphabet formation challenges.

Integrating kinaesthetic movements and tactile experiences within Kinetic ABC proved crucial for promoting alphabet formation. Engaging pupils in physical activities during learning aligns with Gardner's (1983) emphasis on the importance of bodily-kinaesthetic intelligence in the educational process. The use of sand for alphabet formation not only aided pupils in remembering the shapes of the alphabet better but also increased their interest in learning. Research by Solichah and Fardana (2024) supports that tactile experiences enhance engagement and make learning more enjoyable, as echoed through the participants' interview responses. Additionally, incorporating alphabet cards served as valuable visual aids, providing explicit references for the alphabet shapes. Hamad (2023) states that visual aids facilitate cognitive processing and bolster memory retention, reinforcing the overall learning experience. These factors have significantly enhanced pupils' alphabet formation skills, as can be seen from the data collected.

While Kinetic ABC offered numerous benefits, one minor drawback noted by a participant was that his hands became soiled while using sand. Although the researcher anticipated that all children from the village area would enjoy playing with sand, this feedback revealed that not all pupils found it appealing. Even Beach (2019) believes that children from rural areas naturally enjoy engaging with elements like sand and mud, as they are often accustomed to these materials. He adds that incorporating such elements into lessons can invigorate and captivate them, making the learning experience more enjoyable and meaningful. However, this response prompts a re-evaluation of the assumption that these viewpoints can be generalised. This underscores the necessity for researchers to balance hands-on learning with considerations for cleanliness and practicality in classroom settings. Alternatives, such as using fingers or sticks to form letters in the sand, could be explored to address this concern.

The practice nature of Kinetic ABC encouraged a trial-and-error approach, allowing pupils to learn from their mistakes. By enabling pupils to attempt writing the alphabet multiple times, they built confidence and developed a growth mindset, essential attributes for effective learning. In relation, Hadi et al. (2023) refer to Thorndike's Law of Effect, which states that behaviours that result in satisfying outcomes are more likely to be repeated, while those that lead to undesirable outcomes are less likely to be. As pupils repeatedly form the alphabet in the sand until they achieve accuracy, they reinforce their memory and, consciously or subconsciously, begin to form the alphabet correctly, aligning with the adage "Practice makes perfect."

Moreover, Kinetic ABC allowed pupils to practise forming the alphabet without the pressure of immediate success. In this activity, pupils can make mistakes without facing penalties or punishment; they simply shake the sand and start over until they feel satisfied that their alphabet made on sand looks similar to the alphabet cards. This process enables pupils to work calmly and take the necessary time to achieve their goal of accurately forming the alphabet. This approach aligns with Kutasi (2023), who emphasises Carol Dweck's work on Growth Mindset, which advocates for creating environments where pupils recognise that making mistakes is a natural part of the learning journey. Dweck argues that fostering a growth mindset encourages pupils to embrace challenges, learn from their mistakes, and persist despite setbacks, ultimately contributing to long-term success and resilience.

In addition to its numerous benefits, Kinetic ABC employed a structured approach consisting of three essential stages: conceptual understanding, practice, and reinforcement. This progression enables pupils to master alphabet formation by first introducing them to the concepts through alphabet cards, allowing them to become familiar with the shapes of the alphabet. Next, pupils practise their skills by forming the alphabet in the sand while referencing the alphabet cards. Finally, the reinforcement stage encourages autonomous learning, where guidance is removed, and pupils must rely solely on their understanding and memory to form the alphabet. This stage-based approach aligns with Curry et al. (2021), who highlight Robert Gagne's systematic design of instruction, which asserts that

a successful lesson should incorporate these key stages to achieve desired outcomes. By establishing a solid foundation in the initial stage, pupils are better prepared to practise independently, leading to improved alphabet formation and a more comprehensive understanding reflected in their written work.

To sum up, Kinetic ABC significantly improved alphabet formation among Year 2 Toman pupils. By leveraging kinaesthetic movements, tactile experiences, and visual aids, this innovative approach fostered interest and enhanced learning outcomes. Despite minor challenges, the overall benefits of Kinetic ABC rendered it a valuable addition to early literacy education. Future research could explore the long-term impact of such interventions on literacy development and their applicability in diverse educational contexts.

REFLECTIONS

Action research is a powerful method that empowers teachers to investigate their teaching practices to improve learning outcomes. This approach fosters collaboration among educators, encourages reflection on daily lessons, and allows for exploring innovative ideas and methods. As a novice in action research, I gained invaluable insights into teaching and learning processes. From designing my research proposal to completing the final report, I encountered a few challenges within my classroom that deepened my understanding of effective instructional strategies. Reflecting on my research allowed me to assess the impact of my interventions on my pupils. The findings indicated a marked improvement in the participants' alphabet formation skills following the implementation of Kinetic ABC, as they scored better in the final test compared to the initial test. I successfully achieved all my research objectives, and the data collected answered my research questions. The pupils actively engaged in the action, provided positive feedback and demonstrated significant progress in their learning. It was gratifying to observe their excitement when using Kinetic ABC. This evidence strongly supports that Kinetic ABC has effectively enhanced Year 2 Toman pupils' alphabet formation skills.

Moreover, action research heightened my awareness of the dynamics within the classroom. It became clear that teachers must continually adapt their strategies to promote effective learning and remain attuned to their pupils' needs. For instance, while alphabet formation may typically be taught in Year 1, many of my Year 2 pupils required additional support in this area. Despite the pressure to adhere strictly to the textbook syllabus to impress my mentor teacher and supervisor during my practicum, I recognised the urgency of addressing this gap. Mastery of the alphabet is essential for English literacy; with it, pupils can produce quality work during their primary schooling years and potentially beyond. Ultimately, I felt a profound sense of satisfaction witnessing my pupils enhance in decision-making but also reinforced my commitment to prioritising my pupils' learning needs more than anything else.

SUGGESTIONS FOR FURTHER RESEARCH

For further action, conducting a longitudinal study over three months is recommended to assess whether improvements in alphabet formation through Kinetic ABC are retained. This follow-up would determine whether participants can consistently form all 26 uppercase and lowercase alphabets accurately and whether they have normalised correct alphabet formation in their daily written work. This is supported by Duiser et al. (2020), who assert that conducting long-term observations is crucial to accurately evaluate improvements in handwriting elements like letter formation, spacing, and sizing. This approach allows researchers to obtain more reliable results regarding the effectiveness of specific instructional strategies to address penmanship issues. By tracking handwriting development over time, a clearer understanding of the impact of various interventions can be achieved.

Additionally, collaborative research with other schools could enhance the study by providing comparative data across various educational settings, particularly in early education in primary school,

remedial education or low-achieving schools. Sharing findings or conducting joint research would test the intervention's flexibility and promote broader use of multisensory approaches for early literacy improvement. As noted by Platteel et al. (2017), forming collaborative action research can strengthen the validity of the findings. Validity refers to the accuracy of the results and whether they genuinely measure what they are intended to. By involving multiple schools, researchers can compare data across various contexts, thereby enhancing the generalizability of their findings, which supports the assertion that Kinetic ABC is a practical approach to addressing alphabet formation problems.

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IMPROVING DOUBLE CONSONANT SPELLING SKILLS OF YEAR 5 NILAM THROUGH SPELLGARO

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ABSTRACT

Spelling skills are undoubtedly one of the skills to be acquired and mastered by the pupils by the end of their primary school years. One of the spelling skills that needs to be highlighted is the double consonant spelling skills. Based on the teaching and learning reflection in Year 5 Nilam classroom, it was found that the pupils faced problems when spelling words with double consonants. This study aimed to improve pupils' double consonant spelling skills through the implementation of Spellgaro. Spellgaro is a 2-in-1 board game that allows pupils to discover their spelling mistakes and explains the rule of double consonant spelling, known as the Rabbit Rule. It also integrates a form of drilling that will reinforce their understanding of the Rabbit Rule through rearranging activities that include colour-coded clues. The integration of gamification and drilling enhances pupils' learning by providing practice opportunities to reinforce the concept. This action research was conducted on four pupils of Year 5 Nilam at Sekolah Kebangsaan Permaisuri Nur Zahirah in Besut, Terengganu. The data was collected through pre-test and post-test, interview, and observation. The quantitative data was analysed using descriptive statistics, while the qualitative data was processed through thematic analysis. The findings revealed a significant improvement in pupils' ability to spell double consonants, which can be seen by comparing their pre and post-tests. The interview data highlighted the effectiveness of the intervention and pupils' interest in using Spellgaro. Additionally, the observation data explains pupils' interest in using Spellgaro to spell double-consonant words. This study concludes that using Spellgaro improves the pupils' spelling of double-consonant words. The integration of gamification and drilling enhances pupils' learning by providing opportunities to practise, reinforcing the concept. The success of Spellgaro unveils its potential as a spelling tool to be used in other educational settings, especially in the ESL context.

Keywords: *drilling, double consonant spelling, Spellgaro, Year 5 ESL classroom*

INTRODUCTION

In today's era of globalisation, mastery of the English language is indispensable for individuals seeking to compete effectively on the global stage. English is a ubiquitous communication medium across various domains, including education, science, and the arts, making it essential for Malaysian speakers to attain proficiency and remain competitive internationally. The Malaysian Education Blueprint (2017) underscores the significance of acquiring proficiency in both Bahasa Malaysia and English before completing formal schooling, emphasising the pivotal role of the education sector in facilitating language acquisition.

To achieve fluency, pupils must navigate the four language domains of listening, speaking, reading, and writing, each requiring dedicated attention and mastery. Among these skills, writing is particularly critical, demanding a keen focus on grammar, spelling, sentence structure, punctuation, and vocabulary to produce high-quality compositions. Spelling is a notable skill that pupils must acquire throughout their school levels. Traditionally, spelling skills such as weekly lists, drilling practices, and low and high skates spelling tests have been taught in drilling and remembering. However, another approach to teaching spelling, known as explicit instruction, is worth exploring. One reason explicit

instruction is preferable to incidental instruction is that it allows teachers to ensure that their pupils receive an education that genuinely improves spelling skills rather than waiting for or trying to create moments that can be taught (Pan et al., 2021). Spelling skills also contribute to writing competency, which can help improve the quality of writing. Indeed, proficiency in writing encompasses the ability to navigate these nuances adeptly, as errors in these areas can signify shortcomings in one's writing prowess. Therefore, the Malaysian English Curriculum significantly emphasises developing these skills, recognising their pivotal role in fostering linguistic competence among learners.

Reflection of Teaching and Learning

During my first practicum phase at Sekolah Kebangsaan Permaisuri Nur Zahirah in Besut, I taught English Language to Year 5 Nilam, comprising 29 mixed-ability pupils, many of whom faced challenges in learning English as their second language. The class is divided into groups based on varying levels of English proficiency, ranging from low to advanced. Among the significant difficulties encountered by the students, spelling ability emerged as a primary concern. Initially, my co-teacher recommended exposing the students to the spelling of words they would later spell by having them read from the textbook. This approach aimed to familiarise them with the spelling structure beforehand. However, despite this preparation, some students still made errors during the spelling activity, particularly in words like "communicate," where the double consonant 'm' was often omitted.

In the subsequent spelling activity, I modified the approach by having the students spell 20 vocabulary words they had previously learned, many of which were outlined in the curriculum guidelines. Despite this familiarity, most of the pupils struggled with spelling, exhibiting a consistent pattern of errors, such as omitting one or more letters. Examples included "adress" instead of "address," "brocoli" instead of "broccoli," misspelt. This recurring mistake seemed to stem from a need for more awareness regarding double consonant spelling rules, as highlighted in a study by (Kusnadi, 2018) which attributed such errors to a lack of awareness and vocabulary. Reflecting on the pupils' challenges, it is evident that these spelling issues could significantly impact their overall English competency. Double consonant spellings can be perplexing, as they often differ in form and structure from what students are accustomed to. Additionally, the absence of direct instruction on double consonant spelling in English classes further compounds the problem. Instead, familiarity with these spelling patterns relies heavily on the teacher's exposure, the students' existing vocabulary, and their competency levels.

Based on the previous reflection, it was found that the most critical problem among the pupils was their double consonant spelling, which was exemplified by the spelling of words such as library, broccoli, and address. The influence of omitting the consonant letters was a common mistake the pupils made when spelling double consonant words. To identify the problem of action research, document analysis and tests were conducted to prove and justify the issue among the pupils. Goh (2016, p.31) claims that "evidence of pupils learning can demonstrate developments in pupils understanding". These two methods were analysed to determine the problem's existence among the pupils.

Pupils' work was analysed through written work, such as worksheets and exercises. The worksheets provided information on the problems occurring among the pupils. Figure 1 below represents some examples of pupils who face difficulties with spelling.

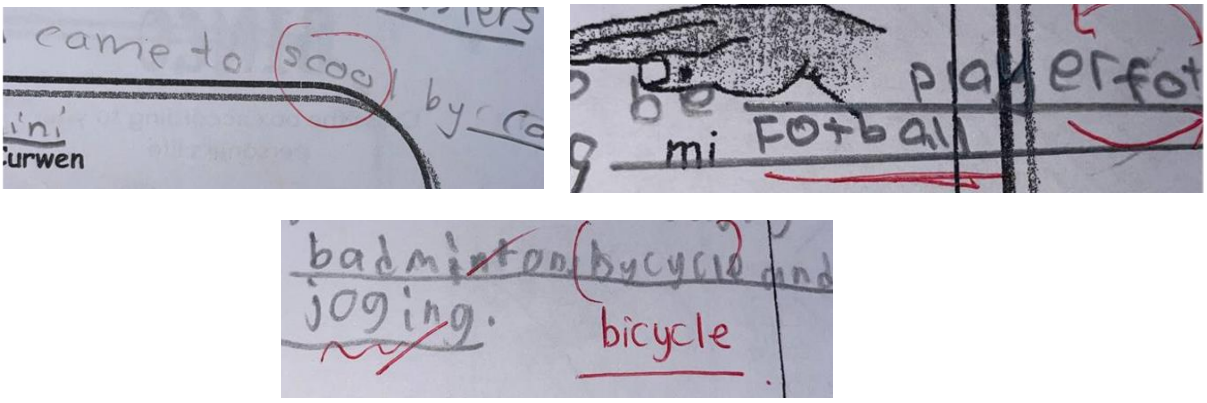

Figure 1: Sample of Pupils' Works

The example below shows that the pupils have to rewrite the sentences that are provided on the whiteboard. However, they make mistakes even though an example was provided. The spelling errors the pupils make may be influenced by other factors, such as writing the sentence quickly to finish the given exercise. However, it shows evidence that they were not aware of their mistakes even though they were in a hurry; this may influence their spelling awareness. Through this, the researcher decided to further explore the pupils' spelling skills by conducting spelling tests to identify their spelling ability.

Problem Statement and Research Focus

Grammar undoubtedly forms the backbone of language learning, yet spelling holds equal significance in the acquisition of language skills. Spelling proficiency is a crucial link to the success of reading and writing abilities, as both rely on accurate spelling for fluency and comprehension. This underscores the influential nature of spelling mastery for English speakers. Moreover**,** Fitria (2020) emphasises the contribution of accurate spelling to the overall quality of writing skills. This scholar collectively highlights the indispensability of precise spelling for spoken and written language, as inaccuracies can distort meaning and lead to misunderstandings. Recent research has further underscored the importance of spelling proficiency in language learning, mainly by analysing pupils' writing pieces. Studies conducted by Harun & Abdullah, (2020), Ahmad Ghulamuddin et al. (2021), and Che Awang et al. (2021) have consistently identified common challenges faced by Malaysian primary pupils in writing, including difficulties with sentence structures, tenses, spelling, and punctuation. These findings reaffirm that spelling errors are prevalent among students and can significantly impact their writing quality and overall performance. Inaccurate spelling is often cited as contributing to lower writing assessment scores.

Recognising the fundamental role of spelling in language acquisition, it is imperative that spelling be prioritised in the learning process. As Altamimi and Ab Rashid (2019) suggest, pupils who struggle with spelling tend to produce lower-quality written compositions, as their limited spelling proficiency restricts their vocabulary and expression. However, it is undeniable that English learners may struggle with spelling skills due to many spelling structures closely related to the different orthographics. In addition, Treiman and Kessler (2014) propose that the Integration of Multiple Patterns (IMP) in spelling represents the acquisition of orthographic patterns and the connections between patterns and linguistic features. This assertion is further supported by Bree et al. (2022) summarising that the IMP framework proves that learners may face difficulties in spelling as the words depend on the number of various structures of phonological, orthographic, or morphological that provide cues to spell the words. He adds that orthographic and phonological cues are some of the factors that influence English learners, especially in spelling double consonants. Moreover, explicit instruction and targeted practice in spelling can help mitigate these challenges, enabling learners to improve both their spelling and overall language proficiency. By understanding the underlying orthographic and phonological rules, teachers can equip

pupils with the tools to overcome common spelling difficulties and enhance their written communication skills.

Therefore, mastering spelling is a prerequisite for effective communication and a foundation for developing strong reading and writing skills. By striving for spelling perfection, pupils can enhance their English language proficiency and pave the way for tremendous success in their academic endeavours. Hence, spelling mastery should be considered a fundamental component of language education, essential for fostering comprehensive language skills.

Research Objectives and Research Questions

Based on the research focus, two research objectives and research questions have been developed to guide the research process:

Research Objectives:

i. To improve double-consonant spelling among Year 5 Nilam pupils through Spellgaro.
ii. To discover Year 5 Nilam pupils' interest in using Spellgaro to improve their double-consonant spelling.

Research Questions:

i. Does Spellgaro improve the double-consonant spelling of Year 5 Nilam pupils?
ii. Are Year 5 Nilam pupils interested in using Spellgaro to improve their spelling of double-consonant words?

METHODOLOGY

Intervention

In spelling, Levesque et al. (2021) summarise that there are three complex processes involved in spelling: input identification and central and peripheral orthographic processes. Additionally, one of the core issues in spelling involves input identification, which may be prompted as a guide to spelling the words. Levesque et al. (2021) discuss that spelling-to-dictation and imitation can rely upon an auditory and visual recognition process. This can be supported by Bree et al. (2022), who mentions that cues are one of the essential features of learning to spell, where the learners must explore the spelling patterns and cues themselves. In this intervention, a few theories are integrated: the cognitive theory of multimedia learning, the Rabbit Rule, drilling practices and explicit instruction. This Spellgaro consists of three stages that the participants have to go through.

The Cognitive theory applied in this part is based on Mayer and Moreno's Multimedia Learning Model (2003). This model suggests that the brain receives information and processes information in two different channels, which are audio and visual (Rashid & Azid, 2020) According to this approach, selecting, filtering, organising, and integrating information based on prior knowledge is all part of the active learning process. In this part, participants will have to listen to the words uttered by the teacher to spell the required words. As they have prior knowledge of the spelling, this part focuses on familiarity with the double consonant spelling.

In the second part, one spelling rule introduced in this Spellgaro is the Rabbit Rule. Caputo (2019) states that the Rabbit Rule is often taught to children to help them remember when to use double consonants in spelling. Rabbit Rule proposes that when a word has two syllables, a short vowel in the first syllable and only one consonant sound between the first and second vowels, one should double the middle consonant. This rule applies to words being tested among the participants, such as broccoli. It will help them to remember the structure and the rules when spelling words with double consonants.

The last part of the action will integrate the drilling practices, in which they must arrange and rewrite the words they previously spelt. This part is believed to develop awareness and knowledge in spelling double consonants, as cited in Ain Johar and Md Yunus (2021) which states that drilling practices can improve second language learning as it can underlying principles of a variety of drilling practices for the pupils, so they can make connections and remember them very well.

This intervention supports Krashen's theory (1982) of the Monitor Hypothesis, which involves conscious learning as participants realise when making mistakes. The knowledge acquired by participants can be used as a monitor to edit or modify previous answers in the first part of the intervention. They will compare their answer and identify their mistakes on their own. Following Anderson's (1982) theory of autonomous learning highlights the importance of learner autonomy and self-direction. Learners are seen as active agents who take control of their learning process, setting their goals, selecting learning materials, and monitoring their progress. The discussion supports the idea that Spellgaro can promote autonomous learning by guiding and tracking the mistakes of their double consonant spelling.

Additionally, it also applies explicit instruction includes a variety of activities, including teaching pupils: (1) how to spell specific words (e.g., through direct practice in spelling them); (2) how to use skills, rules, and strategies to spell unknown words; and (3) how to connect and extend students' grasp of the spelling system using systematic word study (Graham & Santangelo, 2014). These three elements in explicit instruction have been integrated into the implementation of Spellgaro.

Table 1: Procedure to Use Spellgaro

Steps/Instructions	Image Reference
1) Pupils listen to the words uttered by the teacher. 2) Pupils will be given a set of alphabet letters. 3) Pupils must gather the letter to form the spelling accurately according to the required words and fill in the blanks to write their answers.	
4) Pupils will go through two drilling practices. 5) First drilling: Arrange the letters to the form of spelling using bottle caps.	

6) Second drilling: Rewrite their answers in the answer sheet as an exercise.

Research Participants

In this research, purposive sampling is employed to select among 29 Year 5 Nilam pupils, four chosen pupils as active participants. The main criteria for participant selection included behaviour, interests, and English learning ability. Gender is not one of the considerations in this action, as all of them are boys. These four pupils are identified as high achievers in English, consistently displaying positive behaviour, active participation, and a strong interest in English learning. Their ability to comprehend English content is also notably higher than that of their peers. These criteria are essential in aligning with the research objectives and effectively addressing the research question, as Saunders et al. (2018) outlined. Furthermore, selecting these specific pupils allows for a deeper exploration of the study's aims and objectives, as they may offer diverse and insightful perspectives on the research topic, as Campbell et al. (2020) suggested. It is anticipated that this group of pupils will yield positive outcomes through the interventions designed to enhance their double consonant spelling skills, thereby contributing valuable insights to the study.

Instrument

This action research facilitates data collection through pre-and post-tests, interviews, and observations. Employing multiple instruments offers research diversity (Spencer et al., 2020) and enhances validity through triangulation (Bans-Akutey & Tiimub, 2021). Furthermore, Goh (2016) emphasises aligning data types with research questions to yield optimal answers through various research methods. These methods collectively enable a comprehensive exploration and understanding of the research area.

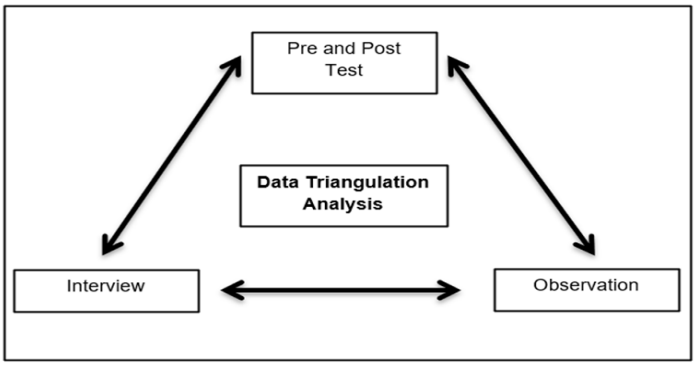

Figure 2: Data Triangulation

Table 2: Instrument Used for Respective Research Questions

Research Questions	Instruments Used
Research Question 1	
Does Spellgaro improve the double consonant spelling of Year 5 Nilam pupils?	Pre and Post Test
	Interview
Research Question 2	
Are Year 5 Nilam pupils interested in using Spellgaro to improve their spelling of double-consonant words?	Interview
	Observation

Implementation of Action

Kemmis and McTaggart's (1988) action research design is applied to this action research. This model is in the form of a cycle, which encompasses four steps in its model. The steps mentioned in the model start with a plan, action, observation, and reflection. The action can be improved by revising the original plan in the first cycle into the second cycle to achieve the research objectives.

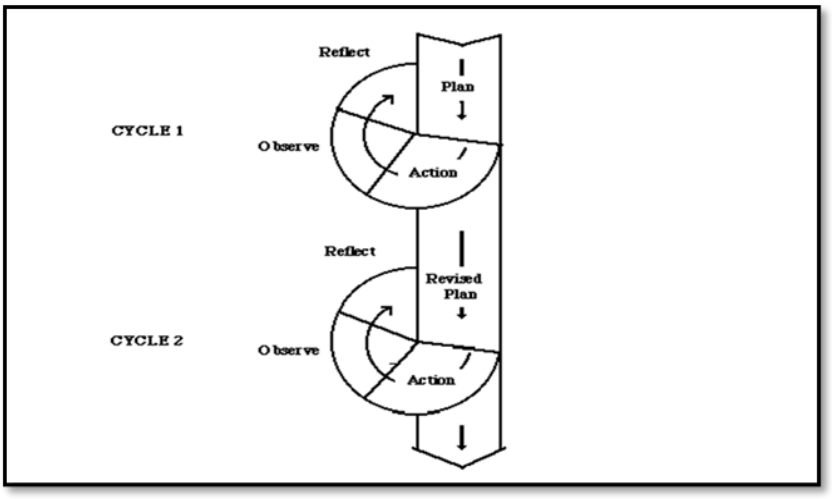

Figure 3: Kemmis and McTaggart (1988) Action Research Model

a. Plan

Using Kemmis and McTaggart as the guideline, the planning started with analysing pupils' work submitted through the worksheets distributed and a test conducted in the classroom. Additionally, the problem was identified and supported through a systematic literature review of related publications by local and international scholars. It was concluded that double consonant spelling among pupils existed locally or internationally, affecting their competency in learning English, especially in writing and reading skills. The action plan was carried out

outside the lesson hours and conducted in the hall as the specific research participants were only involved in the implementation. A permission letter was sent to the school, and permission from the pupil was obtained before implementing Spellgaro.

b. Action

At this stage, two spelling activities have been conducted by implementing Spellgaro. Firstly, the participants were asked to find the letters independently, spell according to the required words, and write down their answers. Next, feedback was given from the teacher, who guided them and helped them to notice and compare their answers with the correct answers. After that, the teacher played a role in introducing and explaining the rule of Rabbit Rule to help them understand the concept. In the last stage of the implementation, participants went through another practice by arranging the bottle caps and checking their answers.

c. Observe

During this stage, the participants's response to the words they had to spell and write was observed in a test activity. An observation checklist was used to identify the participants' interest in implementing Spellgaro. Additionally, instruments, such as pre-and post-tests, were used before and after the implementation of Spellgaro. Interviews were also conducted with the participants to explore the effectiveness of Spellgaro and their interest in it.

d. Reflect

Lastly, all their test answers, interviews and observation checklists were analysed and interpreted. Pre- and post-tests and interview questions answered the first research question on effectiveness, while the interview and observation checklists were used to answer research question 2. Pre- and post-tests were tabulated in the graph bar while the interview and observation went through the process of thematic analysis. The findings were used to evaluate the implementation of Spellgaro, and a further cycle was unnecessary because the data were highly positive.

FINDINGS AND DISCUSSION

Based on the data collected, Spellgaro was received positively by the pupils. The data collected represented a significant improvement in the pupils of the double consonant spelling skills. The pre-and post-test and interview data highlighted Spellgaro's effectiveness. The interview and observation data also represent the pupils' interest in Spellgaro.

Research Question 1: Does Spellgaro improve the double consonant spelling of Year 5 Nilam pupils?

The pre-and post-tests were conducted in this research using a set of 12 questions that the pupils had to complete. This instrument was used to answer the first research question on the effectiveness of Spellgaro. The pre test was conducted before the implementation of Spellgaro, while the post-test was recorded after its implementation. The scores were recorded to represent their improvement in spelling double-consonant words after implementing Spellgaro. The following Figure 4 is the sample of the pre-and post-test taken by the participants.

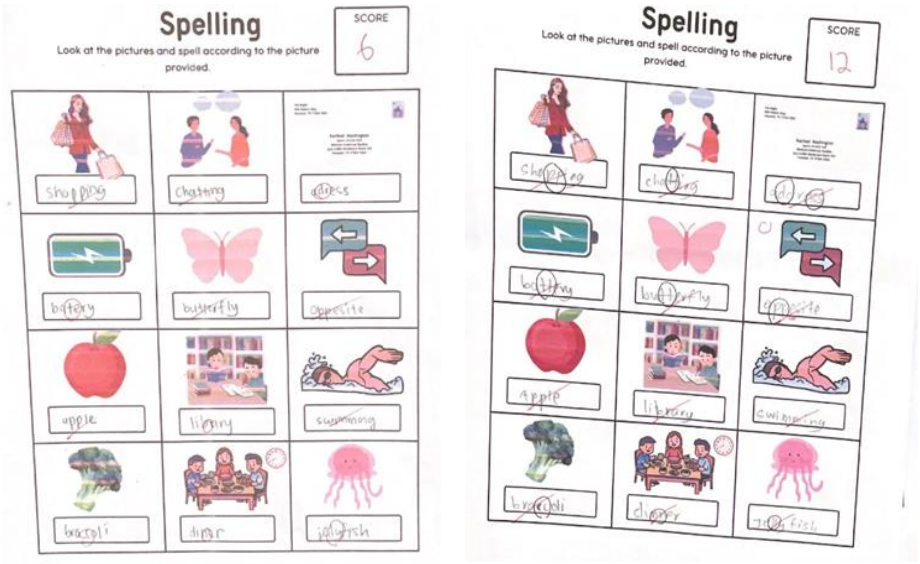

Figure 4: Sample of Pre and Post-Test

Figure 4 above represents one of the participants' pre- and post-test samples. Based on the post-test, the participants improved their double consonant spelling skills after implementing Spellgaro. Table 3 below shows the results of other participants that were represented in percentages, which shows the difference in the pre-and post-test scores.

Table 3: Percentage of improvement between pre and post-test.

Participant (PX)	Pre Test		Post Test		Improvement
	Scores (12)	Percentage (%)	Scores (12)	Percentage (%)	Percentage (%)
P1	6	50	12	100	50
P2	3	25	11	92	67
P3	3	25	11	92	67
P4	6	50	11	92	42

Table 3 shows the differences between the pre and post-test. All participants showed improvement before and after the use of Spellgaro. Before implementing Spellgaro, participants achieved less than 8 out of 12 questions. However, after using Spellgaro, all of them could score more than eight questions. Participants 2 and 3 showed a tremendous change from the lowest score of 25% in the pre-test to 92% in the post-test, with an improvement score of 67%. Participant 4 also showed improvement in the score of 50% in the pre-test to 92% in the post-test, with an improvement score of 50%. Participant 1 scored 50% in the pre-test and improved to 100% in the post-test with an improvement score of 50%. To compare all the participants' scores in the pre and post-test, a graph bar was plotted in Figure 5.

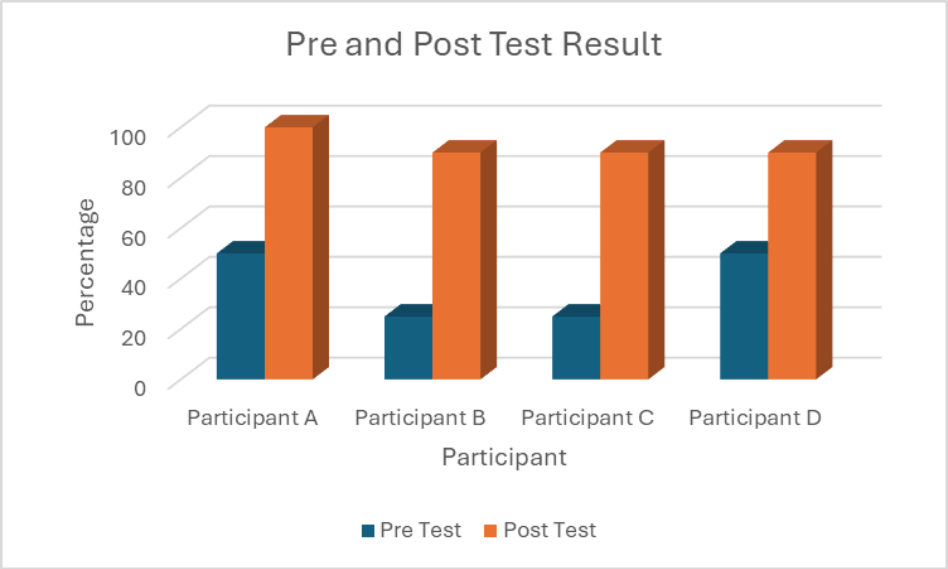

Figure 5: Comparison of Pre and Post-Test Results

Based on Figure 5, all participants showed improvement from the pre and post-test. Their scores increased almost between the range of 40% to 70% between both of the tests that were conducted. The increase could prove that the use of Spellgaro impacted their score. During the pre-test, all of them scored poorly, indicating that pupils make spelling errors because they do not have a suitable resource to help them with spelling. However, during the post-test, they all improved their score, indicating that Spellgaro helped pupils spell words correctly. Thus, this concludes that using Spellgaro has shown the effectiveness of the spelling of sight words.

Additionally, an interview has been conducted with all four participants to explore the effectiveness of Spellgaro. The data that were collected in the interview have gone through the process of transcription. The interview data have been analysed through thematic analysis by identifying the sub-themes into several categories. The sub-themes indicate the summary of pupils' responses during the interview session to indicate the relation to research question 1.

The first sub-themes under the themes of understanding the spelling concept were identified as the arrangement of letters and knowledge of double letters, as shown in Figure 6 below.

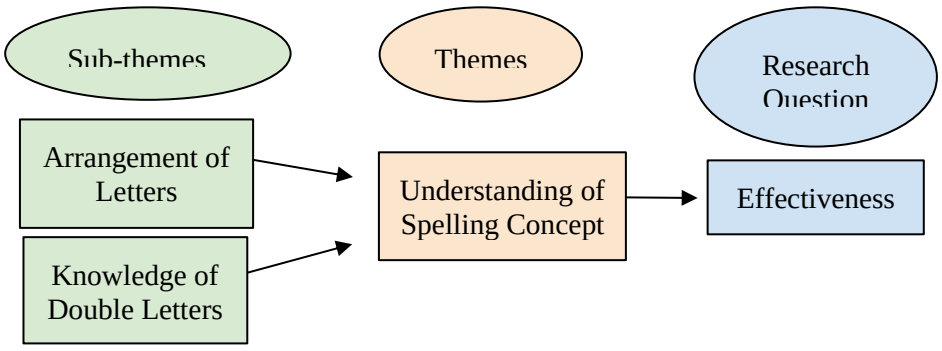

Figure 6: Sub-themes Derived from Interview

The first sub-theme was identified as the arrangement of letters, where all participants responded positively to the questions asked, indicating a positive insight towards the effectiveness of Spellgaro. All participants identified their mistakes and differences in spelling double consonant words. As most of them share that,

"I've learned to **arrange double** letters in spelling."

"I can **differentiate** and know how to put double letters."

These two excerpts indicate that participants addressed their knowledge of double letters as most of them managed to recognise and reflect on their spelling ability in double consonant words. The participants' responses showed they successfully recognised and identified the concept of double consonant spelling in English. One explicitly mentioned learning how to arrange double consonants in spelling, indicating a deeper understanding of the spelling rules. This refers to how the features in Spellgaro contributed to these responses given by the participants.

On the other hand, the second sub-theme, knowledge of double letters, gave insight into their awareness of the double consonant. In the interview, participants shared that,

"I just **knew some words needed to be in double letters."**

"I've **learned to be more careful with spelling because there are words that need to be doubled."**

These expressed that they had just become aware that some English words contain double consonants, suggesting a newfound recognition of this spelling pattern. These responses suggest varying levels of awareness and understanding among the participants. While some were previously unfamiliar with the concept, others displayed a more conscious effort to apply the rule. Overall, the data shows that all participants have become aware of the presence and importance of double consonant spelling in English, with some gaining a more in-depth understanding of how to use it correctly.

These findings can be reflected in studies by (Daffern and Fleet (2021), who highlight that explicit instruction in teaching double consonant spelling significantly improves learners' awareness and accuracy in English spelling. Their research emphasises that learners benefit from focused teaching on these rules, leading to a deeper understanding, much like Participant 1, who demonstrated an improved grasp of arranging double consonants. Additionally, research by Sargiani et al. (2022) indicates that explicit instruction served as a form of corrective feedback for the initial spelling attempt. This supports the elements in Spellgaro, where explicit instruction was applied through the guidance and clues provided as colours, which are one of the features in Spellgaro that fit as guidance when the participants were spelling the words.

Other than that, the third sub-themes were identified as easy to understand because of the colour and confidence, indicating the effectiveness of Spellgaro in teaching double consonants. The sub-themes were best presented as in Figure 7 below.

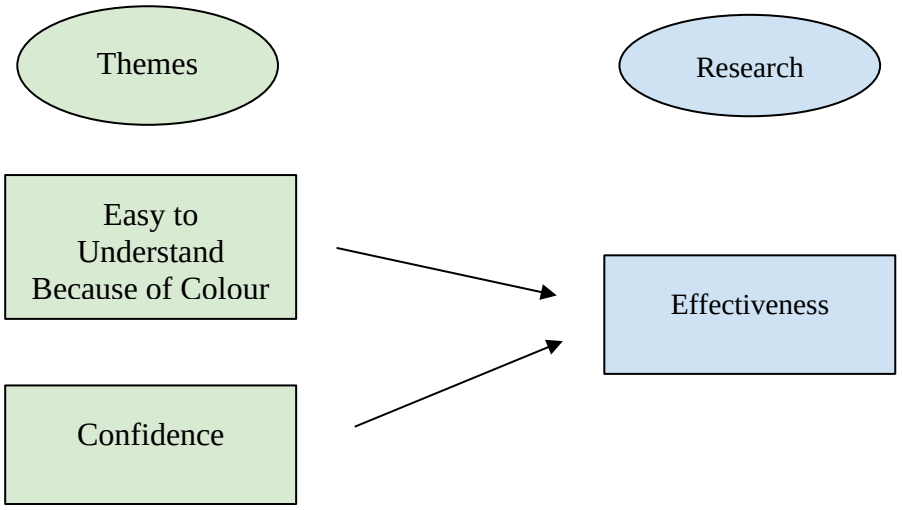

Figure 7: Sub-themes Derived from the Transcription

In the interview, most of them gave answers on the influence of colour in understanding the structure of double consonant spelling. It can be seen in their answers as in,

"I can **spot them** much more easily because of the **colour."**

"Yes, it's **easy to understand** because of the colour."

These two answers indicate the role of colour in helping the pupils navigate their spelling and contribute to the effectiveness of Spellgaro. The use of colour in teaching spelling has applied the approach of visual cues in spelling as it indicates the feedback to the participants to reflect and recognise their mistakes. Chang et al. (2018) also state the importance of colour as colours aid students in focusing more intently on a specific material, which facilitates the knowledge's transfer to both short- and long-term memory and increases the likelihood that the information will be retained. Spellgaro emphasises the use of colour to help the participants understand double consonant spelling, which led them to agree that colour contributes to their spelling ability.

Lastly, confidence was also derived from the interview transcription, where the participants shared that,

"I felt more **confident** to spell especially because of the colour."

The confidence of the participants indicated that the use of Spellgaro was effective in helping them gain confidence in spelling. The lack of confidence in spelling may hinder their ability to spell, especially when spelling new words (Daffern & Mackenzie, 2019). Hence, the confidence expressed by the participants contributes to their confidence in spelling ability.

Research Question 2: Are Year 5 Nilam pupils interested in using Spellgaro to improve their spelling of double-consonant words?

The interview also explored the participants' interest in using Spellgaro to learn double consonants. Four sub-themes were notably enjoyment, showing eagerness towards Spellgaro, engagement and fondness of features best presented in Figure 8 below.

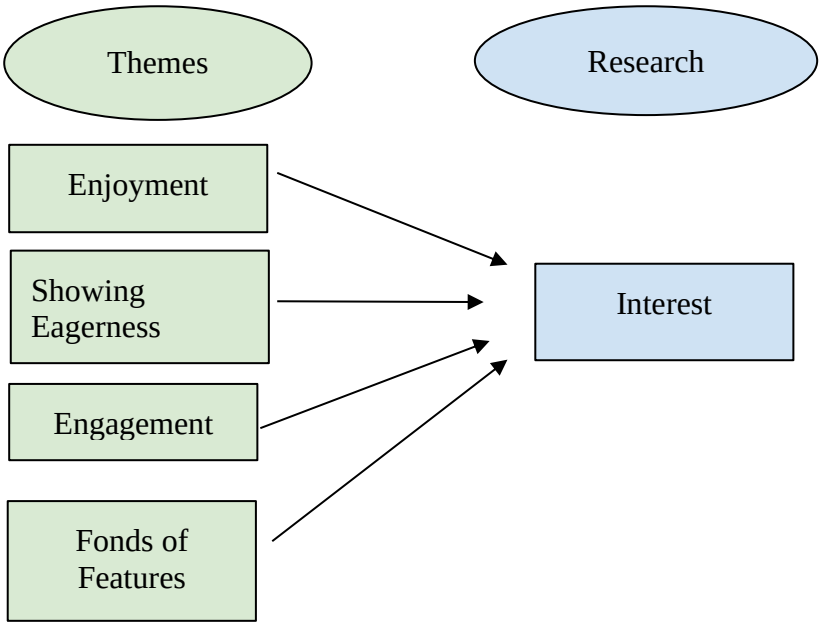

Figure 8: Sub-themes Indicating Interest

Based on Figure 8, the first sub-theme derived from the interview transcription is the enjoyment shown by the participants. Participants shared that,

"Yes, it's **enjoyable".**

The participants' enjoyment proved that Spellgaro managed to arouse interest among participants in learning to spell. The first sub-theme, enjoyment, reflects how the participants found Spellgaro fun and engaging. One participant shared, "Yes, it's enjoyable," illustrating that the platform successfully made learning an enjoyable experience. The enjoyment factor is essential in maintaining learners' interest and motivation (Oliveira et al., 2022), especially in the shifts from traditional teaching to gamification in teaching. The participants' positive reactions suggest that the gamified elements of Spellgaro, such as interactive activities and colourful visuals, helped transform spelling practice into an enjoyable task rather than a routine exercise. This indicates that Spellgaro successfully captured the participants' attention and sustained their interest throughout the learning process.

The second sub-theme that can be discussed is that the participants are eager towards Spellgaro.

"Yes, I can **use** it with my friends."

"I always want to **try** this"

Despite being exposed to this 2-in-1 game, the participants were still interested in exploring this intervention's use. The second sub-theme, eagerness, highlights the participants' enthusiasm to engage with Spellgaro, even beyond the structured classroom environment. Responses such as "Yes, I can use it with my friends" and "I always want to try this" shows that the participants were not only eager to use Spellgaro during the lesson but also saw it as a tool they would enjoy using with their peers in a social setting. This eagerness signifies that Spellgaro facilitates independent learning and encourages collaborative learning, where students are motivated to explore and engage with the tool beyond formal instruction. Independent learning refers to how pupils can freely obtain knowledge, verify it, and even confirm it with a teacher who is far away (Noviyanti, 2020). The additional support of learning suggests that Spellgaro's interactive nature helps promote a positive attitude toward learning spelling, making pupils more willing to engage in peer-assisted activities.

The third sub-theme of interest is through the engagement that the participants showed. They shared that,

"Yes, I want to play **longer**."

The excerpt indicates that the participants were fond of the use of Spellgaro as they wanted to play it longer. The third sub-theme, engagement, emphasises how Spellgaro captured and held the participants' attention. "Yes, I want to play longer" indicates that the participants were actively involved in the learning process and wanted to continue using Spellgaro even after the designated learning sessions. This level of engagement is significant as it highlights the potential for extended learning. When learners express a desire to continue using a learning tool, it demonstrates that the platform has successfully created an immersive and enjoyable experience that motivates learners to explore their spelling skills further. This deep engagement is critical in fostering long-term retention of spelling rules and building spelling proficiency.

Lastly, the fourth sub-theme that can be derived from the interview is through fond of features where most participants are showing interest, through the feature in Spellgaro. The sub-themes's fondness of features showcases the participants' appreciation for specific aspects of Spellgaro, particularly the torchlight feature. Comments like "I like the torchlight part" indicate that the design elements within Spellgaro played a crucial role in capturing the learners' interest. The torchlight feature, which may involve highlighting or uncovering letters, likely made the learning process more interactive and visually stimulating, enhancing the student's ability to focus on specific spelling patterns. This fondness for particular features suggests that thoughtful design elements, such as visual aids or interactive tools, are crucial in keeping learners engaged and excited about using educational platforms.

"Yes, but maybe just the **torchlight** part."

"I like the **torchlight part**."

These four sub-themes indicate that the participants seemed interested in using and implementing Spellgaro in their learning of spelling skills.

Other than that, the observation was conducted during the implementation of the action to identify participants' interests using Spellgaro. The data collected from the observation was analysed using the thematic analysis method. The observation checklist was represented in frequency counts according to the items in the observation checklist.

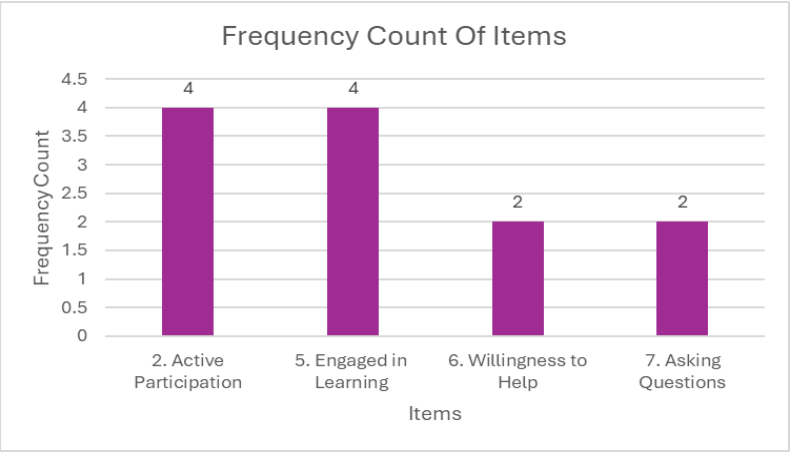

Figure 9: Frequency Count of Items

Based on the chart above, four items from the observation checklist were chosen as one of the most outstanding responses to Spellgaro's interest. For item 2, all the participants showed active participation. They responded to teachers' questions and noted Spellgaro's implementation process. They all responded positively despite Participant B, who seemed distracted but managed to answer when asked. According to (Albuquerque and Martins, (2021) those who participated actively and collaborated with others tended to understand the spelling system better as they may prefer to discuss along with others.

The fifth item was based on how the participants were engaged in learning during the implementation of Spellgaro. Most of them were showing a good. Based on the data analysis, a few notable behaviours were jotted down. Two participants showed engagement by voluntarily wanting to be involved and take part in the implementation of Spellgaro. This behaviour indicates that the participants enjoy the implementation process, as most also showed curiosity and a desire to explore Spellgaro more. According to Hiver et al. (2024) most studies on cognitive engagement have concentrated on verbal expressions, such as peer interactions, students' questioning, repetition, reluctance, answering questions, sharing ideas, and providing feedback.

Additionally, item 6 was also recorded as the participant's willingness to help their friends during the implementation of Spellgaro. This behaviour was recorded as one of the outstanding behaviours because it managed to show how the participants reacted differently outside of the classroom. The reason is that, before this, pupils were reluctant to help each other in the classroom, and most of them did the task individually rather than offering their hands to help their friends. However, throughout the implementation of Spellgaro, two participants were willing to help their friends complete the task.

Lastly, another notable remark from the observational checklist was item 7 in asking questions. Two participants sought clarification and further information about the use of Spellgaro. It indicates that the features in the Spellgaro aroused their interest in terms of its use of Spellgaro.

REFLECTION

On the first day of the Year 5 Nilam English classroom, despite being informed of the pupils' proficiency and ability in English, I was hoping at least for them to know how to spell, especially for the words that have been exposed to them. It was a startling revelation that Standard 5 is still at a low spelling ability level, which a few factors, such as the ignorance of spelling methods in the classroom, may influence. The lack of spelling ability may hinder and impact their learning, especially in language skills such as reading and writing. This issue has aroused my interest as an English learner when sometimes I struggle to spell words in English.

This issue occurred because of how the teaching was delivered. Before this, the teaching of spelling was only focused on the teacher's pronunciation. During spelling activity, pupils will spell words based on the teacher's pronunciation. This method was less effective as pupils could not recognise the correct structure of word spelling, as most words have different spellings based on how they were pronounced.

Reflecting on the pupils' levels in English, it is essential to apply the proper method of teaching spelling to suit their learning styles and preferences. I believe there is a need for changes in spelling methods in the classroom that suit the learners' ability and level of proficiency. Furthermore, based on the data collected, the participants' spelling ability can be improved by exploring suitable methods of teaching spelling. A lack of focus on the method of teaching spelling is one of the reasons the participants struggle with spelling ability. As this study is focused on a more minor part of double consonant spelling, explicit teaching is one of the ways to practice spelling among the learners. As Boer and Bree (2024) state, explicit teaching of spelling is suitable for practising word-specific knowledge that will contribute only to the expected target words. For example, in Spellgaro, the double consonant words were chosen based on the syllabus they had learned according to their standard.

Additionally, Tribushinina et al. (2022) highly recommend explicit instruction in teaching spelling as it has been proven to improve learners with dyslexia. However, they suggest teachers' guidance to help the learners explain the rules and help them identify their mistakes in spelling. Even though Spellgaro guides the participants to be responsible for their learning, the role of the teacher is crucial to help the pupils improve the participants' spelling abilities. They conclude that for both proficient and incompetent spellers, explicit training outperforms implicit instruction; however, it should be combined with activities that allow learners to actively practice spelling and identify their areas of strength and weakness. This adds the advantage of using Spellgaro in learning spelling, as the participants can discover their learning by comparing their areas to improve.

SUGGESTIONS FOR FURTHER RESEARCH

For future research and development, it is crucial to broaden the focus beyond double consonants to encompass a broader range of English spelling structures. The English spelling system includes prefixes, suffixes, verb forms, and tenses, which significantly affect spelling proficiency. Therefore, it is recommended that future studies investigate these areas comprehensively. Adapting relevant theories and instructional approaches to teaching these different spelling structures could enhance the effectiveness of spelling instruction. For example, applying morphological and phonological awareness strategies could help learners better understand the complexities of English spelling. Additionally, considering the positive impact of Spellgaro on double consonant spelling, it is worth expanding the platform's scope to include features that address other aspects of spelling. The features could foster a more holistic learning experience for students, enabling them to improve various facets of their spelling ability.

Given the current shift towards technology-enhanced learning, developing Spellgaro as a widely accessible application would be a critical step forward. This app could provide learners with more significant opportunities for self-directed learning, allowing them to explore and reflect on their spelling progress independently. Such a platform could integrate personalised feedback, adaptive learning pathways, and interactive spelling activities that cover various spelling challenges, from basic to advanced levels. Moreover, the implementation of Spellgaro should begin at an earlier stage of education, starting as early as Standard 1. Early exposure to structured spelling instruction would allow younger learners to build a solid foundation in spelling skills, making it easier to master more complex structures as they progress. Introducing Spellgaro at earlier stages could lead to long-term improvements in spelling proficiency, ultimately contributing to overall language mastery.

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QUESTIONING LEVEL FOR HIGHER-ORDER THINKING SKILLS DEVELOPMENT IN CLASSROOM TEACHING

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ABSTRACT

This paper aims to provide insights into the teachers' questioning level in developing Higher-Order Thinking Skills (HOTS) in primary school classrooms. A constructivism based on the teaching instruction of HOTs incorporation pertaining to the cognitive process dimension of the Revised Bloom's Taxonomy (2001) is an essential requirement in teaching practices. Notwithstanding, investigations into the teachers' readiness in incorporating HOTs in their teaching practices have revealed that the integration of HOTS questioning level is still low. By employing a single case study of three teachers as participants, data was collected using observation checklist, document analysis and semi-structured interviews. The qualitative data was analysed by employing interpretivist thematic analysis procedures. The themes consisting of Higher-Order Thinking Skill (HOTS) and Lower-Order Thinking Skills (LOTS) questions were obtained. This study concludes that the teaching practice of the teachers needs to be improved as LOTS questions were used predominantly compared to the HOTS questions. Most teaching sessions focused only on the acquisition and understanding of the content of the lesson. The findings are discussed under the light of relevant literature and implications are presented for further research and pedagogical guidelines.

Keywords: *Teachers, HOTS questions, LOTS questions, classroom teaching.*

INTRODUCTION

For over 1400 years, the Holy Quran has emphasized the importance of higher-order thinking skills (HOTs) and reflection. As Muslims, we are encouraged to recite the Quran with 'tarteel' (careful, thoughtful recitation), which aids in a deeper understanding of its meanings. HOTs are particularly highlighted in Surah Al-Ghashiyah: 17-21: o they not look at the camels, how they are created? And at the sky, how it is raised? And at the mountains, how they are erected? And at the earth, how it is spread out? So remind [O Muhammad], for you are only a reminder." These verses invite us to reflect on Allah's creation, prompting analysis, questioning, and the application of HOTs. Throughout history, Muslim scholars have demonstrated this spirit of inquiry and success in scientific fields. Ibn al-Nafis (1213-1288 AD) explained the circulation of blood to the heart through vessels. Jabir ibn Hayyan (721-815 AD), known as the father of chemistry, published over 200 works, while Al-Kindi (801-873 AD) expanded on Ibn Hayyan's work by developing methods for creating perfumes and aromatic oils (Al-Nofaei, 2013). From the revelations of the Quran to the teachings of the Prophet Muhammad, the value of HOTs in shaping individuals has always been evident. The knowledge we acquire must be paired with the ability to think critically, analyze, and solve problems effectively, a crucial skill set for preparing citizens to succeed on the global stage.

In this context, the development of higher-order thinking skills (HOTs) represents a positive phenomenon for the entire world, with questioning recognized as a crucial tool for fostering thinking.

Therefore, the level of questioning employed in English language teaching is believed to enhance the development of HOTs among learners. This study will first emphasize the concepts of HOTs, which many scholars identify as equivalent to critical thinking (Paul, 1995; Anderson & Krathwohl, 2001; Ministry of Education, 2011; Hassan et al., 2016). Consequently, this study considers HOTs and critical thinking to be interchangeable terminologies.Moreover, HOTs have been examined across various countries, including the Netherlands (Janssen et al., 2019), the United States (Chason et al., 2017; Dowd et al., 2018), China (Tiruneh et al., 2018), and Australia (Firipis, Chandrasekaran & Joordens, 2018). Previous research has demonstrated that questioning stimulates HOTs (Mazer, Hunt & Kuznekoff, 2008; DeWaelsche, 2015; Buchanan Hill, 2016; Bulent et al., 2016). In the classroom, HOTs questioning by teachers is essential for encouraging students to elaborate on their interpretative responses. Instead of providing simple yes or no answers, students should be encouraged to offer more detailed and thoughtful responses (Singh et al., 2017). Accordingly, Yatie et al. (2024), emphasise the importance of fostering HOTs through effective questioning strategies in educational settings, highlighting that a well-structured questioning approach can significantly enhance students' critical engagement and deeper understanding.

LITERATURE REVIEW

Equipping teachers with knowledge of Higher-Order Thinking skills (HOTs) is a key focus of our education system, as teachers play a crucial role in influencing students' outcomes (Malaysia Education Blueprint 2013-2025). Despite the emphasis on HOTS as a goal of the Malaysia Education Blueprint 2013-2025, many lessons have been found to be ineffective in engaging students, often resulting in only a superficial understanding of content, with HOTS remaining underdeveloped (Ministry of Education, 2013). Extensive evidence from prior studies indicates that while in-service teachers have been introduced to HOTS practices, they still struggle to implement these skills effectively in their teaching (Coffman, 2013; Gashan, 2015; McElroy, 2017; Barin, 2019). Fitriani et al.(2023), have revealed that while Indonesian senior high school EFL teachers had a good understanding of Higher Order Thinking Skills (HOTS), the effective implementation of HOTS in classrooms faced challenges. These challenges included students' low English proficiency, teachers' lack of competencies, and limited resources, such as insufficient access to learning materials and technology. Consequently, this study aims to investigate how Malaysian in-service teachers engage with HOTS when formulating questions during English language instruction in their teaching sessions.

RESEARCH METHODOLOGY

This study has employed a qualitative research approach to explore teachers' ability in practicing LOTs and HOTS questions level in classroom scenarios. The classroom LOTs and HOTs structure or framework is developed by adopting Vygotsky's (1978) Social constructivism learning theory and the revised version of Bloom's Taxonomy by Anderson and Krathwohl (2001) in order to examine teachers' identification of HOTS questions in instructional classroom activities.

The triangulation method was used by employing three instruments which were document analysis, observation checklist and semi-structured interview. The document analysis method was carried out by scrutinising the worksheets employed by the participants' teaching practices that occurred in the classrooms. Then, the classroom observations were conducted to observe the questions patterned posted by the participants. Semi-structured interview also was conducted individually to obtain their insight about LOTs and HOTs practices in the classroom teaching.

OBJECTIVES

This study aims to investigate teachers' ability to apply Higher-Order Thinking skills (HOTS) in their classroom teaching. By focusing on how effectively teachers incorporate HOTS alongside Lower-Order Thinking skills (LOTS), the research seeks to enhance teaching practices, improve student engagement, and inform assessment strategies. This evaluation will provide insights into the current state of HOTS implementation in primary school classrooms by: -

1. To assess teachers' ability to effectively implement Higher-order thinking skills (HOTS) in classroom instruction, alongside Lower-Order thinking skills (LOTS).
2. To investigate how teachers' use of HOTs questions impacts student participation and engagement, promoting critical thinking and deeper learning experiences.
3. To provide insights into how teachers can integrate HOTs into assessments, facilitating comprehensive evaluations of students' understanding and cognitive skills.

FINDINGS

Examining HOTS questions in the observations of teaching activities is very crucial. The HOTS questions are regarded as the focal point in determining whether the teaching activities incorporated could develop and enhance critical thinking or not. Active learning approach must be coherent with HOTS questions to ensure that critical thinking is developed.

Participant 1: Ms Farisha

During the observation of Ms. Farisha's teaching sessions, her questioning techniques were closely examined to evaluate the use of Higher-Order Thinking Skills (HOTS). The analysis revealed that only three questions (4.3 percent) across the sessions qualified as HOTS, while sixty-six questions (95.7 percent) were categorized as lower-order thinking skills (LOTS). It became clear that LOTS questions overwhelmingly dominated the sessions, while HOTS questions appeared only in the third and fourth lessons. Most of Ms. Farisha's questions aimed at helping students complete tasks and grasp the content, focusing on recalling information rather than encouraging deeper thinking. LOTS questions generally remained at the comprehension level, intended to check students' understanding, existing knowledge, or schemas related to the topic. In the first observed session, students worked in groups to play a board game that required answering questions in sequence. However, HOTS questions were not posed in the session, nor were they provided in a worksheet given to the pupils later. Even though the pupils were incorporated in a fun learning environment through games, LOTS questions were predominantly employed throughout the questions and answers session.

Furthermore, it was noted that there were only three HOTS questions identified in Ms Farisha's teachings, as seen in the third observation session during Lesson 3. The Applying Level of HOTS questions posed are stated below:

Q2 starts at 3.95 D6 Ms Farisha

Ms Farisha	*:*	*I would like to ask (all of) you to guess my action(s). Yesterday, I (doing the cleaning action) dishes*
Pupils	*:*	*Cleaned.*
Ms Farisha	*:*	*A few minutes ago, I (doing the cycling action) bicycle.*
Pupils	*:*	*Cycling.*

Ms Farisha	*:*	*Last week, I (doing the cooking action) fried rice.*
Pupils		: Cooking...emm...cooked.

The questions posed by Ms Farisha shown above fell under the Applying Level, where the purpose of the questions was to transfer the knowledge obtained in a different context. She encouraged her pupils to transfer the knowledge that they have already obtained before the lesson by asking them to guess what she was doing in different situations. The context of these questions was time, where pupils had to understand the differences between the present and past times. Upon understanding the different contexts in terms of time, the pupils were required to transfer the knowledge of how verbs change in spelling based on the contextual difference of time. By informing her pupils about the change in tense, such as: *clean* to *cleaned, cycle* to *cycled and cook* to *cooked,* Ms Farisha eventually encouraged critical thinking among her pupils by initially questioning them, and later encouraging them to recall their stored knowledge, firstly, on the gestures performed and secondly, the context-based verb-grammatical differences. However, the pupils only managed to give short answers without further elaboration which made Ms Farisha continue to ask and repeat the questions. For the second and third answers, pupils answered wrongly. This indicates a less successful attempt in engaging her pupils in HOTS questions.

Accordingly, Evaluating Level questions were found in the observation as well. The excerpt below proposes that Ms Farisha had attempted to incorporate HOTS questions in her teaching. However, in solving the problem, Ms Farisha had to change her role from a teacher into an information provider as commonly practised in a teacher-centred approach as the pupils heavily depended on her to assist them in completing the task.

Evaluating Level Questions

Q13 starts at 0.51.14, D7 Ms Farisha

Ms Farisha	*:*	*In your opinion, who do you think will win the competition? (And) Why?*
Pupil	*:*	*Who (will win) teacher?*
Ms Farisha	*:*	*Who do you think (will win)?*
Pupil	*:*	*[silence]... Siapa? (Who?)*
Ms Farisha	*:*	*You choose and give (your) reason... For example,... I think (it is) Aminah because.. apa (why)? Up to you to choose.*
Ms Farisha	*:*	*Because she is...Kalau teacher (As for me)...my answer..is...it is Ali because he is a good flutist.*
Ms Farisha	*:*	*See?*
Pupil	*:*	*Ooo..okay. (51:14, D7 Ms Farisha- Evaluating Level)*

The extract also revealed that the main barrier in executing HOTs in Ms Farisha's teaching session was the pupils' low fluency in the English language and that Ms Farisha did not provide enough time to the pupils to solve the task. Instead, Ms Farisha rushed to provide the pupils with the answers. In short, the techniques incorporated in the teaching were confusing as Ms Farisha, as the teacher ended up as the information provider, and the creating activity was mixed up as the applying activity.

Evidently, the following extract was taken from a passage of Lesson 4, in which Ms Farisha asked the pupils two indirect questions. Though both questions derived from the Understanding Level, the pupils took a longer time to solve the problems as the passage was indirect in nature, and the pupils had to read

the extract carefully to answer the question of how many musical instruments were mentioned in the passage. At first, the pupils gave the wrong answer. Ms Farisha then asked them to recalculate their answers, which later, with her guidance, they eventually managed to answer the questions correctly. Meanwhile, in the fourth observation, a group discussion was conducted, and pupils were required to give a reason for their choices. In this session, HOTS questions were provided by Ms Farisha which allowed the discussion between the teacher and the pupils to reach the Evaluating Level of the Bloom Taxonomy.

The pupils who were already seated in groups had a discussion to solve the given task. However, they were still unable to execute the task, and as a result, Ms Farisha had to go to each group to help them solve the problem. She had to shift her role in the peer discussion activity, guiding and facilitating the pupils instead of providing knowledge to the pupils. It seemed that activities meant to encourage pupils' critical thinking were mostly disrupted when Ms Farisha directed the session by dispensing information as she was anxious to seek silence from each pupil who was constantly pestering her for solutions to the given task. Nevertheless, it could be said that Ms Farisha was largely still in control of the learning process. However, this does not mean that she is ready to shoulder only the facilitator role in her teaching sessions as her audience is still mostly passive learners. The finding proves that Ms Farisha had attempted to instil HOTS question activities in her teaching sessions, which was hindered by the spoon-fed approach taken to teach the pupils eventually.

Participant 2: Madam Airin

Similarly, HOTS questions could be identified during observations of Madam Airin's teachings; however, their number was still relatively low compared to the total number of LOTS questions asked. In fact, LOTS questions posed by Madam Airin totalled 47 (85.5 percent) of the total number of questions asked, whereas only eight questions (14.5 percent) from all questions posed could be categorised as HOTS questions. In Lesson 1, two Analysing Level questions were posed by Madam Airin. The pupils subsequently seek Madam Airin for more guidance in order to complete the given task.

i) The Analysing Level of HOTS questions

Madam Airin	*: What sound can you hear just now?*
Pupils	: *Crunchy (sound).*
Madam Airin	*: What are other food (that) sound like that?*
Pupils	: *Apple(s), Cornflake(s), Cereal(s).*

ii) The Analysing Level of HOTS questions

Madam Airin	:	*Discuss the sound and movement you want to make from the chosen food. Do you understand?*
Pupils	:	Yes
Pupils	:	*Teacher, lepas siap kena buat apa? (What should we do, once we have finished with this one?)*
Madam Airin	:	*Lepas siap kena lalu kat depan (Once you are done, you have to come in front)you have to read the poem.*
Pupils	:	*Setiap orang? (Everyone (of us has to)?)*
Madam Airin	:	*Per group, understand?*
Pupils	:	*Yes.*

The finding demonstrates that the pupils could sometimes deliver an adjective, like 'crunchy' to describe sounds. However, they heavily depended on Madam Airin to assist them with vocabularies and ways to solve the task, proven in the second Analysing Level of HOTS questions above.

Concerning the Applying Level, the pupils were taught to use their knowledge, skills and values in different situations to complete a particular task. For instance, in one session, Madam Airin asked her pupils to produce an apple collage and decorate it. Subsequently, the pupils sat in a group, created the collages, and presented them in front of their classmates. The Applying Level observed shows how the pupils asked Madam Airin to guide them to obtain the answers towards the end of the task.

Apart from that, Madam Airin's misunderstanding of the creating and Applying Levels could also be noted in the creating task assigned to her pupils. The Creating Level activities assigned to the pupils by Madam Airin were, in fact, the Applying Level activities as the pupils merely used the knowledge they gained previously and applied them to a new situation. The implementation of gained knowledge in a new situation does not necessarily achieve the Creating Level of the revised Bloom Taxonomy. Ambiguity needs to be incited in her pupils in order for Madam Airin to understand what the Creating Level truly entails. The questions assessed the pupils' ability to consider; make decisions using their knowledge, experience, skills, and values, and justify their decisions.

In another observation, it was identified that Madam Airin wanted to instil Evaluating Level questions during her teaching session as below:

> *Madam Airin: Why do you like KLCC, Qistina? Pupil: I like Suria KLCC because...*
>
> *Madam Airin: Why... Why do you like it? Pupil: (Because) it is very beautiful.*
>
> *Madam Airin: Okay, Qistina said she like(s) (Suria) KLCC because it is very beautiful. Any other answers?*
>
> *Other pupils: (Because) They are very tall and (we) can (also) go shopping.*

Based on the excerpt above, it is evident that Madam Airin has attempted to encourage her pupils to evaluate their choices of answers as identified in the follow-up questions. However, the pupils still did not answer the questions, making HOTS questions as follow-up questions a failure in the given task. Nonetheless, the pupils managed to answer the first and third questions with a scripted answer, repeating the adjective 'beautiful' to the two questions asked. Few pupils who were proficient in English also helped complete the rest of the task by stating the answer, 'They are very tall and can go shopping' to the third question. It can thus be deduced from the finding above that Madam Airin's pupils can be categorised as mixed-ability pupils, comprising pupils from the advanced and low ability group.

Participant 3: Mr Hisyam

A close examination into Mr Hisyam's questioning strategies during his teaching practice was carried out, and it was found that there were 35 (70 percent) LOTS questions posed, whereas only 15 (30 percent) HOTS questions posed in the entire Mr Hisyam's teaching sessions in total.Only one Applying Level question was applied in Lesson 1 of Mr Hisyam's teaching session.

The Applying Level of HOTS questions

Mr Hisyam	*:*	*In your group, (please) make a script for the role-play based on the dialogue you listened just now.*
Mr Hisyam	*:*	*This group…hilang apa? (What is the missing thing (in this group)?*
Pupil	*:*	*Jam. ((A) watch)*
Pupil	*:*	*Sir, mangsa punya ke? (Sir, the victim's belonging, is it?) Ya. Victim first, like say, help me…help me. I lost my item.*
Mr Hisyam	*:*	*Let's use the detective kit. Okay, you may refer to the script in the book. I just want you to talk. You may begin the story with the victim first.*

The extracts show that Mr Hisyam has imparted the Evaluating Level questions in the particular teaching session to encourage his pupils to justify their decisions. However, the scripted answer read by the students had hampered the development of critical thinking.

The Analysing Level of HOTS questions

Mr Hisyam: Jamal loves water sport(s). Which activity suits him (most)?

Pupils : Rafting.

The types of questions posed by Mr Hisyam determined that critical thinking in his classroom was practised poorly. LOTS questions were dominantly employed in his classroom teaching, whereas HOTS questions delivered were obtained only short responses and scripted answers from his pupils. HOTS questions were minimal in number, and in scenarios in which they were posed, the pupils heavily depended upon Mr Hisyam to help them solve the given task. A less successful attempt was identified in his effort of developing critical thinking via posing HOTS questions.

The Analysis of Questioning Level

Although LOTS questions were dominantly employed by most of the participants, two participants had been discovered integrating high numbers of HOTS questions compared to the other three participants, they were Mr Hisyam and Madam Airin. This study had also shown that a huge difference occurred between Mr Hisyam and Ms Farisha which was 25.7 % differences in posing HOTS questions. The difference emerged among the participants possibly because of the knowledge gained.

On the contrary, during the interview, when they were asked for the indicator to claim that critical thinking was carried out in the teachings, the element of integrating HOTS questions was viewed as crucial by most of the participants. It could be concluded that, they were aware of the importance of imparting HOTS questions in the lacking of awareness, however, they possibly were not competent in constructing questions that suited to the appropriate HOTS level.

This study also showed that all the participants did not incorporate Creating Level in their teaching practices. However, during the interview, they reiterated that Creating Level is essential to be incorporated in teaching for critical thinking development. Instead, all the participants have regarded that they have imparted Creating Level in their instruction whereas in the actual scenario, it only achieved Applying Level. The Bloom Taxonomy revised version defines that Creating Level is achieved by producing something new and original.

The new and original elements of producing products seemed ignored by the participants and it was proven from the analysis made where all the participants misunderstood between Applying and Creating levels based on their production of activities for the pupils. Any object created due to the knowledge obtained in the previous learning is only at the Applying Level. For instance, Ms Farisha requested the pupils to mold their own musical instruments based on the object learned previously from clay. Then, Madam Airin had asked her pupils to make a collage where the pupils were only given a list of food and they were asked to cut and paste the coloured paper given and write down the name of the object pasted. Mr Hisyam required the pupils to construct a script, whereas pupils just mostly copied the script that they had read in a given text with some amendments to the losing items as asked in the given tasks.

DISCUSSION

Questioning is crucial to develop human thought, and effective questioning with HOTS incorporation is believed would develop students' level of critical thinking (Anderson & Krathwohl, 2001; Shafeei et al., 2017; Wang et al.,2024). Based on observation of teaching practices, this study has revealed that the participants dominate the discussion in LOTS questions likely due to the aim is more on the mastery and comprehension of the subject matter merely. Seman and Yusof (2018) reveals that the teaching practices are deteriorated by employing LOTS questions frequently as the participants seemed to ask the pupils to remember facts and comprehension to measure understanding. This result accords perfectly with some research that revealed the overuse of LOTS questions in teaching practices (Shen et al., 2011; Yuliawati et al., 2016; Khan, 2017; Aziz et al.,2017).

This study is in line with the preference of not opting for HOTs by practising teachers at secondary school. Despite the three to ten years of teaching experience, they chose not to inculcate HOTs as they emphasise on mere comprehension of the subject matter. (Aziz et al., 2017). Interestingly, similar to tertiary education, the lecturers chose to neglect HOTs, even they realised the importance of high order thinking skills among students (Dwee et al.,2016). LOTS questions significantly have promoted thinking at Remembering and Understanding level, far from HOTs. This study states to acquire HOTs, teachers should understand the steps of posing questions with elements of HOTS based on Bloom's Taxonomy in order to help pupils achieve critical thinking.

This study has proven that teachers only ask HOTS questions for 17.1% of all the observed teaching practices. Albeit the awareness of HOTS questioning in triggering HOTs, their positive view towards the roles of incorporating HOTS questions in the lesson is conversely shown in practice. This result is concord with Shafeei et al., (2017) who reveal that the implementation HOTS questions in ESL classroom received positive feedback by the teachers, however the use of these questions are still limited. The facts of the content taught which were based on basic knowledge and comprehension are dominantly taught and asked in their teachings. The teachers intend to ensure that the pupils could respond appropriately to indicate they have understood the subject matter. The correct answers responded by pupils indicated their success of delivering the content. This result proves that they are not teaching for HOTs but to ensure that the pupils remember and understand the information conveyed as practised at LOTS level.

CONCLUSION

The Revised Bloom's Taxonomy (2001) is a great reference to measure the HOTs applied in classrooms. The six levels in the taxonomy become the indicators of the questioning activities by the teachers studied in this research. Observations, document analysis and interviews uncovered the facts of their tendency to apply LOTS more than HOTS in their lessons. The unreadiness to accept the risk of student's low proficiency in English limits their HOTS activities. In a nutshell**,** as proven in the analysis of data, the teacher's questioning is undeniable and plays an extremely main role to enhance HOTs as it leads to thinking engagement with pupils' ownership of learning. Teachers should be competent in understanding how to construct effective questions and instructions in their classroom teachings, thus providing the right lesson for the pupils in order to guide the pupils into the growth of critical thinkers in leading the nation.

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IMPROVING LEVEL 1 PUPILS' BEHAVIOUR IN THE CLASSROOM THROUGH PIREBOARD

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ABSTRACT

Effective classroom management in Malaysian primary ESL classrooms ensures students stay focused and engaged in learning. However, teachers often encounter challenges maintaining discipline, particularly in sustaining pupils' attention during lessons. This issue was observed among the 3 Mumtaz pupils, who exhibited several behavioural problems such as wandering around the classroom, passivity, daydreaming, and causing unnecessary disruptions that hindered the learning process. This study aimed to address these behavioural issues by implementing PiReBoard, a creative reward system incorporating gaming elements with rules that the "players" must follow. The action research was conducted on Year 3 Mumtaz students at SK Pulau Perhentian, Besut, Terengganu. Data were collected using observation, a behaviour checklist, and semi-structured interviews. Coding and thematic analysis were employed to analyse the data. The findings revealed a marked improvement in students' behaviour following the introduction of PiReBoard. Pupils demonstrated increased participation in classroom activities, attentiveness to the teacher's instructions, and better task completion. Semi-structured interviews with the class teacher further confirmed the effectiveness of PiReBoard in enhancing students' classroom behaviour. By integrating a reward system that merges gaming elements with a competitive and healthy environment, PiReBoard motivated pupils to adhere to classroom rules and engage actively in the lessons. The study suggests this approach could be applied in a broader context, extending beyond ESL classrooms to similar educational settings.

Keywords: *Classroom behaviour, attention, Level 1 pupils, classroom management, reward system*

INTRODUCTION

Classroom management can be defined as establishing a conducive and positive learning process. It is essential to keep pupils on track and ensure effective learning. However, teachers in primary schools might have faced some challenges in maintaining good classroom management. One of them is to keep the pupils' attention during the lesson. It was discovered by Pribadi et al. (2021) that students displayed several learning discipline issues, such as arriving late for class, not paying attention to the teacher when they were explaining, and so forth. Pupils not paying attention can be affected by many factors, such as the teacher's teaching style, motivation, and interest. This explains why students frequently become disinterested during the teaching and learning process. When bored with the lecture (lack of stimulation), they may act out in class or create noises like talking to the other students or doing something unrelated to the subject matter, like drawing (G.A.D.P. et al., 2019). Other than that, pupils often display undesirable behaviour in the classroom, such as walking around the class, talking loudly when the teacher is lecturing, or playing with their friends. These actions can disturb other pupils and, by implication, affect the teaching process. In another context, even under the best circumstances, learning cannot occur when students cannot focus on the tasks at hand or when their attention is diverted to unrelated stimuli (Cicekci & Sadik, 2019).

Reflection on Teaching and Learning

Recalling the past teaching in the particular school, significant issues occur in the classes, especially in level 1 pupils' classrooms, which is the problem of pupils' classroom behaviour. It was challenging because they ignored the teaching, talked with their friends, and moved a lot during practice instead of doing the task given. This condition caused the teaching and learning not to run smoothly, and the day's objectives could not be achieved. Student misbehaviour may be linked to problems in family life, the physical characteristics of the classroom, concerns with the curriculum, or the instructor's classroom management skills (Erdem, C. & Kocyigit; M.,2019). Some efforts have been made to make the pupils focus during the class. For example, the teacher must stop the lesson and ask them to look before the class. The teacher called their name if they misbehaved in the class, and sometimes, the teacher had to go to their place to ask what they were doing. The teacher also used the attention grabber method when the pupils were being loud so that they would listen. However, using attention grabbers in the classroom did not fully capture the pupils' interest. For various reasons, some pupils chose not to react to the attention-getter (Arifadah et al., 2020).

Problem Statement and Research Focus

Through an analysis of the behavioural challenges exhibited by Level 1 pupils during teaching and learning sessions, as well as classroom observations and discussions with lecturers, it became evident that these issues must be addressed to enhance students' focus and improve teaching effectiveness. Classroom recordings were conducted during lessons for Year 3 Mumtaz pupils in Besut to substantiate the presence of these problems. From the recorded footage, a behavioural checklist was developed to identify specific behaviours demonstrated by students throughout the teaching process. The findings revealed that a significant number of students displayed apparent disciplinary issues, including climbing on chairs, moving around the classroom during lectures, engaging in physical altercations, and shouting.

Some students also exhibit passive behaviour, remaining disengaged and inattentive during the teaching process. These students appear to lack focus on the teacher's presentation, remain quiet, and show little participation in class activities. Consequently, the researcher suggests that interventions are necessary to address this concern. Pupils must remain attentive, demonstrate enthusiasm, and follow the teacher's instructions closely. These factors are essential for effective classroom management and successful teaching and learning outcomes.

Objectives and Research Questions

Based on the study's focus, the general objective is to improve level 1 pupils' classroom behaviour. The specific objectives are as follows:

The specific objectives formulated are as follows:

i. To improve level 1 pupils' classroom behaviour using PireBoard
ii. To describe level 1 pupils' interest in using PiReBoard to improve their classroom behaviour.
iii. To explain how PiReboard improves level 1 pupils' classroom behaviour.

Based on the set research objectives, three research questions have been formulated as follows:

i. Does PireBoard help to improve level 1 pupils' classroom behaviour?
ii. Are level 1 pupils interested in using PireBoard to improve their classroom behaviour?
iii. How does PiReBoard improve level 1 pupils' classroom behaviour?

RESEARCH METHODOLOGY

This study utilised a qualitative research methodology to examine the effects of the PiReBoard on pupils' classroom behaviour. Data were collected through observations and interviews to gain insights into the behavioural changes and experiences resulting from integrating a game-based reward system into the learning process.

The research was conducted during English lessons to maximise interaction between the teacher and students. With a focus on teaching and learning (PdP), the study aimed to observe behavioural changes among the pupils. A total of 29 pupils participated in the PiReBoard implementation, with purposive sampling used to select those exhibiting significant behavioural challenges in the classroom.

Observational data were gathered to assess participants' classroom behaviour changes before and after the PiReBoard implementation and their interest in the intervention. Semi-structured interviews further explored the effectiveness of PiReBoard in enhancing classroom behaviour in the Year 3 Mumtaz class.

Thematic analysis was used to analyse the data. The process of thematic analysis entails coding segments, organising related codes into themes, and evaluating the relevance of the results to get insights from the data (Dawadi, 2020). Another benefit of thematic analysis is that it is a method rather than a methodology, which is especially advantageous when looking at learning and teaching (Braun & Clarke, 2006; Clarke & Braun, 2013).

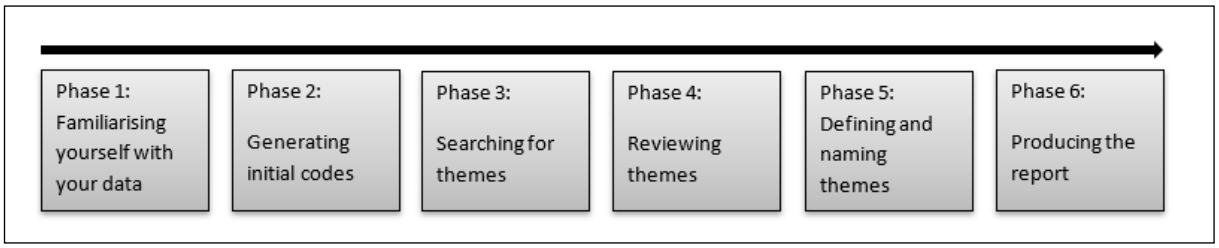

Figure 1: Thematic analysis process (Braun & Clarke, 2013; 2006)

Research Participants

Preliminary data collection indicates that five pupils from the Year 3 Mumtaz class at SK Pulau Perhentian have been selected for this research study.

Research Instruments

Data were collected following the implementation of PiReBoard. The data collection methods included video recordings of teaching and learning sessions, behavioural checklists, and interviews with participants and the school teacher.

Table 1: Data collection methods and instruments

No.	Data collection methods	Instruments
1.	Teaching recording	Recording before and after intervention
2.	Observation	Behavioural checklist
3.	Interview	Semi-structured interview

The gathered data were subjected to descriptive analysis, specifically through thematic analysis. A comparison of behavioural checklists before and after the implementation will be conducted, and codes and themes will be derived from the interview responses to address the research questions. This analysis

aims to determine whether students' attitudes in the classroom improve and how the use of PiReBoard contributes to achieving these outcomes.

Action Plan

Kemmis and McTaggart's (1988) action research model is used for this research. In this model, four steps make up the spiral model, which they proposed: planning, acting, observing, and reflecting. Despite the criticism directed at the model, Someah Alangari (2017) thinks that the model could yield positive outcomes within the research context because the project participants lack prior experience with augmented reality, and the model's phases seem to occur effortlessly and are simple enough for teachers to comprehend to explain.

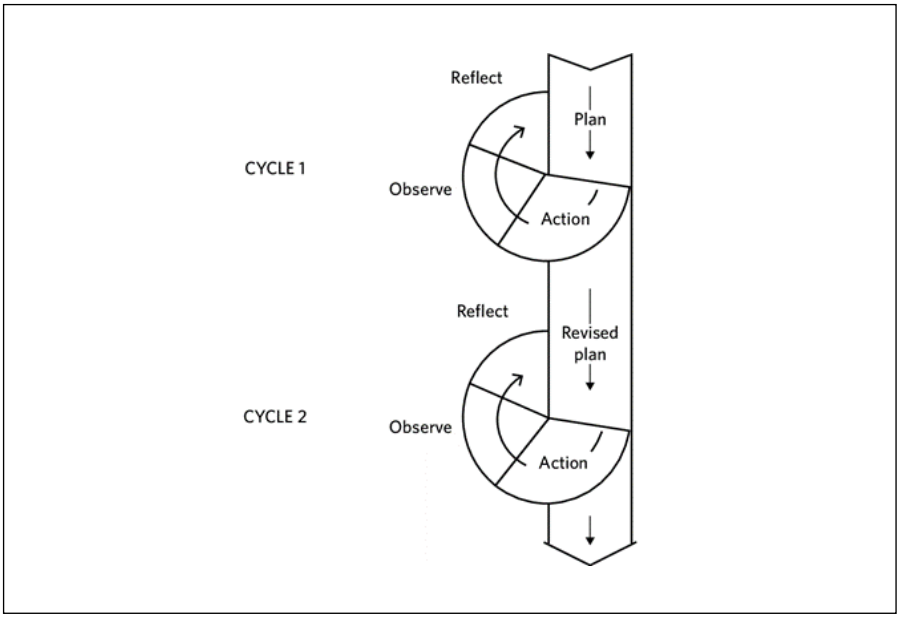

Figure 2: Kemmis and McTaggart (1988) action research model

I. Plan

The issue was recognised through the researcher's experiences within the educational environment. The planning phase begins with examining educators' critical challenges, utilising observational methods and literature reviews. The analysis revealed that most teachers struggle with managing student misbehaviour in the classroom. Through a thorough examination of these concerns in collaboration with experts, the researcher concurs that student behaviour in the classroom constitutes a vital area of study. Therefore, a modified reward system became a part of the planning.

II. Act

The intervention is called the Pirates Reward Board (PiReBoard). It is a games-based reward system that uses the concept of a board game for the pupils to move forward to the finish line. In general, rewards can be viewed as a tactic that might raise students' motivation and interest in learning how to succeed (Sidin, 2021). For this research, the researcher used tangible rewards. It is a type of reward that is visible and symbolic, such as using stickers, treats (candies and cards), or favoured activities like watching a movie or playing games. Tangible rewards were chosen because pupils could see their achievement when using PiReBoard, and they would feel motivated and competitive with their peers to move forward and win the game. Figure 3 below shows the intervention.

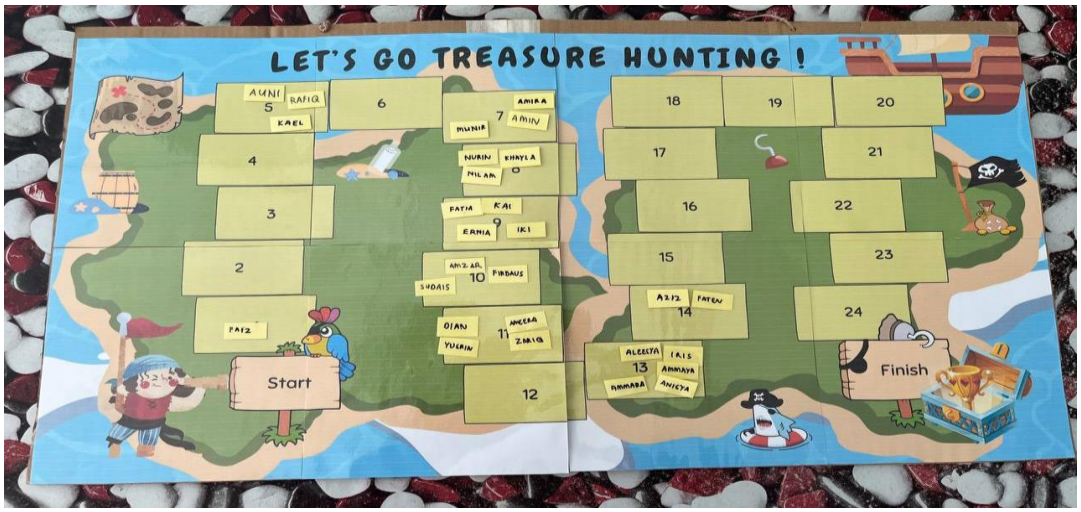

Figure 3: Pirate Reward Board (PiReBoard)

Each pupil is the "player" of this PiReBoard. They each had a tag with their name pasted on the board on the starting line. Before running the game, the researcher explained the rules to the pupils. For the pupils to get a point, they have to follow the classroom rules; then, they will be able to move a step forward. However, if they break any of the rules or do the don'ts, they lose a point and have to move a step backwards. Figure 4 shows the classroom rules that have been decided.

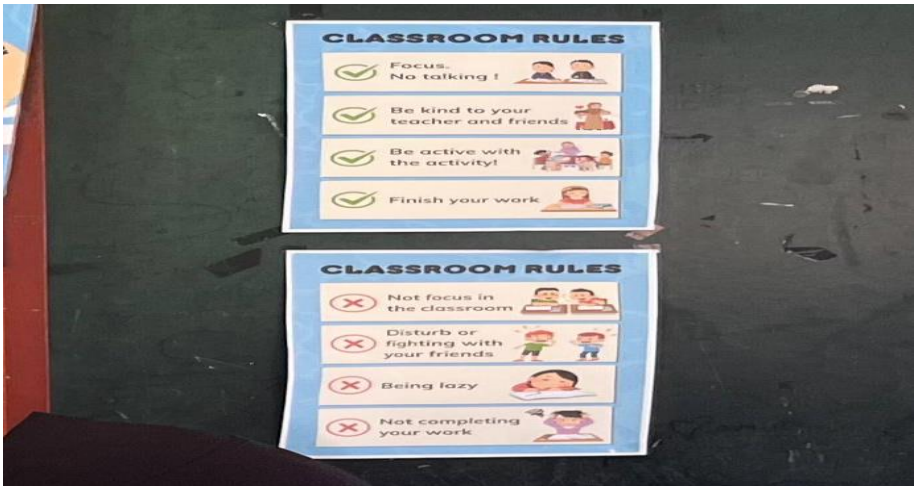

Figure 4: The Classroom Rules

This reward-based game system will be used throughout the teaching and learning process. The pupils who complete the game until the finish line will be rewarded a button badge titled "Best Student." The intervention implementation involved three stages in the classroom: before, during, and after the intervention. The details of the implementation are shown in Table 2 below.

Table 2: Implementation of PiReBoard during Teaching and Learning

Stages	Action	Justification
Before class	• The teacher explains the use of PiReBoard and the rules to the pupils. • The teacher explains the pupils' latest position on PiReBoard.	Give pupils an understanding of the use of PiReBoard. Students know their position in the class based on the behaviour displayed.
During class	• PdP is carried out as usual. • The teacher observes the pupils' behaviour in the class based on the rules that have been set.	Improving pupils' behaviour during teaching and learning.
After class	• The teacher displays the students' latest position based on their attitude that day. • The teacher justifies the pupils' achievement in PiReBoard based on their obedience to the rules set.	Pupils understand the impact of their behaviour on their performance on PiReBoard.

Skinner Operant Conditioning Theory (1938)

For this action research, Skinner's (1938) cognitive theory, known as operant conditioning, was used. It is a learning strategy in which behaviour is rewarded and punished. Through operant conditioning, an individual develops a connection between a specific behaviour and a result (Skinner, 1938). This theory has positive and negative reinforcement and positive and negative punishment. Based on the theory, the researcher applied the method to PiReBoard. Table 3 below shows the indicator.

Table 3: Skinner (1938) Operant Conditioning Application

	Something given to the pupils	**Something taken from the pupils**
Increases likelihood of repeated behaviour	**Positive reinforcement** Pupils are given 1 point when they follow the rules	**Negative reinforcement** Not applicable to this research
Decreases likelihood of repeated behaviour	**Positive punishment** Not applicable to this research	**Negative punishment** Pupils lose 1 point if they break the rules

The table above shows the use of positive reinforcement and negative punishment using PiReBoard. As pupils have expressed their opinions on receiving rewards after participating in language learning activities and games, rewards may be a motivating element in promoting educational methods and activities in language learning classrooms (Phungphai & Boonmoh, 2021). It is a suitable tool to increase their motivation to learn. Thus, it has been found that using rewards can improve pupils' behaviour in the classroom.

Pupils who get punishment are less likely to repeat unexpected behaviour and may be more motivated to perform anticipated behaviour (Sidin, 2021). The use of punishment is not always harmful or physical. Instead, the researcher approached their attention psychologically by moving their name a step backwards. It triggers the pupils' eagerness to do better. The effect is that pupils will follow the classroom rules to get the point and indirectly improve their behaviour during the teaching and learning process.

III. Observe

Based on the teaching and learning using PiReBoard, the researcher observed the pupils' behaviour through the recording. In qualitative research, video captures rapid visual and aural phenomena inherent in occurrences, enabling researchers to go back and review foundational evidence as they create and improve coding schemes and verify the internal validity of emerging case ideas (Rowan et al., 2020). This allowed the researcher to watch the recording back at any time, pinpoint the behaviour problem that the pupils display, and understand the possibility of the cause and how to solve it. Based on the observation. The researcher identified changes in pupils' classroom behaviour before and after implementing PiReBoard in their teaching and learning. Semi-structured interviews were also conducted with the participants and the school teacher to understand the effectiveness of the intervention

IV. Reflect

Based on the data collection, the researcher gained insights and feedback on implementing the intervention. The researcher can identify PiReBoard's strengths as well as weaknesses, and subsequently, the researcher will adapt the intervention and may proceed to the second phase of the action research paradigm.

RESEARCH FINDINGS

The findings of this study are divided into three according to the research questions.

Research Question 1: Does PireBoard help to improve level 1 pupils' classroom behaviour?

To address the first research question, the researcher conducted recordings of the English teaching and learning sessions for Year 3 Mumtaz pupils before and after the implementation of PiReBoard. These recordings enabled the researcher to assess each participant's behaviour accurately. The observed behaviours were categorised into three main types: hyperactive (Table 4), passive (Table 5), poor attention/ concentration (Table 6), and uncooperative (Table 7). The numerical values presented below reflect the frequency of these behaviours among the participants.

1	often
2	always
3	sometimes
4	rarely
5	never

Table 4: Participants' Behavioural Checklist: Hyperactive

Hyperactive	Research participants									
	A		B		C		D		E	
	Before	After	Before	After	Before	After	Before	After	Before	After
Out of seat	4	4	4	4	2	4	2	4	4	4
Constant movement in desk	4	4	4	4	2	4	3	3	4	4
Constant verbal behavior	4	4	3	4	2	4	3	4	4	4
Has nervous muscle twitches, eye-blinking, nail-biting, etc.	4	4	4	4	4	4	4	4	4	4

Passive	Research participants									
	A		B		C		D		E	
	Before	After	Before	After	Before	After	Before	After	Before	After
Daydreaming	2	4	3	4	4	4	2	4	2	4
Isolate themselves from the class community	2	4	3	4	4	4	3	3	2	4
Avoid joining group work	3	4	4	4	4	4	3	4	2	4
Do not actively participate in the classroom activity	2	4	2	4	3	3	2	3	2	3
Do not respond to the teacher well	2	4	2	4	3	3	2	3	2	3
Rarely asks for assistance even when work is too difficult	3	4	3	4	3	3	2	3	3	4

Table 5: Participants' Behavioural Checklist: Passive

Table 6: Participants' Behavioural Checklist: Poor Attention/ Concentration

Poor Attention / Concentration	Research participants									
	A		B		C		D		E	
	Before	After	Before	After	Before	After	Before	After	Before	After
Does not follow oral lessons	2	4	2	4	3	4	2	4	2	4
Does not follow lessons on board or visual materials	2	4	2	4	3	4	3	4	2	4
Rarely completes any assignments	3	4	4	4	3	4	2	4	2	4
Demands individual explanation of assignments	2	3	3	4	3	4	4	3	2	3
Easily distracted from task by ordinary classroom stimuli (minor movement, noise)	3	3	4	4	2	4	2	3	2	4

Table 7: Behavioural Checklist: Uncooperative

Uncooperative	Research participants									
	A		B		C		D		E	
	Before	After	Before	After	Before	After	Before	After	Before	After
Will not follow routines	2	4	4	4	3	4	3	4	4	4
Works only when threatened with punishment	4	4	4	4	4	4	4	4	4	4
Defiant of teacher's requests	4	4	4	4	4	4	2	4	4	4
Do not respond to the teacher on purpose	4	4	3	4	4	4	4	4	4	4
Argues with peers over minor situations	3	4	3	4	4	4	3	4	4	4
Does not contribute to group or class discussions	3	4	3	4	3	3	2	4	2	3

All five participants demonstrated improvement in certain aspects of their behaviour. Following the intervention, the numerical ratings for all behavioural aspects were either 3 (sometimes) or 4 (rarely), indicating reduced problematic classroom behaviours during the teaching and learning sessions.

Research Question 2: Are level 1 pupils interested in using PireBoard to improve their classroom behaviour?

The data gathered from semi-structured interviews with participants provide insight into how the PiReBoard has enhanced their interest in improving classroom behaviour. Participants generally exhibited positive responses. For instance, Participant B, Participant D, and Participant E expressed enjoyment in using the PiReBoard in class, describing it as fun. Additionally, nearly all participants highlighted the appeal of the gamification features, which captured their attention and motivated them to engage with the intervention. The reward system was also effective, as many participants indicated they were motivated to learn to earn points and receive rewards. Table 4 below presents the interview transcripts of the participants.

Table 8: Interview transcription with the participants

Questions	Answers	Sub Themes (st)	Theme
Do you like using PiReBoard in the classroom? Why?	Participant B: *suka, sebab seronok.* Yes, because it's fun. Participant D: *suka, sebab seronok.* Yes, because it's fun. Participant E: *suka, sebab menarik.Pastu, seronok.* Yes, because it's interesting and fun.	Fun (st1)	Interest
What are the PiReBoard features that attract your attention?	Participant A: *Hmm.. boleh main.* Hm.. can play. Participant C: *Jika kita mengikut peraturan, kita akan bergerak ke sini.* If we follow the rules, we will move here <pointing at the square on the PiReBoard> Participant D: *Macam cari harta karun.* Because it's like a treasure hunt. Participant E: *Macam game,* It looks like a game.	Gamification features (st2)	

Do you feel any positive changes in yourself after using PiReBoard? Explain	Participant A: *Sebab nak dapat hadiah.* To get the present.	Pupils want to get the reward (st3)
	Participant C: *Sebab nak menang.* Because I want to win.	
How does PiReBoard improve your attention in the classroom?	Participant C: *Sebab boleh dapat hadiah.* Because we can get the present.	
	Participant D: *Sebab nak dapat markah* Because I get more points.	

Nevertheless, Participant D exhibited an unexpected outcome. The pupil expressed a lack of desire to win and indicated no disappointment in falling behind their peers. However, he did mention that winning the PiReBoard game would be pleasant. Table 5 presents the transcription of the interview with Participant D.

Table 9: The Transcription of Interviews with Participant D

Questions	Answers	Sub-themes (st)	Themes
How does PiReBoard improve your attention in the classroom?	Participant D: <No answer>		Interest
	Researcher: *Awak rasa nak menang tak kalau teacher guna PiReBoard ni?* Do you feel like you want to win when the teacher uses PiReBoard?		
	Participant D: <Shake his head>		
	Researcher: *Tak nak? Contoh la, kalua awak sorang je kat belakang, kawan-kawan awak semua kat depan. Awak tak sedih ke?* No? For example, if you are the only one left behind, while your friends move forward, don't you feel sad?	No eagerness to participate (st4)	
	Participant D: <Shake his head>		
	Researcher: *Kenapa?* Why?		
	Participant D: Sebab..		

	Because Researcher: *Contohla, kalau teacher letak nama awak dekat petak last sekali, pastu awak menang la ni. Kawan-kawan yang lain semua kat belakang. Awak suka tak?* For example, if your name is at the finish line, and you win. While your other friends are behind you. Do you feel happy to win? Participant D: *Suka* Yes.	The pupil wants the reward (st5)

Participant D demonstrated a complete lack of interest in engaging with the game, although he expressed satisfaction with winning. This suggests that Participant D lacked the motivation and enthusiasm to participate in the PiReBoard implementation actively but still sought the reward of winning the game.

Research Question 3: How does PiReBoard improve level 1 pupils' classroom behaviour?

To address the third research question, an interview was conducted with an English teacher from SK Pulau Perhentian. The purpose of this interview was to explore how the implementation of PiReBoard contributes to enhancing classroom behaviour among Year 3 Mumtaz pupils. Table 6 below presents the transcription of the interview with the teacher.

Table 10: Transcription with The English School Teacher

Questions	Answers	Sub Themes (ST)	Theme
How does PiReBoard help level 1 pupils improve their classroom behaviour?	School teacher: In my experiences as a teacher, I find that pupils are interested in games. So, you are **gamifying their behaviour by asking them to behave in the class; they will be rewarded according to their actions by the spaces in the PiReBoard.** So, in my opinion, that is how the **pupils will be interested in focusing in class** because **you are basically gamifying their behaviour and encouraging them to improve their performance** in the classroom.	Gamification of the pupils' behaviour (ST1) Reward system (ST2) Focus increased (ST3) Encourage pupils to improve their performance (ST4)	Process
What are the best features of PiReBoard	School teacher:		

that help the pupils to improve their classroom behaviour?	Okay, in my experience as a teacher, the best features of the PiReBoard are, of course, **the gamification of their behaviour.**	Gamification elements (ST5)
	You are encouraging the pupils to improve their behaviour and remember the classroom rules so that **they will be rewarded according to their actions.**	Effects of the reward system (ST6)
How do you think these features help to improve their classroom behaviour?	School teacher: Pupils will be rewarded based on their good behaviour in the classroom. And **they will be able to see their place from these spaces on the PiReBoard**. So, the higher their places, the better their performance.	Pupils' awareness of their behaviour (ST7)
	So, **they will know what the opinion of the teacher is of them and they will be able to adjust accordingly**.	Pupils gain teacher's feedback (ST8)
Would you recommend PiReBoard to other teachers? Why?	Yes, **I would certainly recommend it.** Because the PiReBoard is an interesting intervention that you have made.	Intervention recommended (ST9)
	All of these things make it an exciting intervention that **would be beneficial for implementation within any classroom regardless of their backgrounds**.	Useful for other subjects (ST10)

The teacher's interview revealed that the gamification elements of PiReBoard and its reward system significantly contributed to improving classroom behaviour among Year 3 pupils. The system allowed pupils to monitor their performance and understand how their behaviour influenced the teacher's perception of them. Consequently, these features of PiReBoard effectively motivated pupils to adhere to the established classroom rules.

DISCUSSION

Theme: Classroom Behaviour Improvement (RQ1)

Introducing the PiReBoard system led to a notable enhancement in classroom behaviour among Year 3 Mumtaz participants. Observational data demonstrated that pupils showed higher levels of participation, attentiveness, and task completion. Specifically, behaviours such as wandering, daydreaming, and causing disruptions were significantly diminished following the intervention.

Hyperactive (Table 4)

The study participants displayed improved classroom behaviour, reduced physical movement around the table, and remained seated during the lesson. Additionally, participants exhibited minimal disruptive verbal behaviour, which can hinder the teaching process. These factors contribute to a more conducive and orderly classroom environment, as the absence of unnecessary noise and pupils staying in their seats foster a more focused learning atmosphere.

Passive (Table 5)

Before the implementation of the intervention, most participants exhibited passive behaviour, frequently isolating themselves from the classroom community, showing minimal participation in classroom activities, and responding poorly to the teacher. However, these behaviours decreased following the intervention, and participants demonstrated increased engagement in classroom activities. According to Alam & Shakir (2019), one factor contributing to passive attitudes among children at early grade level is the lack of an attractive classroom environment. Introducing PiReBoard, which fosters a healthy competitive environment and enhances participants' motivation, resulted in more active participation and improved responsiveness to the teacher's instruction.

Poor Attention/Concentration (Table 6)

The initial data collection revealed that participants consistently failed to engage with oral lessons and lacked attention, even when visual aids were utilised. This inattentiveness resulted in participants rarely completing assigned tasks and becoming easily distracted by minor interruptions. However, after the intervention was implemented, participants demonstrated significant improvements in concentration during lessons. They began following instructions, completing tasks, and maintaining full attention during teaching and learning activities.

The reward system integrated into the PiReBoard heightened pupils' motivation to learn, as evidenced by their increased focus following the intervention. Teachers aiming to capture students' attention and foster a positive learning environment may benefit from incorporating visual aids, subject-relevant games, interactive activities, and group work into their lesson plans (Gargalianos et al., 2021). The reward-based system in the PiReBoard encouraged participants to accumulate points, which positively influenced their classroom behaviour.

Uncooperative (Table 7)

The participants did not display significant levels of uncooperative behaviour in the classroom; however, they occasionally engaged in conflicts with their peers over trivial matters and were often passive in group or class discussions. These behaviours may stem from feelings of unfairness when completing tasks or challenges related to understanding the English lesson due to their low proficiency. Nonetheless, the implementation of PiReBoard has notably enhanced the participants' motivation to learn, as evidenced by their increased engagement in classroom discussions and reduced conflicts with peers.

PiReBoard integrates classroom rules that students must follow to earn points and progress within the system. This application encourages participants to adhere to the rules and avoid prohibited actions (as outlined in Figure 4) to gain points. Consequently, this has resulted in greater cooperation with both teachers and peers, as well as improvements in their overall classroom behaviour.

Theme: Interest (RQ2)

Implementing PiReBoard successfully enhances the participants' interest in improving their classroom behaviour. The data from the semi-structured interviews with the participants indicates the findings.

Fun and Gamification Features

The participants expressed their enjoyment of using the intervention in their classrooms. The participants stated that they had fun using the PiReBoard (st1). It also has an attractive appearance that looks like a treasure hunt game, and the children can play the game by following the classroom rules (st2). As stated by Mujito (2018), board games are a medium that can increase children's interest. Hence, integrating the reward system with the board game has increased the participants' interest in improving their attention and classroom behaviour.

Reward System

Other than that, children can develop their critical thinking and problem-solving abilities through board games, as problem-solving is one way to meet their academic objectives (Mahyuddin et al., 2022). Pupils' were aware of how their actions affected their rankings on the PiReBoard. Consequently, they adjust their behaviour to attain rewards (st3). Participants exhibit increased attention during lessons and are motivated to earn points and receive prizes. This motivation positively influences their behaviour in the classroom, leading them to adhere to classroom rules and maintain total concentration during lessons to meet the criteria for accumulating points on the PiReBoard.

Unexpected Results

Participant D exhibited unexpected results according to the behavioural checklist. He demonstrated hyperactivity, characterised by constant verbal behaviour and frequent movement within the classroom. His concentration on lessons was notably poor, and he rarely completed tasks assigned by the teacher. Furthermore, Participant D was easily distracted and did not engage actively in classroom activities. During the interviews, he expressed a lack of interest in winning the PiReBoard and indicated that he did not feel disheartened despite falling behind his peers (st4). The underlying reasons for his disinterest remain unclear, as the participant could not respond to the researcher's inquiry regarding his lack of motivation.

Participant D acknowledged his desire to win the game if his name appeared at the highest rank on the PiReBoard compared to his classmates (st5). This indicates that while Participant D remains interested in winning, he lacks the motivation to pursue the associated rewards actively. Rone et al. (2023) highlight that students may lose motivation for various reasons, including unclear lesson delivery by the teacher, lack of confidence, dissatisfaction with the lessons, and personal issues. Despite this, Participant D demonstrated positive changes in his classroom behaviour as noted in the behavioural checklist; he rarely moved around the classroom, became more engaged in activities, and followed the lessons more closely. His feedback during the interview may reflect his lack of self-confidence regarding winning the PiReBoard. Given the competitive environment in the classroom, Participant D is motivated to perform his best but appears indifferent toward the effort required to win the game.

Theme: Features of the Intervention (RQ3)

PiReBoard was created to improve the level 1 pupils' classroom behaviour. The researcher used the board game concept and incorporated classroom rules into the intervention. By producing this gamification system, the pupils will be rewarded if they win the "game". The reward system indirectly increased the participants' focus on the lesson (ST3) and encouraged them to improve their performance in the classroom (ST4).

One of the best features of PiReBoard that helps the pupils improve their classroom behaviour is the gamification elements. The researcher gamified the participants' behaviour (ST5) and rewarded them according to their actions (ST6). The participants were expecting to get the rewards if they followed the classroom rules. According to Chen (2023), teachers have observed that using rewards

contributes to creating a positive learning environment, enhances student engagement, and facilitates the achievement of educational objectives. Additionally, the research indicated that students experience satisfaction when receiving teacher rewards, motivating them to exert more significant effort in their studies.

In addition, the game board features within the intervention facilitate participants' awareness of the consequences of their behaviour (ST7). Participants could view their names on the PiReBoard, symbolising their classroom behaviour performance. Furthermore, their rankings reflect their behaviour, providing insight into teachers' perceptions of them. Primary school pupils are inherently motivated by rewards. The researcher employed a tangible reward system, also called an external reward system, which includes incentives such as stickers, hand stamps, small toys, crayons, and unbreakable mirrors (Admin, 2022). This approach enables pupils to visualise their achievements and encourages them to adapt their behaviour following classroom rules to reach the finishing line on the PiReBoard. Therefore, the intervention's gamification system increases the pupils' eagerness to improve their classroom behaviour within a healthy and fair competitive environment.

Implication for the Classroom Management

The implementation of PiReBoard has demonstrated a positive impact on the classroom behaviour of Year 3 Mumtaz pupils. The pupils exhibited an enhanced attitude and engagement in teaching and learning by actively attending lessons and adhering to the teachers' instructions. Promoting favourable classroom behaviour allows instructional delivery to be conducted more effectively, facilitating a smoother learning experience. Collectively, these factors contribute to improved classroom management. Classroom management encompasses all the processes involved in preparing for education, organising materials that facilitate student learning, fostering a positive learning environment by regulating student behaviour by establishing rules and addressing inappropriate pacing of instruction (Celep, 2020; Robinson, 2020). It also focuses on a teacher's ability to learn to learn to attract students' attention (Wolff et al., 2017). Implementing PiReBoard enhances students' attention in the classroom by integrating gamification and rewards, effectively engaging their interest and motivation. In addition, classroom management styles are considered to be teachers' communication with students and their behaviours in the classroom (Aktan & Sezer, 2018). Classroom management reflects the teachers' ability to approach the learning process effectively, contributing to the teacher's professionalism. Teachers can facilitate their lessons more effectively, leading to successfully attaining learning objectives.

Strengths and Limitations of the Study

PiReBoard was recommended by the school teacher (ST9) as an intervention primarily utilised in English language classrooms. However, with its focus on enhancing student behaviour and classroom management, it has been suggested that PiReBoard could be advantageous for teachers across various classroom settings (ST10). The tool is recommended to foster an improved learning environment in which students are more attentive and engaged in the lessons.

Despite these potential benefits, this action research has its limitations. It could not fully explain the findings from an interview with Participant D, who lacked the motivation to earn points through the PiReBoard system. Nevertheless, Participant D still improved classroom behaviour, creating a more conducive learning environment. The interview did not sufficiently address this issue, indicating a need for further refinement in either the data collection process or the implementation of the intervention to allow for deeper analysis by the researcher.

Suggestions for future research

This action research can be enhanced by critically reflecting on its limitations. Future investigations could comprehensively explore the underlying factors that influence students' motivation. Although it

is widely acknowledged that children are generally motivated by rewards, additional elements may impact their interest or drive to pursue those rewards. The summary of findings by Firdaus (2019) is divided into four factors that motivate students to learn in school. These four factors are (i) parents, who have a formal educational background and support; (ii) the good teachers' role; (iii) good friends' influence; and (iv) cohesive school management. The pupils' backgrounds, perceptions of the intervention, and peer influences may contribute to their lack of motivation to earn points on the PiReBoard. Therefore, the researcher should investigate these factors to refine the intervention, aligning it more closely with the pupils' interests to improve classroom behaviour.

CONCLUSION

The action research on implementing the PiReBoard in a Malaysian primary ESL classroom demonstrates notable improvements in pupils' classroom behaviour. Initially, the study identified frequent behavioural challenges such as wandering, passivity, and disruptions among Year 3 pupils at SK Pulau Perhentian, which impeded effective learning and called for a structured intervention.

The PiReBoard, a gamified reward system, was introduced as a motivational tool to enhance student engagement during lessons. Data gathered through observations, behavioural checklists, and semi-structured interviews showed a significant improvement in classroom behaviour following its implementation. Pupils displayed increased attentiveness, active participation, and higher task completion rates. The competitive yet supportive environment created by the PiReBoard encouraged students to follow classroom rules, reducing disruptive behaviours. Moreover, qualitative feedback from teachers reinforced these findings, emphasising the value of incorporating gaming elements into educational settings. The research suggests that similar reward systems could be applied successfully in various educational contexts beyond ESL classrooms.

This action research can be enhanced by addressing its limitations to more comprehensively achieve the research objectives and examining potential factors influencing students' interest in the PiReBoard in the classroom. Future studies could investigate the long-term impact of the intervention to strengthen the effectiveness of PiReBoard on the pupils' classroom behaviour.

In conclusion, the action research highlights the potential of innovative classroom management strategies like the PiReBoard to influence level 1 pupils' behaviour positively. By applying gamification principles, educators can create engaging learning environments that capture pupils' attention and foster discipline and active participation. This approach presents a promising model for addressing behavioural challenges in primary education contexts.

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IMPROVING YEAR 4 MUMTAZ PUPILS' ABILITY TO CONSTRUCT SIMPLE SENTENCES (SVO) USING 'COS CARTON SLOT'

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ABSTRACT

Writing skills are one of the fundamental components of a language in learning English as a Second Language (ESL). In Malaysia, especially in rural areas, pupils often need help constructing simple sentences as they cannot string together words to form meaningful and correct sentences. This study aims to improve year 4 Mumtaz pupils' ability to build simple sentences, specifically SVO, using 'COS Carton Slot', a game-based learning tool. This action research was conducted on year 4 Mumtaz pupils in one of the schools in Kuala Besut, Terengganu. The data were collected through initial and final tests, observations and interviews. The quantitative data was analysed using descriptive statistics, and the qualitative data was analysed using thematic analysis. The findings revealed a significant improvement in pupils' ability to construct simple sentences, specifically the SVO structure. The observational data demonstrated pupils' interest in using 'COS Carton Slot' to improve their construction of simple sentences (SVO). The interview data indicated that the 'COS Carton Slot' helps the pupils to master the constructions of simple sentences by clearly illustrating the function of the different components in simple sentences (SVO). This study concludes that the 'COS Carton Slot' is an effective intervention for improving the pupils' ability to construct simple sentences (SVO) among year 4 Mumtaz pupils. The intervention captures pupils' interest and encourages active participation in the learning by incorporating game-based elements and hands-on activities. The success of this study suggests COS Carton Slot's potential to improve pupils' writing skills for all levels. Integrating other sentence structures into the 'COS Carton Slot' will add more value to the intervention as a teaching and learning tool in the classroom.

Key Words: *ESL Classroom, simple sentence construction, hands-on activities, 'COS Carton Slot'*

INTRODUCTION

One of the fundamental components of a language is writing skills, which is crucial in learning English as a Second Language (ESL). ESL learners must master the subject-verb-object (SVO) rule in their study. Please do so to avoid more complex writing challenges in the future (Miin et al., 2019). Ien et al. (2017) have claimed that lower primary school pupils struggle to write even simple sentences with correct grammar. A simple sentence consists of only one subject and one verb, also known as an independent clause. (Sundari et al., 2020). Therefore, a simple sentence is the key to all great compound and complex sentences.

In Malaysia, pupils often need help constructing simple English sentences as they cannot produce proper words, phrases, sentences, and paragraphs. This is further supported by the analysis done by Dawawi and Yamat (2022), where "50% of their research participants, specifically Year 2 pupils, were unable to construct simple sentences properly". Pupils may be confused about the correct word order when writing English, leading to poor English performance. This statement highlighted that writing simple sentences is one of the critical issues faced by ESL Malaysian primary school pupils.

Constructing simple sentences is crucial, as writing proficiency is essential for Malaysian pupils. Standard Based Education Learning Standard 4.3.3 states that pupils should be able to plan, develop, and write more straightforward phrases. Writing simple sentences is the foundation for all types of writing. Montgomery et al. (2021) explained that subject-verb-object (SVO) is vital for recovering from the failure to construct simple sentences. Based on this notion, pupils must understand the sentence structure to learn how to write correctly in English.

Reflection on Past Teaching Experience

In August 2023, I was in Sekolah Kebangsaan Pulau Perhentian, Terengganu, for my first practicum phase. I taught English language subjects for Year 4 Mumtaz, which had 24 pupils in total. During the teaching session, I identified several issues among pupils learning English. As for my pupils, I realised they needed help constructing a correct order of sentences. They only write words they know without considering the correct order or structure. Moreover, they only wrote the subject and verb, leaving out the object, which made the sentence incomplete. Other than that, I asked them to rearrange the word order of the given sentences. However, most of them needed help to identify and recognise the components of the words and the structure. It might be because the pupils did not know which words were the subject, verb and object. Hence, lack of vocabulary also leads to the issue as they need to learn the semantic meaning of the words.

Early data collection was carried out at the beginning of the research in the form of worksheets, which act as initial tests. The initial test requires them to rearrange the words' order and construct the sentences based on the words given with ten questions. The instrument assessed pupils' ability to construct simple sentences focusing on the SVO structure. Based on the test, 12 pupils who took the test obtained marks of 50% and below. Among them, only three were selected as the research participants. Their inaccurate simple sentence construction problem is more critical than the others due to several factors, such as omitting subject or verb components, not having sufficient vocabulary and having less understanding of the structures of sentences.

Figure 1 below shows the sample of the pupils ' initial test results, which are shown in Table 1. Additionally, the selected participants' sentence construction problems were based on the answers to the analysed worksheet, as shown in Table 2.

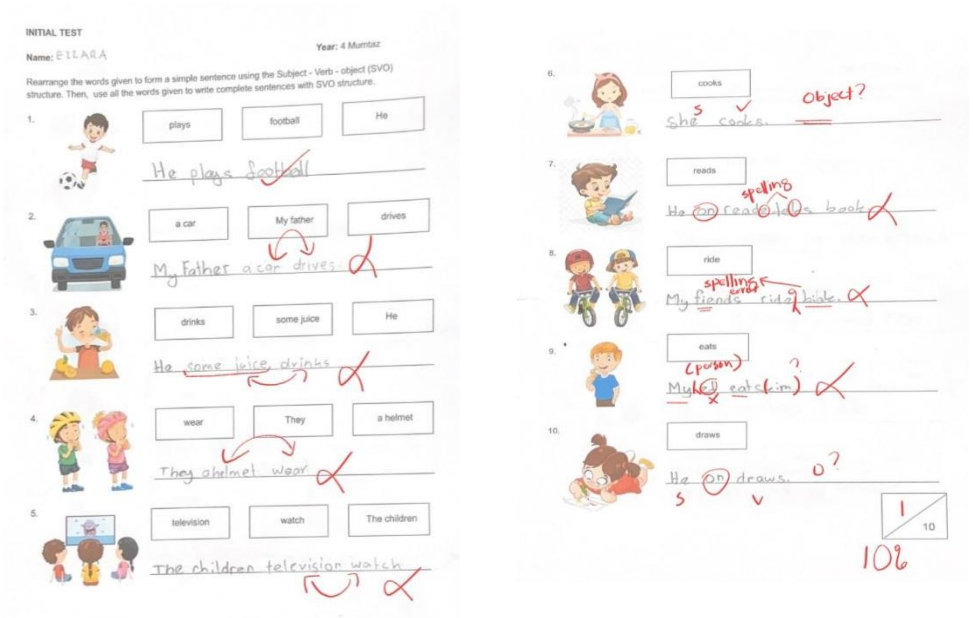

Figure 1: Sample of Participant's Written Work

Table 1: Marks obtained in the Initial Test

Instrument	Initial Test							
Scores (%)	**10**	**20**	**30**	40	50	60	70	80
No	**1**	**1**	**3**	4	3	7	1	2

Table 2: Problems in Participants' simple sentence construction

Participants	Simple Sentence Construction Problems Specifications
Participant A (PA)	• Incorrect sentence structure (S-O-V) • Incomplete structure - missing Object components • Spelling errors • Incorrect use of grammar (preposition)
Participant B (PB)	• Incorrect sentence structure (S-O-V) • Incorrect use of grammar (prepositional phrase - as) • Incomplete structure - missing Object components
Participant C (PC)	• Incorrect sentence structure (S-O-V) • Subject-Verb-Agreement errors • Limited vocabulary • Incorrect use of grammar (article, conjunction)

Based on the analysis, it can be concluded that each participant has various problems in simple sentence construction, where all 3 participants need more understanding of the sentence structure by constructing incorrect simple sentence structure (S-O-V). This indirectly indicates that mastering the concept of simple sentences is crucial to forming meaningful sentences.

Research Focus and Problem Statement

My research focuses on improving pupils' simple sentence construction (SVO). The primary step in writing skills is writing simple sentences. The pupils would encounter problems learning another type of sentence if they cannot master the basic one. Govindarajoo et al. (2022) have agreed that ESL learners must focus on generating sentence structures with the correct word orders and choosing the right words to form correct English sentences while constructing sentences.

i. Administrative

The research is administrable as the tool created can be easily used and managed. Pupils can overcome problems in constructing simple sentences using the COS Carton Slot because it provides a meaningful learning approach that increases pupils' interest in learning. Here, pupils are empowered to actively participate in the learning process and feel motivated to learn, leading to enhanced comprehension and retention of language concepts.

ii. Usability

The intervention's user-friendly design ensures that teachers and parents can easily understand and utilise it to support pupils' learning of the SVO sentence pattern. This accessibility is crucial and can actively contribute to pupils' language development. Using symbols such as 'S', 'V', 'O', and colour in the intervention makes it visually engaging and appealing to pupils in learning the sentence construction. By incorporating visual aids and hands-on activities, the intervention captures pupils' interest and encourages active participation in the learning experience.

iii. Controls

Since only one researcher is doing the study, which can be done independently without interference or opposition from others, this action research can be easily controlled. Additionally, the teacher is given complete control in determining the research objectives and how the research will be conducted. Teachers are responsible for managing their classrooms, unique environments where their success is closely tied to their proficiency in various areas (Esmaeili et al., 2015). So, effective planning is essential, including data collection, analysis, action steps, and budgeting to ensure the progress of the action research.

Thus, to resolve the simple sentence construction problems among 4 Mumtaz Pupils, the 'COS Carton Slot' will be implemented for the participants with a "hands-on" learning approach. By engaging pupils in physical activities that require them to manipulate sentence components, they can better understand the relationship between subjects, verbs, and objects. This hands-on experience will enhance their ability to form correct SVO sentences and build a solid grammatical foundation. Thus, implementing a hands-on approach caters specifically to pupils who struggle with traditional, text-based learning methods. Research indicates that young learners, especially those at the primary level, benefit significantly from physical interaction with learning materials, as it promotes active engagement and better retention (Awodun & Osuntuyi, 2021). Moreover, hands-on activities enable pupils to practise their acquired skills and knowledge, reinforcing their learning through increased practice.

Research Objectives and Research Questions

Research Objectives:

i. To improve Year 4 Mumtaz pupils' ability to write simple sentences (SVO) using '*COS Carton Slot'.*
ii. To identify Year 4 Mumtaz pupils' interest in using '*COS Carton Slot'* to improve their ability to write simple sentences (SVO).
iii. To explain how '*COS Carton Slot'* can improve Year 4 Mumtaz pupils' ability to write simple sentences (SVO).

Research Questions:

i. Does '*COS Carton Slot'* improve Year 4 Mumtaz pupils' ability to write simple sentences (SVO)?
ii. Are the Year 4 Mumtaz pupils interested in using the '*COS Carton Slot'* to improve their ability to write simple sentences (SVO)?
iii. How does '*COS Carton Slot'* improve Year 4 Mumtaz pupils' ability to write simple sentences (SVO)?

METHODOLOGY

Intervention

I devised an intervention called 'COS Carton Slot' to overcome this issue. 'COS' is the acronym for Complete Sentence Carton Slot, a game-type tool. This action aims to improve year 4 Mumtaz pupils of SK Pulau Perhentian in constructing simple sentences (SVO). This educational tool aims to help the pupils understand simple sentence structures (SVO) and improve their writing skills. According to Fitria (2021), the sentences would become fragmented without understanding the structure of a sentence and its correct arrangement. In a more straightforward word, understanding basic English sentence structure is essential in constructing and writing meaningful sentences. So, COS Carton Slot is an action proposed to help pupils improve their simple sentence construction. The visual of the 'COS Carton Slot' is illustrated in Figure 2 below.

Figure 2: COS Carton Slot's prototype

COS Carton slot is a game-based teaching tool. This action has been developed with the concept of playing a game by slotting the word sticks on the carton. Games can motivate pupils to study English because they will have an enjoyable experience and not feel forced to learn English (Silalahi, 2019). By playing games, pupils can employ their multimodal senses and have fun with hands-on activities, which helps to develop their interests. Hence, pupils may fully engage with the action, making it more relevant and exciting.

In my intervention, I used an egg carton and ice cream sticks with a subject, verb, or object in circle-shaped papers pasted on top of them. I provide written letters of 'S', 'V', and 'O' on the word sticks as guides to have the correct order of slotting the word sticks. The pupils only need to remember the order of letters 'SVO', and they will be able to write the correct simple sentences and understand the concept of SVO sentence pattern by slotting the correct word sticks on the carton provided.

Additionally, the fixed colours used in the intervention represent the singular and plural subject and verb to drill the pupils with the correct grammar of subject-verb-agreement in constructing simple sentences. The singular subject and verb will be pink, while the plural subject and verb will be blue. The object will be in white. I believe this can avoid the confusion of singular and plural nouns when the pupils arrange the sticks of S', 'V', and 'O' to create correct sentences. Here, the pupils will not have

to worry about the grammatical mistakes. In terms of semantics, the words that will be given consist of the vocabulary required to be known by the pupils based on the Standard-Based English Language Curriculum.

Research Participants

The research participants were selected among Year 4 Mumtaz pupils from SK Pulau Perhentian. 2 girls and one boy were selected based on the initial test results with the lowest marks and their poor ability to construct simple sentences. The chosen participants were those most in need of intervention to help them improve their ability to construct simple sentences effectively. In selecting the three research participants, their distinct backgrounds and varying experiences with the English language make them ideal subjects for a study on language use and acquisition in a rural setting.

Instrument

I used the triangulation method to get valid and reliable data to answer the research questions. Using multiple methods or data sources in qualitative research can facilitate a comprehensive understanding of phenomena (Cohen & Crabtree, 2006). The data were collected from the initial and final tests, observations, and interviews to be compared. This data triangulation strengthens the research paper by increasing its credibility and validity. The representation of data triangulation is shown in Figure 3 below.

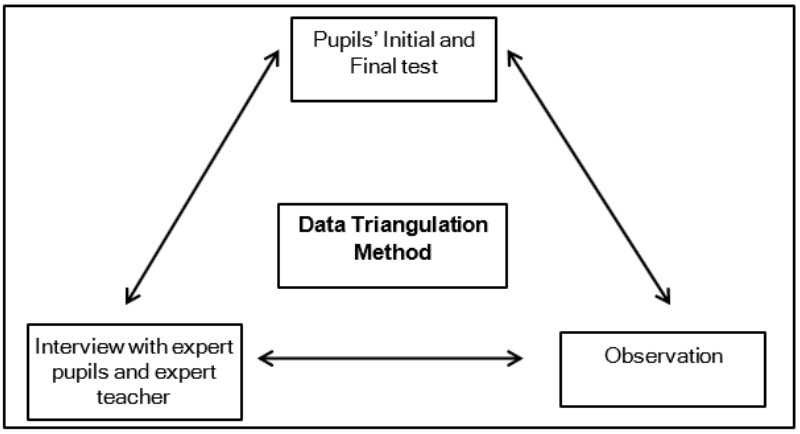

Figure 3: Data Triangulation Method

Table 2 below shows the instruments used for each data collection method.

Table 2: Instruments for Data Collection

Research Questions	Instruments used
Does COS Carton Slot improve year four pupils' ability to write simple sentences (SVO)?	● Initial and Final Test ● Interview
Are the pupils interested in using the COS Carton Slot to improve their ability to write simple sentences (SVO)?	● Observation ● Interview
How does COS Carton Slot improve year four pupils' ability to write simple sentences (SVO)?	● Interview

To answer the first research question, an initial and final test was conducted to assess the effectiveness of the intervention in improving participants' ability to construct simple sentences (SVO). An initial test is conducted, followed by three intervention meetings. After three meetings, a final test is conducted to analyse any improvement in constructing any simple sentence (SVO). Then, scores are given. Structured interview questions also are conducted to answer research question one (1). Next, an observation and interview with the participants are conducted to answer the second research question, which focuses on pupils' interest in using the intervention. The observational checklist and structured interview questions determine the participants' interests. Lastly, a semi-structured interview with the expert teacher is conducted to answer the third research question.

Implementation of Action

I used Kemmis and McTaggart's (1988) research design model to carry out this action. The model consists of four phases: planning, acting, observing and reflecting, which constitute one cycle (Aliyyah et al., 2020). The model is described as a cycle that runs in a spiral with four steps, as shown in Figure 4.

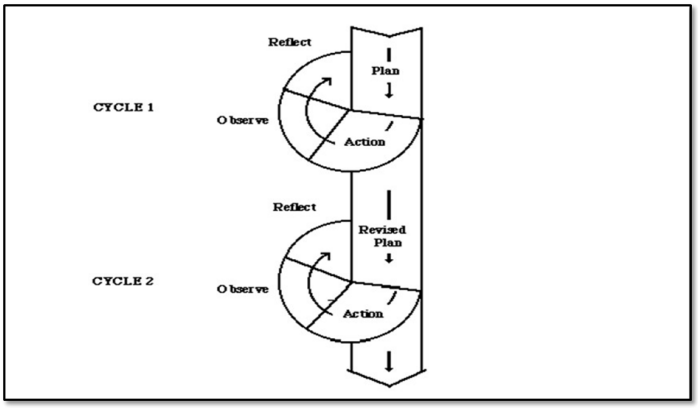

Figure 4: Kemmis and McTaggart (1988) Model

Stage 1 – Plan

Once the issue of simple sentence construction was discovered in the earliest stage, a comprehensive literature review was performed to assess the importance and extent of this problem among pupils. A strategic action plan was developed through a thorough analysis to improve simple sentence construction, specifically SVO sentence structure, among Year 4 Mumtaz pupils. The intervention proposed incorporated a game-based learning tool and a hands-on learning approach when using the intervention. The action plan will be carried out separately from the lesson hours and conducted in the meeting room as the other pupils from 4 Mumtaz were not involved with the research like the selected participants.

Stage 2 - Act

The intervention was implemented at this stage to determine whether the tool could help pupils and motivate them to learn and construct simple sentences. A guide was given before the implementation on how to use the intervention step by step and drill the pupils into understanding the simple sentence (SVO) structure. The intervention is a game that uses ice cream sticks by slotting the word sticks in the correct word order SVO. The participants underwent three stages of understanding and constructing simple sentences (SVO) using 'COS Carton Slot'. Table 3 below shows the activities carried out for each stage.

Table 3: Activities in Understanding and Constructing Simple Sentences (SVO)

Date	Stage	Activity	Focused
12/8/2024	Stage 1	Identify and classify the subject, verb and object with the researcher's guidance	Differentiated the word categories
13/8/2024	Stage 2	Using the SVO sentence structure, place the word sticks into the particular carton slot.	Placement of word sticks in the correct order
14/8/2024	Stage 3	Write the simple sentences (SVO) repeatedly based on the placement of words they made.	Construct and write complete simple sentences (SVO)

Stage 3 - Observe

In this stage, the participants' interest in using the intervention and its effectiveness were observed through the implementation process. During the implementation process, an observation checklist was used to identify the participants' interest in using the intervention. To evaluate its effectiveness, an initial test and final test were conducted after a week of implementation, allowing for a comparison of the scores obtained. After the implementation, structured and semi-structured interviews were conducted with the participants and expert teachers to examine further the intervention's effectiveness and the pupils' interest in using the intervention.

Stage 4 - Reflect

Finally, the data collected and feedback were analysed to see the strengths and weaknesses in my action of 'COS Carton Slot'. The findings were used to evaluate what worked well, what did not, and if there was a need for further improvement or suggestions in this research. A second cycle was unnecessary because one was enough to prove that the 'COS Carton Slot' improves the pupils' ability to write simple sentences (SVO).

RESEARCH FINDINGS

Research Question 1: Does COS Carton Slot improve year four pupils' ability to write simple sentences (SVO)?

After implementing the ' COS Carton Slot ', the researcher believed participants would improve their understanding and ability to construct simple sentences (SVO). To address the first research question, the researcher administered tests and interviewed all participants.

Table 4: Score Analysis for Initial and Final Test

Participants	Initial Test		Final Test		Improvement
	Marks (10)	(%)	Marks (8)	(%)	(%)
PA	1	10	9	90	80
PB	2	20	9	90	70
PC	2	20	9	90	70

As shown in Table 4, all the participants show 70% and 80% improvement. The score analysis shows overwhelmingly positive results, with all the participants scoring 90% on the test after implementing the 'COS Carton Slot'. The results support my belief that all participants can improve their ability to construct simple sentences using 'COS Carton Slot'.

The interviews were conducted with all the participants. During the interview session, all participants agreed that they could write sentences after the use of 'COS carton Slot'. They also said that the letters helped them identify and recognise which one is the subject, verb and object. The pupils' positive response during the interview proved that the 'COS Carton Slot' did improve the pupils' ability to write simple sentences (SVO).

Table 5: Summary of the Interview Responses with the Participants

NO.	**QUESTION**	**RESPONSES**			**REMARKS**
		PARTICIPANTS			
		PA	PB	PC	
1.	Did you understand simple sentences before using the COS Carton Slot?	No	No	No	They needed help grasping the concept of simple sentence structure.
2.	Were you able to write simple sentences before using the COS Carton	No	No	No	They were not able to write simple sentences before.

3.	Does the COS Carton Slot help you to write simple sentences (SVO)?	Yes	Yes	Yes	They found that 'COS Carton Slot' helped them to write simple sentences (SVO).
4.	Does COS Carton Slot help you to identify subject, verb and object?	Yes	Yes	Yes	They were able to identify subject, verb and object
5.	Can you write simple sentences (SVO) now after using the COS Carton Slot?	Yes	Yes	Yes	They were able to understand the concept and construct simple sentences (SVO)

Research Question 2: Are the pupils interested in using the COS Carton Slot to improve their ability to write simple sentences (SVO)?

The researcher expects that 'COS Carton Slot' will be an interesting and enjoyable way to learn simple sentence construction. Two instruments, an observational checklist and an interview with participants were used to answer this research question. Firstly, data from the observational checklist showed that participants were interested in learning to construct simple sentences (SVO) while using the 'COS Carton Slot'. Four items were developed to determine if the participants showed interest in using the 'COS Carton Slot' to learn the SVO simple sentence structure. Table 6 below summarises the participants' responses regarding their behaviour while using the 'COS Carton Slot'.

Table 6: Summary of Observational Checklist

No.	Items (Pupils' behaviour)	Participants		
		PA	PB	PC
1.	Pupils show positive responses (smile/laugh/nod) while using COS Carton Slot to learn simple sentences.	/	/	/
2.	Pupils demonstrate good motivation (eagerness) while using COS Carton Slot to learn simple sentences.	/	/	/
3.	Pupils participate actively while using COS Carton Slot to learn simple sentences.	/	/	/
4.	Pupils are engaged while using COS Carton Slot to learn simple sentences.	/	/	X

Based on the observation data, all the participants responded positively to items one to four, which indicated their interest and active participation in using 'COS Carton Slot. For item 1, participants PA and PB were smiling while using the 'COS Carton Slot', demonstrating their enjoyment of the learning process. Meanwhile, participant PC nodded throughout the session, indicating his understanding and engagement with the intervention. Regarding item 2, all participants exhibited good motivation to learn simple sentences, as evidenced by their eagerness to engage with the content and ask questions during the session. This enthusiasm reflects their desire to improve their skills. For item 3, all participants actively used the 'COS Carton Slot'. They took turns speaking, shared their thoughts, and responded to prompts, which showcased their willingness to engage in the learning process and collaborate.

Additionally, P2 showed the ability to guide and help the other participants during the implementation. Finally, concerning item 4, all participants demonstrated high levels of engagement while using the 'COS Carton Slot' except for P3, maintained focus throughout the session, showing interest in the activities and tasks presented through their body language, such as leaning forward and making eye contact, indicated their attentiveness and involvement. Meanwhile, P3 gave good attention yet was constantly distracted and passive sometimes.

Secondly, the participants were asked five questions in the interview to gauge their interest in using the intervention to construct simple sentences. The table below shows a summary of the participant's responses.

Table 5: Summary of the Interview with the Participants

NO.	INTERVIEW QUESTION	RESPONSES			REMARKS
		PARTICIPANTS			
		PA	PB	PC	
1.	Do you like or enjoy using COS Carton Slot?	Yes, ETUP	Yes, ETUP	Yes, ETUP	They enjoyed using 'COS Carton Slot'
2.	Does your friend also enjoy using COS Carton Slot?	Yes, ACS	Yes, LPT	Yes, ETUP	Their friends enjoyed using 'COS Carton Slot'
3.	Are you motivated to learn simple sentences (SVO) using COS Carton Slot?	Yes, ICS	Yes. RWS	Yes, CSLC	They are motivated to learn simple sentences (SVO) using 'COS Carton Slot'.

4.	Would you recommend COS Carton Slot to your friends or others?	Yes, ACS	Yes, LPT	Yes, FCS	They would recommend it to other people.
5.	if you have a chance, would you use COS Carton Slot again in the future?	Yes, FCS	Yes, ICS	Yes, ACS	They want to use the 'COS Carton Slot' again.

For the first question, all the participants answered yes confidently. They also have encountered the same reason due to the intervention's usability, which is easy to use and play on how to learn to construct simple sentences. Next, all participants agreed that their friends also enjoyed using the 'COS Carton Slot', where P2 stated that through the intervention, they could learn and play the 'COS Carton Slot' together to improve their ability to construct simple sentences. Therefore, they all feel motivated to use the 'COS Carton Slot' because it helped them understand sentence structure. P2 and P3 shared that the letters represent different word categories, allowing them to practice and grasp the concept of SVO sentence structure more easily. They also wanted to recommend 'COS Carton Slot' to their friends and were excited to share the results. Not only that, the responses to the last item show that they want to play 'COS Carton Slot' again; all the answers to these five questions indicate that the participants enjoy using 'COS Carton Slot' and are interested in using it again with their friends to improve their ability to construct simple sentences (SVO).

Research Question 3: How does COS Carton Slot improve year four pupils' ability to write simple sentences (SVO)?

The researcher anticipated that simplifying sentence structures into basic parts would help the participants understand better and improve their ability to construct simple sentences (SVO). To support this, the researcher interviewed an expert teacher and analysed the data using thematic analysis. The interview revealed that the 'COS Carton Slot' has two important aspects that greatly help participants improve their ability to construct simple sentences (SVO). Table 7 below presents the analysis of the expert teacher's responses from the interview.

The researcher anticipated that breaking down the structure of sentences into more basic elements would help to improve the participants' understanding and ability to construct simple sentences (SVO). The researcher interviewed the expert teacher and analysed the data using thematic analysis. The interview data shows that 'COS Carton Slot' has two different aspects that contribute significantly to facilitating participants' improvement in simple sentences (SVO) construction. Table 7 below shows the analysis of the expert teacher's answers during the interview.

Table 7: Analysis of Interview Transcription with Expert Teachers

No	Theme	Sub-theme	Descriptions	P
1	Conceptualise Sentence Structure	Breakdown into essential elements for deeper understanding	… broken down the elements of writing a sentence into something much simpler which can help students to understand how to write simple sentences better	5
		The placement of word sticks gives a clear picture	… the sticks of the innovation is that the pupils have to place the words into particular places so this way it can give pupils a clearer picture on the placement of certain words within a sentence.	19
		Recognise word categories	… differentiating the elements within the sentences. I can see that in your circle or paper, you have differentiated the type of words into several different categories which are subject, verb and object.	4
		Letters help with the word order.	They know what order they have to place it in because they only have to refer at the letter on top of the words.	24
2.	Physical Characteristics	Letters as guidance for the type of words	… letters at the top give pupils a clearer picture of what type of word it is. Yes yes, by putting the letter at the top of the circle, it gives pupils' an understanding of what the type of word it is.	21 & 23
		Colours represent singular or plural subjects and verbs	… pink is singular, blue is plural. So this can help to reinforce pupils' understanding and the type of words avoiding grammatical errors	21
3.	Engagement and Motivation	Interesting appearance	… your intervention is very interesting in terms of appearance, I see that it has different colours, and pictures and these things can help pupils to focus more in the classroom	10

The data from expert teachers highlights the effectiveness of the 'COS Carton Slot' in improving Year 4 pupils' ability to construct simple sentences (SVO). One of its key strengths lies in its ability to simplify sentence elements, breaking them down into distinct categories such as subjects, verbs, and objects. This approach aids pupils in visualising and understanding sentence structure more clearly. Using word sticks, where each word must be placed in designated slots, helps pupils see the correct

order of words and their roles in a sentence. Furthermore, by categorising words into different components, pupils can more easily differentiate between these elements, improving sentence construction and reducing errors.

Next, the physical characteristics of the 'COS Carton Slot' also play a significant role in guiding pupils through sentence formation. Putting letters on top of each word slot serves as cues for the type of word, while colour coding helps reinforce grammatical rules, preventing common mistakes like subject-verb disagreement. Moreover, the visual aids, combined with the engaging and colourful appearance of the intervention, capture pupils' attention and make learning more enjoyable. The interactive nature of placing word sticks in slots encourages active participation, thus enhancing focus and retention. As a result, 'COS Carton Slot' creates a positive and structured learning experience that supports pupils in mastering simple sentence construction effectively.

DISCUSSION

The findings from the study revealed an improvement in the participants' ability to construct simple sentences (SVO). Three participants in the study group find it hard to construct sentences before the intervention, demonstrating critical weaknesses in basic sentence construction, such as omitting crucial sentence components and incorrect word order. However, they could construct simple sentences (SVO) correctly in the final test following the intervention. All three participants showed remarkable progress, achieving 90% in the final test, with improvements ranging from 70% to 80%. This significant leap in scores suggests that the intervention successfully addressed their difficulties and enabled them to construct simple sentences accurately and confidently.

The selection of 'COS Carton Slot,' featuring letters such as 'S', 'V', and 'O to represent the word categories on top of word slots, underscores its role in guiding pupils' learning and providing a clear picture to easily identify and position each component accurately within a sentence. All three participants expressed that they found the intervention helpful in understanding sentence structure, particularly distinguishing between subjects, verbs, and objects. The structured guidance helps reinforce pupils' understanding of the correct word order, leading to more accurate and precise sentence construction. Furthermore, incorporating colour coding further enhances this guidance by visually distinguishing between singular and plural forms, reducing confusion and avoiding common grammatical mistakes such as subject-verb disagreement. For instance, using pink for singular and blue for plural provides an immediate reference point that clarifies the correct usage of verbs depending on the subject type, strengthening pupils' grasp of grammatical rules. As a result, these features collectively contributed to the successful implementation of the 'COS Carton Slot', as evidenced by the significant improvements in participants' test scores and positive feedback on their interest during interviews.

Nonetheless, it is crucial to be aware that not all pupils may perceive the same visual and tactile elements of the 'COS Carton Slot' equally helpful, as its effectiveness can vary based on pupils' individual learning preferences. For example, one of the participants displayed occasional hesitation when using the colour-coded word sticks, finding the bright colours distracting rather than helpful. This suggests that while the intervention successfully supports most pupils, it may not cater to every learning style, particularly those who might be sensitive to visual stimuli or prefer auditory or purely verbal explanations. Such observations raise questions about the scalability and adaptability of the 'COS Carton Slot' for a broader range of learners, indicating the need for additional modifications or complementary strategies to ensure inclusivity and effectiveness for diverse pupil needs.

Furthermore, the research shows that the hands-on approach of 'COS Carton Slot' effectively enhances pupils' understanding of sentence structure by allowing them to manipulate sentence components physically. According to Sumil (2016) and Herrmann (2014), as cited in Eassa and Nekhely (2024), emphasise that children learn best through "hands-on, minds-on" activities that engage both physical and cognitive functions, supporting diverse learning styles. This view is supported by the

expert teacher's feedback, who highlighted that "the sticks of the innovation require pupils to place the words into particular slots, giving them a clearer picture of the placement of certain words within a sentence" (paragraph 19). This means that the placement of word sticks in designated slots visually reinforced the order and function of each sentence component, allowing pupils to grasp sentence structure intuitively. In contrast, Sweller's (1988) Cognitive Load Theory suggests that traditional rote memorisation can overwhelm young learners' cognitive capacity, making complex rules challenging to grasp. Instead, 'COS Carton Slot' simplifies learning by breaking down complex concepts into manageable chunks, reducing cognitive load and enhancing comprehension. Thus, its interactive, multi-sensory design caters to various learning needs, making it a more effective and inclusive tool for teaching basic writing skills.

The research plan for implementing the 'COS Carton Slot' is well-supported and aligns well with Vygotsky's (1978) Social Constructivist Theory, which emphasises that learning is a socially mediated process and occurs most effectively through guided interactions within a learner's Zone of Proximal Development (ZPD). In stage Oone, the pupils were guided to identify and classify subjects, verbs, and objects, which served as a form of scaffolding that supported their initial understanding of sentence components. During stage two, pupils actively engaged in hands-on activities by placing word sticks into specific slots, promoting peer collaboration and teacher guidance to reinforce the correct SVO structure. Meanwhile, stage three involved the independent construction and repetition of simple sentences, encouraging the internalisation of learned concepts through meaningful practice. This structured and interactive approach, combining teacher guidance and active pupil participation, reflects Vygotsky's idea that learning is enhanced when learners are supported through tasks slightly beyond their independent capabilities, fostering both cognitive development and mastery of new skills.

REFLECTION

Upon entering the Year 4 classroom, I had high expectations for the pupils' ability to construct simple sentences, believing it would be straightforward. However, I quickly realised many pupils needed help articulating their thoughts clearly, resulting in fragmented and incorrect constructions. This highlighted Year 4 learners' significant challenges in mastering fundamental aspects of English grammar and writing. I prioritised simple sentence construction, thinking that grasping this basic structure would help them master more complex sentences later, as simple sentences are essential for effective communication.

Implementing the 'COS Carton Slot intervention revealed potential for improvement and persistent challenges. The interactive, game-based tool engaged the pupils and provided a hands-on approach to learning the SVO structure. I observed a gradual increase in their confidence and ability to construct simple sentences correctly, and the colour-coding strategy for singular and plural subjects and verbs effectively reduced confusion around subject-verb agreement. However, some pupils still hesitated to apply the SVO structure independently, indicating that while the intervention facilitated initial learning, further reinforcement may be necessary. This experience has reinforced the importance of patience and continuous support for young learners facing writing difficulties and highlighted the need for effective teaching methods that address the diverse learning needs of ESL students.

SUGGESTION FOR FUTURE RESEARCH

The research primarily focuses on improving pupils' ability to construct simple sentences, specifically SVO structure, due to the low proficiency levels of the participants. The intervention concentrated solely on this foundational sentence type to avoid overwhelming them. Because the COS Carton Slot focuses on understanding and constructing simple sentences (SVO), I suggest that other sentence structures should be included in future interventions so that pupils can master all types of sentence structures in English. Besides, gradually incorporating additional sentence structures beyond the simple

sentence type, such as compound and complex sentences, is recommended, allowing pupils to develop a more comprehensive understanding of English grammar. Understanding sentence structure involves adhering to grammatical rules, which dictate the order of word categories and the agreement between subjects, verbs, and nouns (Adamugy & Momade, 2021). Failure to follow these rules can result in sentences that lack meaning and coherence. Once pupils have mastered all types of sentences, introducing prompts that evoke emotions or personal responses will enrich their writing experience, fostering creativity and expressiveness. This holistic approach will ultimately support pupils in mastering a more comprehensive range of sentence structures, promoting greater confidence and competence in their writing abilities.

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ENHANCING YEAR 5 ASTER PUPILS' ENGAGEMENT IN LEARNING ENGLISH THROUGH SPARD T&L METHOD

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ABSTRACT

In the Malaysian Primary ESL classroom, a teacher's pedagogical competence dictates the approaches and methods being implemented during the T&L session, which in turn can significantly impact pupils' engagement during English lessons. Despite the advancement in 21st century learning, pupils in 5 Aster are yet to display a good level of engagement due to a poor cultivation of a positive learning experience in the classroom. The purpose of this research was to enhance pupils' engagement in learning English through SPARD T&L Method, which emphasises a structured sequence of steps to enhance the teaching and learning process. This action research involved six pupils from Year 5 Aster in Sekolah Kebangsaan Pengkalan Nyireh, Besut, Terengganu. The data collection method encompassed observations, questionnaires and semi-structured interviews. The quantitative data was analysed using descriptive statistics, and the qualitative data was analysed using coding and thematic analysis. Significant differences are noted in pupils' engagement after implementing SPARD T&L Method through the developed themes from the observation checklists. Results from the questionnaire also indicate that the implementation of SPARD T&L Method has piqued pupils' interest in learning English. Data from the semi-structured interviews highlights the effectiveness of the intervention for enhancing pupils' engagement. This study concludes that SPARD T&L Method is an effective intervention tailored to enhance pupils' engagement in learning English among Year 5 Aster pupils. By specifying five stages in a lesson into an acronym, SPARD T&L Method encourages pupils' engagement and establishes a well-rounded and immersive learning experience. This study suggests a wider application of the intervention as an instructional approach in both formal and informal educational settings and not just in ESL classrooms.

Keywords: *SPARD T&L method, pupils' engagement, learning interest, pedagogical method, pedagogical competence*

INTRODUCTION

In the constantly shifting landscape of English as a Second Language (ESL) education, understanding effective pedagogical approaches and practices is critical for fostering pupils' engagement and generating successful learning outcomes. Teachers play a vital part in moulding ESL pupils' learning experiences, and their pedagogical approaches have a significant impact on pupils' motivation, engagement, and overall academic development. On a global level, ESL teachers are demanded to be at par with the evolving educational standards and expectations to meet the needs of a rapidly changing global landscape, and the proliferation of technology has transformed the way education is delivered and received. Cultivating and prioritising a positive learning experience can enhance pupils' attitudes towards learning English and thus, promote their motivation and engagement in the classroom (Ramzan et al., 2023). The importance of enhancing pupils' engagement through effective pedagogical approaches come in accordance with the quote by Mystkowska-Wiertelak (2020), "learners engagement, as a vital antecedent to learning outcomes, has been extensively explored in educational psychology and quite recently caught the attention of language acquisition scholars". Enhancing and

maintaining pupils' engagement serve as an important goal of educators, as the level of motivation and engagement displayed by individuals plays a pivotal role in their overall progress and ultimate triumph in the process of acquiring the language (Akram & Abdelrady, 2023).

Reflection on Teaching and Learning

I have had the opportunity to conduct my practicum for three months and I was assigned to teach four classes with an allocation of 12 periods in total. I taught four classes, and of all classes that I have taught, I observed and encountered various issues during the teaching and learning session, however, the most prominent issue across 4 classes was the lack of engagement among the pupils. I noticed that even in a high achieving classroom, there were several pupils who were not keen on engaging with the lesson despite having integrated technological assistance during the lesson. It occurred to me that the pupils were actually brilliant minds, but they were not enthusiastic enough to learn despite their abilities and fast learning pace.

Among my pupils, some of them displayed a lack of engagement and excitement during my lessons. They seemed uninterested and lethargic during class discussions, despite my best attempts to design participatory activities and cultivate a supportive learning atmosphere. After giving this encounter some thought, I was able to pinpoint a number of contributing variables such as to adapt my teaching strategies and include a variety of learning modes in order to meet each pupil's unique needs and preferences. As I thought back on my methods, I realised that I had mostly just adapted conventional techniques but with the integration of technology, including lectures and worksheets, which might not have successfully engaged all pupils. Despite having to use technology in my lessons, the more important aspect to be looked upon is how the teacher actually makes use of technology to deliver the lesson, not the sole inclusion of it.

I started to revise my teaching and learning strategies, methods and approaches in order to come up with a solution that can intervene with the issue of disengagement in English lessons. During the 3 months of practicum, I learned the importance of incorporating interactive and hands-on learning activities. Utilising a variety of teaching methods such as role-plays, games, and multimedia resources helped to keep the pupils actively involved in the learning process. However, I also found that utilising technological aids solely could lead to overstimulating the pupils, hence an integration of physical and online materials was the best method by far. It came to me that I should shift my focus on how I teach, as these pupils are fast paced learners but they can get easily distracted if the lesson inclines towards teacher centred strategy and only use textbooks as the teaching aids.

Problem Statement

Based on the initial data collection, it was observed that some pupils were showing inconsistent engagement throughout my lessons every week. It is found that there were several pupils who showed lack of engagement in the class, and that they were the same people who often played around and were reluctant to finish their work on time. A preliminary test carried out to get to know the pupils'issues related to their engagement and other behaviour related concerns. For the preliminary test, the researcher conducted observations to find out who were highly disengaged and disinterested during the English lessons.

In every lesson, there would be group activities, where pupils would be grouped with varying academic abilities. In group activities, there were one to two pupils who were not participating actively in group discussions, instead, they preferred not doing any task and just be a passive observer, or they would be disrupting other pupils in other groups who were also passive. Hence, from the observations, the researcher used an observation checklist to document the observation in a more detailed manner. For the preliminary test, the researcher focused on classroom engagement solely as it was only to find out who were highly disengaged in the classroom.

The initial result is displayed in Table 1 as follow:

Table 1: Observational Checklist for Classroom Engagement

Theme	Code	Statement	P1	P2	P3	P4	P5	P6
Classroom Engagement	Verbal Engagement	• The pupil actively engages in classroom discussions.	X	X	X	X	X	X
		• The pupil initiates questions or responds to the teacher's prompts.	X	/	X	X	X	X
	Non-verbal Engagement	• The pupil maintains eye contact with the teacher and peers.	X	X	X	/	X	X
		• The pupil nods, gestures, or uses facial expressions to show understanding or agreement.	/	X	X	X	/	/

Based on the result obtained from the observational checklist, it is evident that there are six pupils who portrayed lack of engagement in the overall lesson.

Research Focus

When conducting research, particularly in the field of education or any other sector, it is vital to determine a specific research focus. The criteria for selecting a research focus are important in ensuring that the study is meaningful, feasible, and contributes to existing knowledge. According to Manual Kajian Tindakan (2018), action research should encompass six criteria; administrative, significance, practicality, control, collaboration, and relevance. In this study, I emphasise on 3 particular criteria, which are as follows.

Significance

The significance in this research is linked with 21st century learning, hence this will be significant for both pupils and the school itself as it enables teachers to enhance their teaching practices. The new educational paradigms underpinning the 21st century frameworks aim to build comprehensive capabilities with integrated technological resources, hence teaching-learning strategies must be properly utilised (González-Pérez & Ramírez-Montoya, 2022). Implementing and adapting innovative teaching practices can increase pupil engagement in the classroom, resulting in positive learning results and an excellent overall educational experience. In the overall structure of the SPARD teaching method intervention, the goal is to help in identifying gaps in traditional teaching practices and providing evidence-based strategies.

Relevance of Research

The relevance in this research lies in its ability to inform and improve teaching practices in an ESL classroom. It is relevant because in order to have pupils interested in the lesson and not stray away from the assigned tasks, teachers should be able to capture their attention with varied teaching methods, other than having various teaching aids as well. As stated by Barun et al (2021), using innovative teaching approaches improves pupils' knowledge and enthusiasm in the subject. Therefore, it is aimed that the

SPARD method enables teachers to tailor their instructional strategies to meet the pupils; diverse needs effectively.

Practicality of Research

The practicality of research refers to its practical application in real-world educational settings. In the context of a new teaching method intervention for action research related to 21st-century learning, practicality is essential for ensuring that the proposed intervention is feasible, effective, and sustainable. The practicality of the SPARD T&L method depends on its ease of implementation to be incorporated into the current educational framework. A practical teaching method must be scalable to different grade levels, classroom sizes, and educational environments, as teaching practices that are both practical and scalable encompass the areas of metacognition, self-efficacy, belongingness, and growth mind set (Hempel et al., 2020). The SPARD T&L method is an approach which can be easily incorporated into their lesson plans without needing a lot of time, money, or specialist training as the method are acronyms of 5 different elements in the teaching and learning session.

Objectives and Research Questions

Research objectives:

iii. To enhance 5 Aster pupils' engagement in learning English through the implementation of SPARD T&L method.
iv. To explore Year 5 Aster pupils' interest in using SPARD T&L Method to improve their engagement in learning English.
v. To explain how the implementation of SPARD T&L method enhances Year 5 Aster pupils' engagement in learning English.

Research questions:

iii. Does SPARD T&L method enhance Year 5 Aster pupils' engagement in learning English?
iv. Are Year 5 Aster pupils interested in using SPARD T&L Method to improve their engagement in learning English?
v. How does the implementation of SPARD T&L method able to enhance Year 5 Aster pupils' engagement in learning English?

METHODOLOGY

Intervention

The SPARD T&L method is an instructional approach that emphasises a structured sequence of steps to enhance the teaching and learning process. In schools, teachers can observe pupils' behaviour in the classroom and address the issue by implementing innovative interventions which can be conducted in their classrooms. As such, it might be used as a powerful tool by instructors and academic supervisors to develop an effective educational strategy to maximise pupils' learning experiences (Delfino, 2019). The Malaysian Education Blueprint (2013-2025) also urges educators to diversify their teaching methods and enhance their pedagogical practices in order to become a quality teacher, thus uplifting their teaching practices in the ever-changing multicultural classroom.

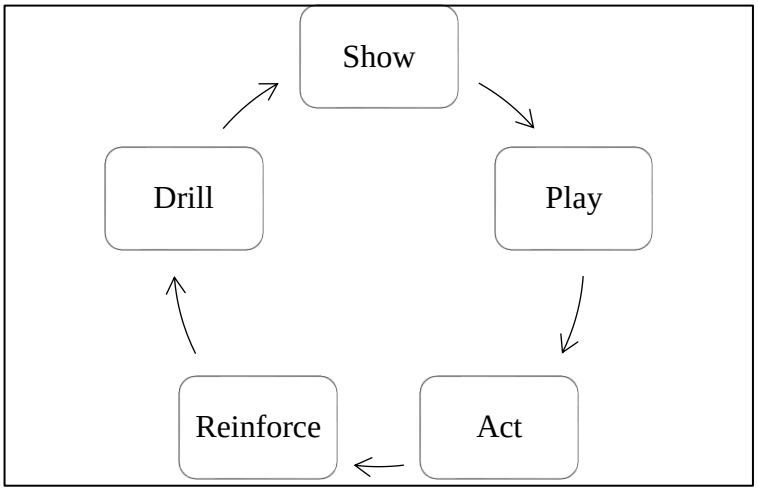

Figure 1: The SPARD T&L method

Each letter in the SPARD T&L method represents a specific stage, as illustrated in the Figure 1 above. In the **"show"** stage, the teacher presents or demonstrates the new concept, skill, or information to the pupils. This could involve explaining a grammatical concept, providing examples, or introducing new vocabulary. The goal is to ensure that pupils have a clear understanding of what they are about to learn. Next, the **"play"** stage involves interactive and engaging activities that allow pupils to explore the new concept or skill in a hands-on manner. This could include educational games, simulations, or group activities that encourage active participation and help reinforce the understanding gained in the **"show"** stage.

Moving on, in the **"act"** stage, pupils are encouraged to apply the knowledge or skills they have acquired. This might involve individual or group exercises, problem-solving tasks, or creative projects that require them to use the information in a practical context. The aim is to promote deeper understanding and mastery of the material. Consequently, the **"reinforce"** stage focuses on reviewing and reinforcing the learning through various means. This could involve revisiting key concepts, summarising the lesson, or discussing real-life applications. The goal is to strengthen the retention of information and provide opportunities for pupils to ask questions or seek clarification. Lastly, the **"drill"** stage is designed for repeated practice and reinforcement of the learned material. This step often involves exercises, drills, or activities that allow pupils to repeatedly apply and internalise the knowledge or skills. The aim is to enhance automaticity and fluency in the application of the newly acquired information. The SPARD T&L method is structured to cater to different learning styles and engages pupils through a variety of activities. By progressing through these stages, pupils receive a well-rounded and immersive learning experience, which can contribute to increased motivation, engagement, understanding, and retention of the subject matter.

Participants

Six pupils from Year 5 Aster in Sekolah Kebangsaan Pengkalan Nyireh. Below shown in Table 2 are the profiles of each research participant.

Table 2: Research participants' profile

Participant	Characteristics
1	- Has good proficiency in English but is shy to communicate ideas, often daydreams in class
2	- Often refuses to initiate ideas, but can respond when the teacher asks in group work
3	- Does not show responses except when prompted
4	- Tends to get into misunderstandings during group work and disrupt others
5	- Often strays away from tasks and loses focus easily
6	- Does not really participate in group wor

Data Collection Method

The data for this study was collected by employing three types of instruments; questionnaire, observation checklists and semi-structured interview. The instruments used encompass both quantitative and qualitative data, hence the data is analysed using descriptive statistics and thematic analysis. The timeframe of the data collection process was over the span of 2 weeks at Sekolah Kebangsaan Pengkalan Nyireh, Besut, Terengganu.

The second instrument is the Student Engagement in Schools Questionnaire (SESQ), where scholars from more than 19 countries collaborated in the development of the SESQ to develop such a measure and to study student engagement internationally (Lam & Jimerson, 2008). For purposes of this study the items representing only the indicators of engagement (i.e., Affective, Behavioural, and Cognitive) are examined in order to fulfil the needs of exploring the enhancement of pupils' engagement in learning English.

The third instrument is a semi-structured interview with an English teacher at Sekolah Kebangsaan Pengkalan Nyireh which focuses on answering the third research question on the effectiveness of the intervention.

As shown below, Table 3 demonstrates the instruments used in order to answer the research questions.

Table 3: Instruments used for data collection

Research Questions	Instruments
1. Does SPARD T&L method enhance Year 5 Aster pupils' engagement in learning English?	Observation Checklist
2. Are Year 5 Aster pupils interested in using SPARD T&L Method to improve their engagement in learning English?	Questionnaire
3. How does the implementation of SPARD T&L method able to enhance Year 5 Aster pupils' engagement in learning English?	Semi-structured Interview

Action Plan

The model that I utilise in my research is the Kemmis and McTaggart Action Research Model, which was put forth by Stephen Kemmis and Rob McTaggart. Kemmis and McTaggart (1988) defined an action study as a participatory research design that consists of a spiral of self-reflective cycles. They defined action research as a type of self-reflective inquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which they are carried out (Kemmis, 1988).

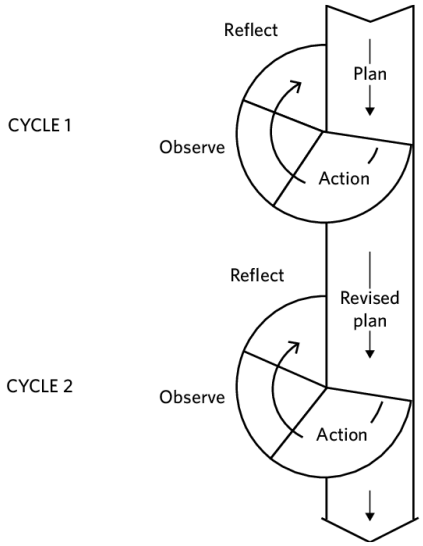

Figure 2: Kemmis and McTaggart Action Research Model (1998)

Kemmis and McTaggart Action Research Model a straightforward representation of the cyclical nature of a typical action research process. Each cycle comprises four steps: plan, act, observe, and reflect (O'Brien, 1998). These stages are not distinct, but rather interwoven with action and reflection. This research aims to improve pupils' engagement in learning English through the use of SPARD T&L method. Thus, the intervention will follow the four steps mentioned in the Kemmis and McTaggart Model which are plan, act, observe and reflect. These steps are fundamental to ensure that the research can be successfully carried out. Each of the steps exist interdependently and follows each other in a spiral or cycle.

Plan

The first phase involved formulating a comprehensive plan of action after identifying the primary issue of low pupil engagement during English lessons. I developed a detailed research plan targeting this issue, as consistent pupil participation is widely recognized as a crucial factor in acquiring knowledge and skills, as well as being a strong predictor of academic success and positive life outcomes (Pino-James, 2018). Reflecting on this insight, I realized the importance of addressing disengagement to foster a more active learning environment. To assess the effectiveness of the intervention, multiple data collection methods were employed, including classroom observations, surveys, and semi-structured interviews. These instruments were carefully selected to capture both qualitative and quantitative insights into pupil behaviour and engagement levels before, during, and after the intervention. The core of this action research was the implementation of the SPARD T&L Method, which was specifically designed to enhance engagement by incorporating structured and interactive learning stages into the classroom setting. This plan was meticulously aligned with the learning objectives, ensuring that each stage of the method corresponded with key engagement indicators.

Act

In this phase, I implemented the planned intervention, which involved executing the SPARD T&L Method over a series of structured English lessons. This phase was both the longest and most challenging, as it required careful management of each step in the intervention while continuously assessing its impact on pupil engagement. Throughout this process, I employed several techniques, such as interactive activities and multimedia resources, designed to cater to diverse learning preferences and stimulate active participation. The intervention was carried out systematically across multiple sessions, with each stage (Show, Play, Act, Reinforce, Drill) serving a distinct purpose in building and

maintaining pupil engagement. Continuous data collection via observations, surveys, and interviews was conducted to monitor the progression of engagement and ensure that the intervention was having the desired effect. Simultaneously, I performed ongoing adjustments to the instructional strategies to address any emerging challenges or gaps.

Observe

Upon the completion of the intervention, I entered the observation phase, during which I rigorously monitored and analysed the data collected. This phase was pivotal in determining the overall success of the intervention. The observations, surveys, and interviews were crucial in identifying the effects of the SPARD T&L Method on pupil engagement. By comparing engagement levels before and after the intervention, I was able to assess any shifts in participation, attention, and motivation. This data, gathered through real-time classroom observations and pupil feedback, provided in-depth insights into how different aspects of the SPARD method impacted engagement and whether the instructional changes led to sustained improvements in learning behaviour. Through thematic analysis and statistical evaluations, I was able to generate clear answers to the research questions and understand how the intervention contributed to enhanced pupil participation.

Reflect

After analysing the data from the observation phase, I engaged in a reflective process to assess the overall strengths and weaknesses of the intervention. This reflection was key to understanding the specific elements of the SPARD T&L Method that worked effectively in boosting engagement, as well as identifying areas for refinement. Based on this reflective analysis, I proposed several adjustments to the intervention that could enhance its effectiveness for future implementations, including recommendations for more tailored support during group activities and increased use of interactive learning tools. Additionally, this phase allowed me to gather insights for broader applications of the SPARD method in other educational contexts and suggest directions for future research to further explore its impact on pupil engagement.

The intervention SPARD T&L method involved three phases of implementation which are shown in Table 4 below.

Table 4: The implementation of SPARD T&L Method

Phase	Date	Topic
Phase 1	3 September 2024	Countable and uncountable nouns
Phase 2	5 September 2024	Quantifiers
Phase 3	8 September 2024	Global currency
Phase 4	12 September 2024	How to order food and drink in a cafe

The intervention was implemented in four phases where I had entered four English lessons in two-week duration. The two-week span of the intervention's implementation is supported by the notion that demonstrating longer observation periods yield more reliable data regarding pupils' engagement patterns, enabling teachers to differentiate between temporary fluctuations and lasting changes (Jaffar & Eladl, 2023). For each lesson, I had specifically written lesson plans which tailored with the stages of SPARD T&L Method to ensure that the implementation followed each acronym accordingly.

FINDINGS

The findings were analysed based on three instruments as described in the data collection method; COSPERM observation checklists developed by (Edwards et al. 2015), a 12-item SESQ with 5-Likert Scale rating and a semi-structured interview. The first instrument is the Code for Student Performance Measure (COSPERM) observation checklists, which include four sections under the learner code; active learning responses, flow level, positive behaviour and negative behaviour. Table 5 below illustrates the mean score for each section in COSPERM.

Table 5: COSPERM's Section Means for All Participants

Section	Mean Score	Interpretation
Active Learning Responses	4.63	Very High
Flow Level	4.58	Very High
Positive Behaviour	4.42	Very High
Negative Behaviour	1.12	Very Low

In Table 5, Active Learning Responses (ALR) indicates the mean value of 4.63, signifying very high participation among the pupils. Followed by the second section, Flow Level (FL) accumulates a mean value of 4.58, indicating that pupils were highly engaged in class activities during the implementation of SPARD T&L Method. The third section is Positive Behavior (PB) which demonstrated a mean of 4.42, reflecting consistent positive behaviour throughout the lesson, while Negative Behaviour (NB) shows a very low mean score of 1.12 that shows minimal disruptive behaviour during the lesson.

Table 6: Mean score interpretation

Mean Score	Interpretation
1.00 – 1.80	Very Low
1.81 – 2.60	Low
2.61 – 3.20	Medium
3.21 – 4.20	High
4.21 – 5.00	Very High

Table 6 above shows the mean score interpretation by which allows researchers to provide insight into the overall performance or tendency of a group in relation to a particular dataset, hence further explains the mean scores obtained from the observation checklist adapted from (Edwards et al., 2015).

Based on Figure 3 below, it is found that all six pupils had showcased a high mean score for three section means; Active Learning Responses (ALR), Flow Level (FL) and Positive Behaviour (PB), and for the section Negative Behaviour (NB), the mean score recorded for all pupils were very low as the section contained negative-coded items. The highest mean score for ALR is 5.00 (Participant 3 & Participant 6), meanwhile, for Flow Level, participant 4 has the highest mean score (5.00), whereas 4.75 is the highest mean score for Positive Behaviour, and lastly an indication of 1.00 mean score is recorded in the section Negative Behaviour.

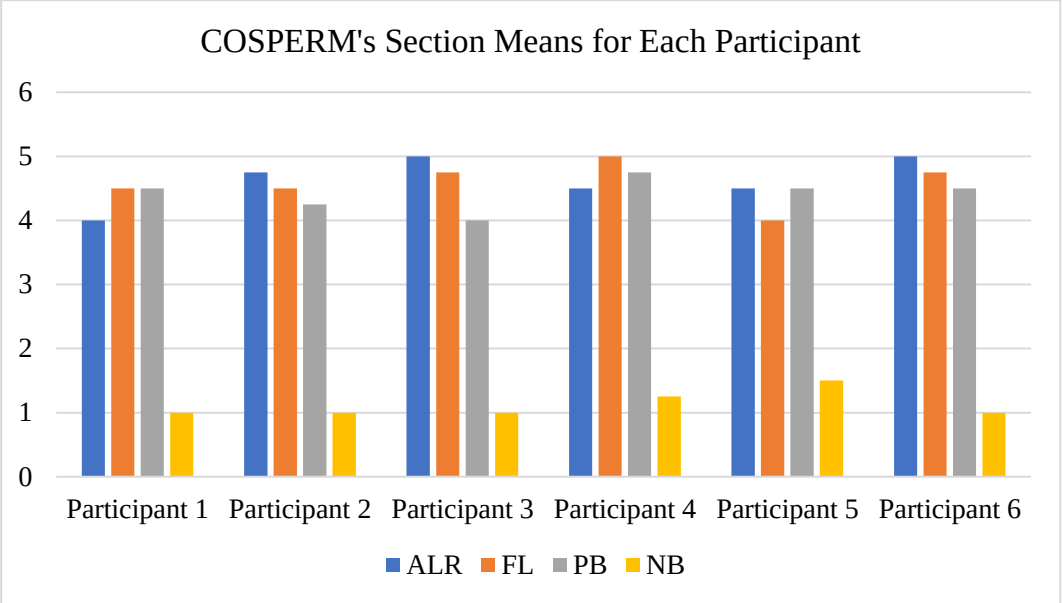

Figure 3: COSPERM's Section Means for Each Participant

The second instrument is the Student Engagement in Schools Questionnaire (SESQ), and in this study, the survey encompasses a total of 12 items with 1-5 Likert Scale rating as seen in Table 6 below, which are later represented as emoji during the actual survey session.

Table 7: Results of the Overall SESQ

	Item	Mean Score	Overall Mean Score
	AFFECTIVE ENGAGEMENT		
1.	I am very interested in learning English when the teacher implements SPARD T&L method.	4.67	
2.	I think what we are learning in school during English lesson is interesting when the teacher implements SPARD T&L method.	5.00	4.83
3.	I like what I am learning in the English lesson when the teacher implements SPARD T&L method.	4.83	
4.	I enjoy learning new things in my English class when the teacher implements SPARD T&L method.	4.83	
	BEHAVIOUR ENGAGEMENT		
5.	I try hard to do well in English lessons when the teacher implements SPARD T&L method.	4.83	
6.	I work as hard as I can when the teacher implements SPARD T&L method.	4.83	4.71
7.	When I'm in class, I participate in class activities when the teacher implements SPARD T&L method.	4.67	
8.	I pay attention in class when the teacher implements SPARD T&L method.	4.50	
	COGNITIVE ENGAGEMENT		

9.	During English lessons, I try to understand the material better by relating it to things I already know when the teacher implements SPARD T&L method.	4.83	4.00
10.	During English lessons, I figure out how the information might be useful in the real world when the teacher implements SPARD T&L method.	3.67	
11.	During English lessons, I try to connect what I am learning with my own experiences when the teacher implements SPARD T&L method.	3.83	
12.	When learning things for school during English lessons, I often try to associate/connect them with what I learnt in other classes about the same or similar things when the teacher implements SPARD T&L method.	3.67	

The questionnaire was administered to all six pupils and they completed the survey within one session. Physical copies of the SESQ were distributed to them along with explanation of the items from the researcher. According to Table 7, there are 12 items for the questionnaire adapted from the SESQ by Hart et al. (2011) where the items are placed under three indicators; Affective Engagement, Behaviour Engagement and Cognitive Engagement. The overall mean score recorded for three indicators were 4.83 (AE), 4.71 (BE) and 4.00 (CE). Participants respond to the SESQ items using a five-point Likert scale: 1) Strongly Disagree, 2) Disagree, 3) Neutral, 4) Agree, and 5) Strongly Agree (see Table 8).

Table 8: Qualitative Interpretation of 5-point Likert Scale Measurements (Nyutu et al., 2021)

Likert-Scale Description	Likert-Scale	Likert Scale interval
Strongly disagree	1	1.00 - 1.80
Disagree	2	1.81 - 2.60
Neutral/Uncertain	3	2.61 - 3.40
Agree	4	3.41 - 4.20
Strongly agree	5	4.21 - 5.00

According to the results displayed in Table 9, the highest mean across two indicators is 5.00, (Affective Engagement and Behaviour Engagement), whereas the lowest mean for the two indicators is 4.50. The third category, Cognitive Engagement, has the highest mean of 4.25, while the lowest mean recorded is 3.50.

Table 9: Category Means of the SESQ for Each Participants

Participant	Mean Score (AE)	Mean Score (BE)	Mean Score (CE)
P1	5.00	4.75	4.00
P2	5.00	4.50	4.25
P3	5.00	5.00	4.00
P4	5.00	4.75	4.00
P5	4.50	4.75	4.00
P6	4.50	4.50	3.50

The third instrument used is a semi-structured interview with an English teacher at Sekolah Kebangsaan Pengkalan Nyireh, who is also Year 5 Aster's current English teacher. The teacher was provided with thorough explanations and video recording of the SPARD T&L Method implementation in the English lesson. Therefore, the interview was later conducted after the teacher has grasped full comprehension of what the intervention aims to improve. Transcription from the interview was later analysed using reflexive thematic analysis. The reflexive technique does not use established themes to 'discover' codes. Themes are created by organizing codes around a relative core commonality, or 'central organising

notion', which the researcher interprets from the data (Braun & Clarke, 2019). Inductive analysis was used to identify the subthemes and theme, and this approach entails looking through data to identify codes, classifications, patterns, and themes (Saldaña and Omasta, 2017; Miles et al., 2020). In other words, codes and indicators are not predetermined; rather, they are recognized and named as the researcher examines the data. Open or initial coding is a common practice in inductive analysis, as is the constant comparative method.

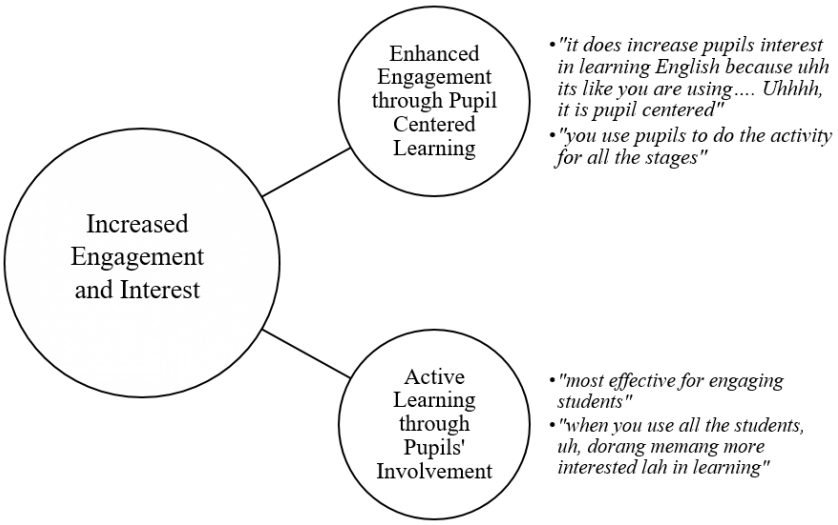

Figure 4: Thematic map of the First Theme "Increased Engagement and Interest"

Based on figure 4, the first theme depicted is "Increased Engagement and Interest", which is achieved from two subthemes "Enhanced Engagement through Pupil Centered Learning" and "Active Learning through Pupils' Involvement". The thematic analysis here shows that by centering lessons around pupils' active participation and involving them in every learning stage, it is found to be significantly boosting pupils' engagement and interest in the classroom. It further justifies that this method has been found particularly effective in enhancing pupils' engagement and enthusiasm for learning English.

In figure 5, the theme Structured Learning converges from two subthemes "Specificity and Clarity of the Method" and "Pupil Awareness and Alignment of Tasks". The second theme is determined from two subthemes which were analysed from the codes found in the quotes in the interview. The theme highlights that the intervention conveys a structured learning method, and with their clarity and specificity, helps pupils stay engaged and aligned with their tasks, ensuring a focused and productive learning environment.

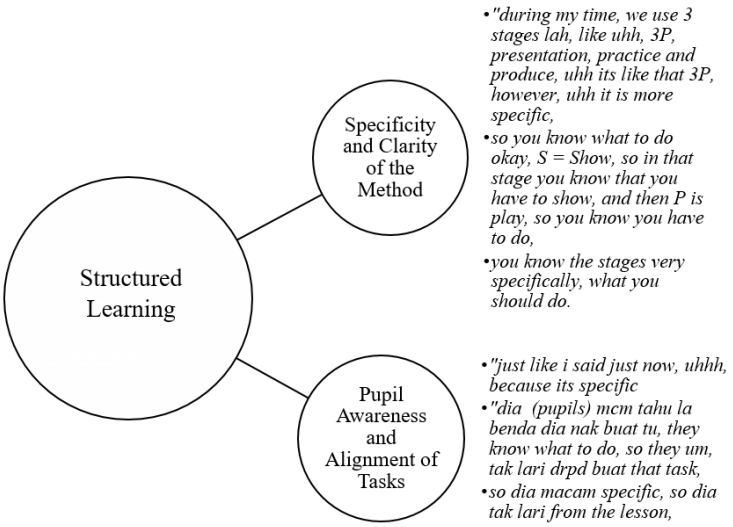

Figure 5: Thematic map of the Second Theme "Structured Learning"

On the other hand, the third theme identified is "Effectiveness and Recommendations" as seen in Figure 6. The theme reveals that the intervention is seen as both effective and practical for classroom use, with educators recommending its broader adoption. However, to enhance its effectiveness further, it is suggested that more pupils be involved in the activities, particularly in interactive learning stages such as "play." This combination of positive feedback and improvement suggestions indicates that the method has significant potential for optimizing pupil engagement and interest in learning.

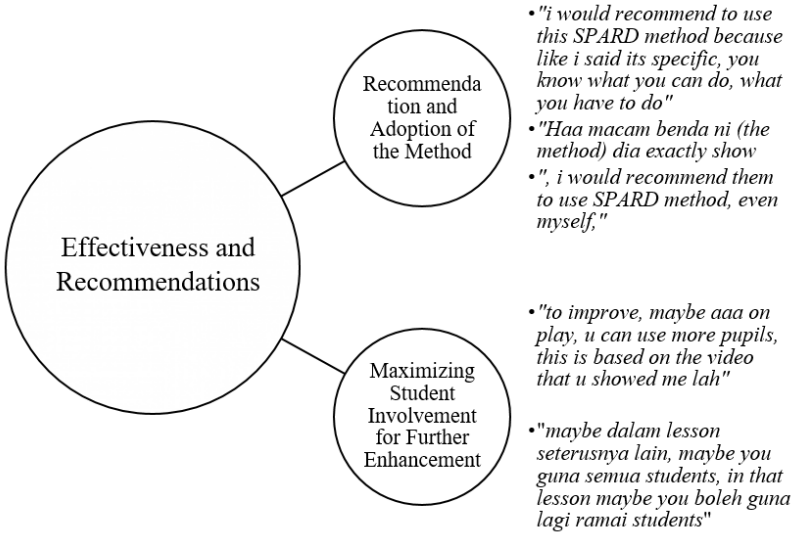

Figure 6: Thematic map of the Third Theme "Effectiveness and Recommendation"

DISCUSSION

Existing research highlights the critical role of pupils' engagement in driving educational outcomes (Öncü & Bichelmeyer, 2021). Disengaged pupils may appear to lack enthusiasm and may not actively participate in lessons, which in turn can undermine learning and achievement. Therefore, this action research was undertaken to ascertain whether SPARD T&L Method has a positive effect on pupils' engagement during English lessons, and simultaneously accelerate their learning outcomes. The study

utilized a mixed-methods approach, incorporating classroom observations, questionnaires, and thematic analysis to assess engagement pupils' engagement, as evidenced by converging data from various sources. The results demonstrated that the implementation of the SPARD T&L Method led to increased engagement among pupils during English lessons.

The observation checklist revealed that pupils actively participated in classroom activities while displaying minimal disruptive behaviour, suggesting that the SPARD T&L Method effectively mitigated distractions and maintained focus on learning tasks. Observational data collected using the COSPERM checklist highlighted strong indicators of engagement, including active learning responses, high flow levels, and predominantly positive behaviours. Notably, all participants exhibited enhanced engagement after four phases of implementation. The implementation took over a two-week period, and within the timeframe, it allows for thorough observation, reflection, and adaptation of teaching strategies, ultimately leading to more effective educational practices. Engagement levels can fluctuate based on various factors (e.g., mood, external distractions, or daily variations), so a longer duration helps ensure that results are more representative of typical behaviour rather than outliers. It allows pupils to acclimate to new instructional strategies and significantly enhance their engagement levels and overall learning outcomes (Schmidt et al., 2018).

The method concentrates on pupils' centred learning which is also known as the student-centered learning approach. The approach hereby includes four methods; problem-based learning, project-based learning, inquiry-based learning and cooperative learning (Dada et al., 2023). Cooperative learning is embedded in the five stages, as seen from the quotes for the subtheme "Enhanced Engagement through Pupil Centred Learning" in Figure 4. Accordingly, instructional strategies represent a key lever for educators to foster greater pupils' engagement, where SPARD T&L Method comprises of five acronyms that allow pupils to experience a combination of multiple learning stages. As the intervention was carried out in a total of four lessons, it was seen that along the process, participants portrayed significant increase of engagement, accumulating notable changes in their learning changes and classroom participation. It was noted that each of the participant has taken to their liking on their preferred stages in SPARD T&L Method and they were aware of the entire learning process. As a teacher, the fundamental task to find and adapt effective ways to engage pupils in the learning environment. One of these ways is through learning activities, hence why SPARD T&L Method was created to fulfil this need. The learning activity can be defined as a bridge between the learners and the learning outcomes. Learning activities support pupils' engagement (Gunes et al., 2020) while also helping pupils develop their analytical and mental skills (Da Silva Clarindo et al., 2020), and also increase pupils' achievements in addition to assisting teachers in designing teaching and learning processes (Nasrullah et al., 2017).

Additionally, survey results indicated favourable attitudes toward the SPARD T&L Method across three indicators of engagement: affective, behavioural, and cognitive. For this study, three indicators were examined in order to capture a general idea of pupils' engagement in the classroom. Appleton et al. (2008) and Jimerson et al. (2003) suggest that pupils' participation in the classroom is multifaceted and seems to overlap with a number of related notions (e.g., school connectivity, school bonding), therefore the suggested definition includes both indicators (i.e., affective, behavioural, and cognitive) and facilitators (i.e., both personal and contextual factors that influence engagement) of engagement (Appleton et al., 2008). The mean score of affective engagement (4.83) explains that participants have positive feelings towards the learning process and also the teacher, meanwhile for behaviour engagement (4.71), it is accounted that the pupils were conscious that they put efforts and showcased higher participation when the teacher implements SPARD T&L Method during the English lesson. The cognitive engagement (4.00) of the participants is also found to be categorically positive after evaluating the survey data for the current research. This highlights that engagement in the ESL classroom is greatly influenced by the teacher's teaching style, as Setiawan et al. (2019) concluded that the interest and involvement of pupils behaviour in learning English can be enhanced by using creative teaching.

The convergence of quantitative and qualitative data suggests that the SPARD T&L Method not only fosters a more engaging learning environment but also enhances pupils' overall attitudes and interest toward English learning. The observed increase in participation and reduction in negative behaviours indicates that this instructional approach can effectively motivate pupils and stimulate their interest in learning English. The thematic analysis on the transcription further supports these findings by revealing three main themes of increased engagement and interest, structured learning and also the effectiveness of the intervention along with recommendations, hence, aligning with high levels of affective, behavioural and cognitive engagement observed during lessons. SPARD T&L Method falls into the category of an innovation for teaching methods, and recent research literature is supportive of its' use, because a preferred teaching method serves as one of the crucial factors affecting pupils' learning (Fernandez-Garcia et al., 2019; Inda-Caro et al., 2019). In summary, this has clear practical implications for both pedagogical application and for administrative budgetary considerations, as it is an easily adapted method which can be directly incorporated into lesson plans.

REFLECTIONS

The most meaningful aspect of conducting this action research was seeing the tangible improvement in pupil engagement through the use of the SPARD T&L Method. Observing how structured and interactive learning stages positively influenced pupils' enthusiasm for learning English was incredibly rewarding. The pupils, who initially exhibited low levels of participation and engagement, gradually became more involved, interactive, and responsive during lessons. This change reaffirmed the importance of incorporating innovative pedagogical approaches that cater to diverse learning needs and preferences. The most significant takeaway was realizing that the SPARD T&L method, which emphasizes pupil-centred activities and interactive learning, can truly transform the classroom environment into an engaging and dynamic space.

This experience highlighted the critical role that teaching strategies play in fostering a positive and engaging learning environment. Through SPARD's structured stages—Show, Play, Act, Reinforce, Drill—I saw how each stage helped to build pupils' confidence, involvement, and overall interest in the lesson. This method encouraged active learning and provided varied opportunities for pupils to engage with the material on different levels (cognitive, behavioural, and affective). The intervention's success demonstrates that when pupils feel actively involved in their learning, they are more likely to participate and retain information. As a teacher, this made me understand that effective lesson planning goes beyond just delivering content—it involves creating meaningful learning experiences that resonate with pupils' abilities and interests. Looking back, I can see that the implementation of the SPARD T&L Method had a profound impact not only on the pupils' engagement but also on my development as an educator. By carefully monitoring and reflecting on the intervention, I was able to adjust my teaching techniques and make informed decisions about what worked and what didn't. The data collected from observations, surveys, and interviews provided valuable insights into the various aspects of pupil engagement. For example, I realized that some pupils preferred more hands-on activities, while others responded better to guided discussions. This taught me the importance of differentiated instruction and the need for flexibility in teaching methods to accommodate different learning styles.

However, there were areas where I could have improved. For instance, I noticed during the PLAY stage, which focuses on pupils practicing the previously learned concept in groups. While some pupils benefited from the activity, others found it less engaging because they were not included as representatives of the group who played the educational games. If I were to conduct this research again, I would establish rules that involve more group members to maintain high engagement levels throughout this stage and give other pupils more opportunity to participate. Additionally, they can articulate their learning experiences which can further deepen their engagement and understanding.

In the long run, the insights gained from this research will significantly shape my teaching philosophy and practice. Moving forward, I plan to integrate more pupil-centred and interactive teaching methods into my lessons, ensuring that each stage of the learning process is engaging and tailored to pupils' needs. I now understand the importance of building lessons around active participation and will continue to use strategies like SPARD that allow pupils to explore, apply, and reinforce their knowledge in meaningful ways. Moreover, I intend to continuously reflect on and refine my teaching practices, using both formal and informal feedback from pupils to guide my improvements. My experience with action research has reinforced the value of iterative reflection and adaptation in teaching. In the future, I plan to conduct similar action research projects to explore other innovative teaching methods that could further enhance engagement, particularly in more challenging or less motivated classrooms.

In terms of long-term professional development, this experience has deepened my commitment to becoming a reflective practitioner. By continually assessing the impact of my teaching methods and seeking out new strategies to engage learners, I will be better equipped to foster a positive, active learning environment for all pupils. Additionally, I aim to contribute to the broader educational community by sharing my findings and advocating for evidence-based teaching approaches that prioritize pupil engagement.

Suggestions

To further enhance the effectiveness of the SPARD T&L Method, future research should focus on refining the stages properly in maximizing pupils' involvement in order to avoid pupils straying off tasks especially during group work. Other than that, it is recommended that the method offers more strategies towards enhancing cognitive engagement. This could involve linking classroom content to real-world applications thoroughly to facilitate deeper learning experiences. Additionally, future research could be done in exploring how different demographic factors influence engagement levels could provide valuable insights for tailoring instructional approaches to meet diverse pupil needs. Expanding the research to include larger sample sizes would also contribute to a more robust understanding of the method's impact on pupils' engagement over time.

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ENHANCING THE MASTERY OF PAST SIMPLE AMONG YEAR 5 DLP PUPILS THROUGH 'WINISES'

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ABSTRACT

In the Malaysian educational context, mastering English verb tenses, particularly the past simple, is crucial for effective communication and academic success. However, Year 5 DLP pupils often need help with this aspect of grammar due to limited exposure and traditional teaching methods. This research aimed to enhance the pupils' understanding and use of the past simple tense through the implementation of 'Winises,' an innovative multimedia and game-based learning tool. This action research was conducted on five Year 5 DLP pupils at Sekolah Kebangsaan Kampong Raja, Besut, Terengganu. The data were collected through pre-test and post-test, interview, and observation. The quantitative data was analysed using descriptive statistics, while the qualitative data went through thematic analysis. The findings revealed significant improvement in pupils' ability to correctly use both regular and irregular verbs in the past simple tense. The post-test results indicated a marked increase in proficiency, with observational data showing more excellent pupils' engagement and reduced confusion. Interviews with the teacher highlighted the effectiveness and pupils' motivation in learning the past simple. This study concludes that 'Winises' is an effective intervention for enhancing the mastery of the past simple tense among Year 5 DLP pupils. Integrating multimedia learning and game-based strategies, 'Winises' improves grammatical proficiency and fosters a more engaging and enjoyable learning experience. The success of this approach suggests its potential for broader application in similar educational settings, particularly in ESL contexts.

Keywords: *Past simple tense, Game-based learning, multimedia learning, action research and educational innovation*

INTRODUCTION

In the global context, acquiring English language skills is increasingly recognised as essential for effective international communication, education, and professional success. Proficiency in verb tenses, especially the past simple, is crucial for skilled narration and historical discourse. However, learners from diverse linguistic backgrounds encounter substantial challenges in mastering the past simple, attracting global academic interest (Pinter, 2018). These difficulties are not confined to non-English speaking countries but affect learners worldwide. Chan (2017) stated that challenges include conceptualising English time frames, handling irregular verbs, and differentiating between regular and irregular verbs, which can hinder learners' fluency and confidence. This highlights the importance of developing innovative teaching strategies to tackle these widespread challenges effectively.

In Malaysia, English is not the primary language of communication but holds notable value as a medium of instruction and a critical component of the globalised world (Tan & Miller, 2021). Malaysian ESL pupils need help with mastering the past simple due to limited English exposure, traditional repetitive methods, and insufficient focus on grammatical accuracy (Kumar & Singh, 2019). These challenges affect pupils' ability to use English communication efficiently and adversely influence their general proficiency and confidence in the language. Recognising the critical nature of this issue, this action

research proposal is dedicated to investigating the barriers to mastering the past simple and developing innovative strategies to enhance grammar proficiency among this demographic.

Nowadays, learning English is crucial, especially for pupils in primary school. Despite its importance, mastering the past simple poses substantial challenges to Malaysian ESL pupils, reflecting a broader issue in language acquisition that merits detailed exploration. English teaching aims at mastering four basic skills of language, which include listening, speaking, reading, and writing skills. To master all the skills, pupils need to master tenses, which will help them to listen, read, write and speak. According to Noor (2022), the motivation behind the study of ESL learners' Problems in Using Tenses is drawn from the observed struggles of pupils in writing essential past tense words and sentences, which link to their comprehension of grammar rules and their application in everyday speech. In that case, an innovative approach to grammar instruction can crucially improve the mastery of the past simple, thereby enriching Malaysian ESL pupils' English language proficiency (Lim & Abdullah, 2020). Teachers have a crucial role in assisting pupils in mastering how to use the past simple. Taking this into reflection, the goal of this research is to enhance pupils' mastery of past simple.

Reflection on Teaching and Learning

During my degree life at the Institute of Teacher Education Sultan Mizan Campus, I had the chance to go to school for my School Experience (SBE) thrice and complete my first practicum phase in various schools in different states. From those experiences, I have identified a common issue primary ESL pupils and teachers face during the English lesson.

During the SBE, I did not get the chance to teach the classes. Instead, I was allowed to sit at the back of the class and observe an English teacher instructing the pupils. However, I had the opportunity to interview the English teachers about the problems pupils most commonly face. As I entered the practicum phase, it became the perfect time and opportunity to identify my pupils' issues with the English language. I was sent to SK Kampong Raja, Besut, Terengganu, during my first practicum for three months. I was assigned to teach the English language to Year 5 pupils. Throughout the practicum, I endeavoured to identify problems faced by pupils in listening, reading, writing, and speaking skills. To make it more interesting, I delved into issues regarding grammar, specifically tenses.

According to the Year 5 Standard-based English Language Curriculum (SBELC) for the English language, one of the grammar contents that should be mastered is the past simple in both regular and irregular forms. Unfortunately, most of the pupils in my class faced confusion in differentiating and correctly using the regular and irregular forms of the past simple. The problem was evident during English writing and speaking lessons, as they needed to correct the tenses used in sentences and short essay exercises. Moreover, they needed help to grasp the basic rules of the tenses during class. Most of the time, I had to explain and repeat the rules all over again as they completed the exercises, yet they still needed to be corrected for the usage of tenses.

From what I experienced during the practicum phase, using the mother tongue during English class had become a habit for the pupils. It is often argued that when pupils transfer grammar knowledge from their first to their second language, errors may arise due to structural grammar differences between the source and target languages (Maniam et al., 2021). Therefore, using English is very important so the pupils will become accustomed to the language. Regrettably, most pupils in my class are comfortable speaking in Malay, as their previous English teacher practised minimal use of the English language during lessons. This issue was related to the use of both tenses among the pupils. They could only see the difference between the tenses by adding 'telah' before the action verbs. For example, in Malay, the past tense of *'angkat'* is *'telah angkat'*. Thus, the pupils applied the Malay concept to both tenses, like adding the word 'have' after the action verb. For instance, they believed the past tense of 'carry' is 'have carry.' This misconception led to their need for clarification about the correct usage of action verbs in both tenses of the English language.

Problem Statement

Year 5 DLP pupils are experiencing significant challenges in mastering the use of past simple. Early data collection revealed ten pupils scored 0 on the pre-test, indicating a severe lack of understanding. These challenges highlight a gap in current teaching practices and the need for more effective approaches to help pupils overcome these grammatical obstacles.

The pre-test result is displayed in Table 1 as follow:

Table 1: Results from the Pre-test

Instrument		**Pre-Test**					
Scores	0	1	2	3	4	5	6
Percentage (%)	0	17	33	50	67	83	100
Num. of pupils	10	4	3	2	4	5	5
Total number of pupils		**33**					

Further observations identified five pupils who require focused assistance due to persistent difficulties. Johnson et al. (2020) emphasise that observation improves data quality and can inspire new research questions. I chose this method, as Swain and King (2022) note, because it collects data without relying on pupils' responses. Focusing on ten low-scoring pupils, I discreetly used an observational checklist and anecdotal notes. Most pupils showed a lack of understanding, choosing a red light when asked about their learning experience, while a few chose yellow, signaling confusion. Despite good attendance, pupils expressed concern over their struggles with the past simple.

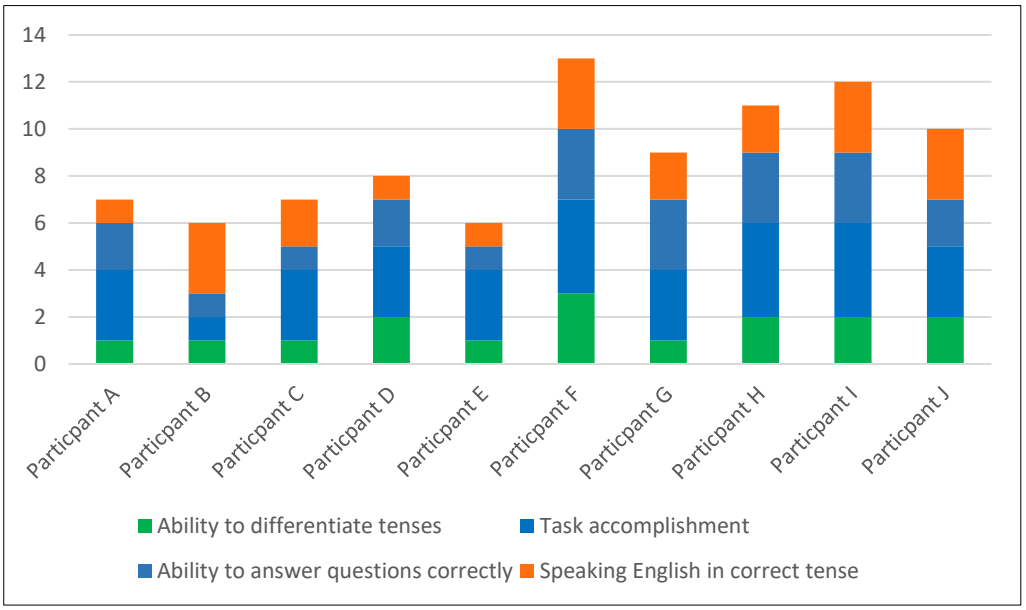


Chart 1: A comparative stacked bar chart of the ten pupils

Research Focus

According to *Institut Pendidikan Guru Malaysia (IPGM)* (2018), the criteria for selecting the research focus are administrative, importance, usability, controls, collaboration and relevancy to the school. I have focused this research on several key dimensions, such as importance, usability, and relevancy to school.

i. Importance

Importance is one of the criteria used to select the research focus. According to Ilahi (2019), sharing information is essential and adds value to pedagogy. This research is critical to determine the core cause of the problem in my teaching and learning sessions and identify the best solution for my pupils. In the teaching context, I am investigating how proficiency in the past simple impacts overall English language proficiency among Malaysian primary school pupils. This involves assessing the role of tense mastery in reading comprehension, writing skills, and oral communication, thereby underlining its significance in the broader context of language acquisition and educational achievement.

ii. Usability

The following criterion is usability. Usability is efficient, easy to learn, practical to use and enjoyable or engaging from the user's perspective (Komninos, 2023). In my research, I evaluate the practical approaches in teaching and learning the past simple in Malaysian primary schools. This dimension seeks to identify effective strategies, instructional materials, and assessment tools that facilitate the mastery of this grammatical aspect. My research aims to highlight innovative and contextually appropriate usability practices that enhance pupils' understanding and use of the past simple.

iii. Relevancy to school

Finally, relevancy to school is one of the criteria for selecting the research focus. Relevancy is being effectively or closely related (Merriam-Webster Dictionary, 2024). When examining the relevance of the past simple in the Malaysian primary education curriculum and its applicability in everyday communication. This includes analysing curriculum guidelines, teaching methodologies, and assessment criteria to determine how the past simple is positioned within the learning objectives for English language education in Malaysia.

Research Objectives and Questions

Research Objectives

i. To improve Year 5 DLP pupils' use of past simple through 'Winises'.
ii. To explain Year 5 DLP pupils' interest in using 'Winises' to improve their use of past simple.
iii. To explain how 'Winises' improves Year 5 DLP pupils' use of past simple.

Research Questions

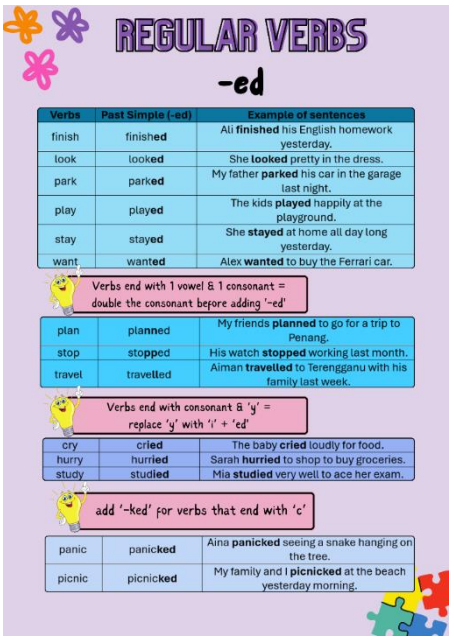
i. Does 'Winises' help to improve Year 5 DLP pupils' use of past simple?
ii. Are the 5 DLP pupils interested in using 'Winises' to improve their use of past simple?
iii. How does 'Winises' improve Year 5 DLP pupils' use of past simple?

RESEARCH METHODOLOGY

Intervention

I propose developing 'Winises', a dynamic learning tool to aid pupils' use of past simple. It will consist of two parts tailored to facilitate an engaging and practical grasp of the past simple. The first part is an infographic adorned with vibrant illustrations and fonts, explaining the grammar rules of the past simple. Complementing this, the second part utilises the efficacy of game-based learning. Pupils actively participate in activities to strengthen their understanding of the past tense through interactive and engaging gameplay. The table below shows procedures to use 'Winises' effectively.

Figure 1 & 2 shows the picture of 'Winises'



Verbs	Past Simple (-ed)	Example of sentences
finish	finished	Ali **finished** his English homework yesterday.
look	looked	She **looked** pretty in the dress.
park	parked	My father **parked** his car in the garage last night.
play	played	The kids **played** happily at the playground.
stay	stayed	She **stayed** at home all day long yesterday.
want	wanted	Alex **wanted** to buy the Ferrari car.
plan	planned	My friends **planned** to go for a trip to Penang.
stop	stopped	His watch **stopped** working last month.
travel	travelled	Aiman **travelled** to Terengganu with his family last week.
cry	cried	The baby **cried** loudly for food.
hurry	hurried	Sarah **hurried** to shop to buy groceries.
study	studied	Mia **studied** very well to ace her exam.
panic	panicked	Aina **panicked** seeing a snake hanging on the tree.
picnic	picnicked	My family and I **picnicked** at the beach yesterday morning.

Figure 1: 'Winises' Infographics

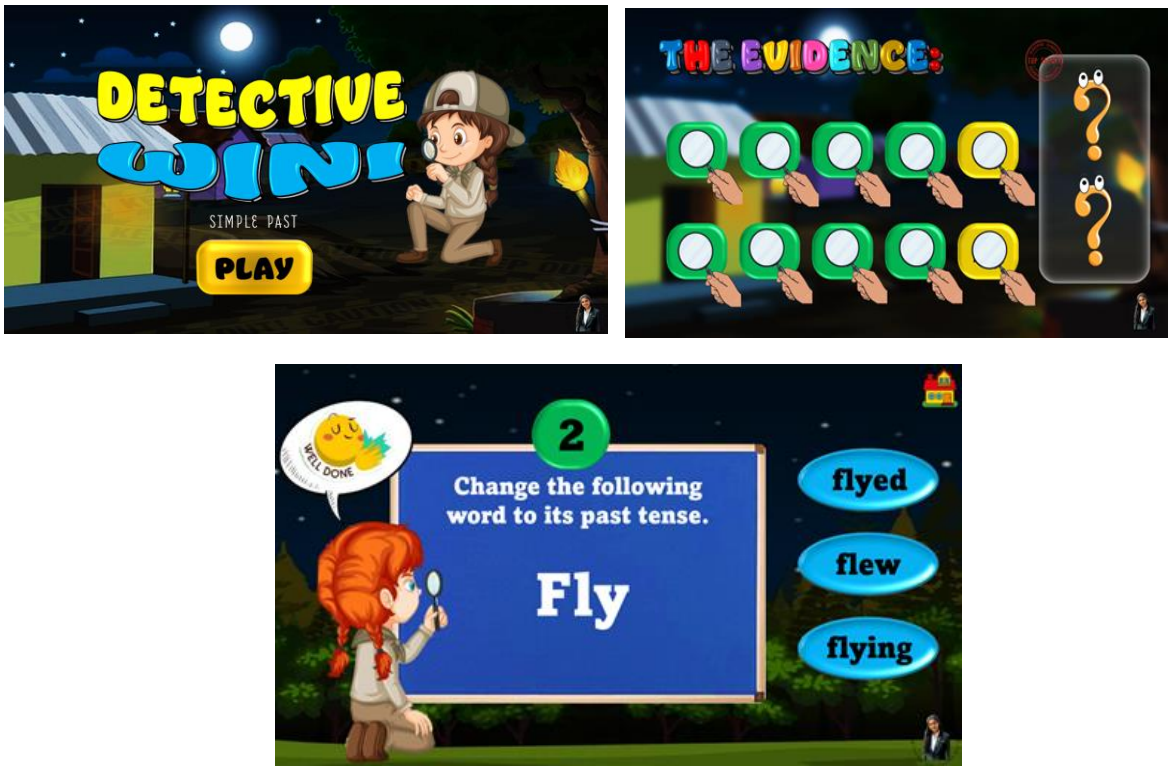


Figure 2: 'Winises' Games; Game 1: Detective Wini; Game 2: Wini's Snake & Ladder

Table below shows the procedures involved in using 'Winises'

Table 2: Procedures of using 'Winises.'

Num.	Procedures
1.	The teacher gives the pupils the 'Winises' infographic in printed form.
2.	The teacher teaches past simple using the 'Winises' infographic efficiently and effectively.
3.	After pupils grasp the rules outlined in the 'Winises', they are introduced to the 'Winises' game.
4.	The teacher plays the games by presenting it on the projector or smart TV to the class as a practice.
5.	Pupils who win the game will be rewarded.

The 'Winises' infographic applies Mayer's Multimedia Learning Theory by using clear structure and visual aids like color coding to focus on regular and irregular verbs. Placing explanations near images and breaking content into small chunks makes learning easier. Narration supports different learning styles, while a conversational tone and relatable examples keep pupils engaged (Ramsin & Mayall, 2019). These elements help pupils grasp and confidently use the past simple tense.

Besides, 'Winises' game uses Game-Based Learning by offering challenges, rewards, and immediate feedback to motivate pupils. Gamification is the application of mechanical and dynamic

game concepts in design aimed at enhancing user motivation and engagement (Rahman et al., 2020). Activities like filling in blanks and competing with peers encourage active learning (Wu, 2018). The game gradually reduces support as pupils improve and allows repeated practice, making it a fun way to master the past simple tense.

Participants

The participants were selected based on pre-test results of all Year 5 DLP pupils, focusing on low scorers. Five pupils, all struggling with English and the past simple, were chosen.

Participant	Description
Participant A	e female from a medium socio-economic background, often volunteers but struggles with forming past simple verbs.
Participant B	Male pupil from a teacher family, active in class but confuses English with Malay.
Participant C	Quiet female pupil from a moderate background, passive in class and has low English proficiency.
Participant D	le pupil from a moderate background, active only in preferred activities, with low proficiency and memory retention issues.
Participant E	ıale pupil from a well-off family, passive in lessons with low English proficiency.

Data Collection Method

In this research, I will utilise the triangulation method to ensure the validity and reliability of the study. Employing multiple methods is essential for a comprehensive understanding because a single process cannot adequately illuminate a phenomenon (Carter et al., 2019). Moreover, triangulating data will enhance the credibility of the research findings, thereby substantiating the effectiveness of the action research undertaken. The method that will be used will involve comparing data collected before and after the action has been carried out. The triangulation analysis figure is shown below.

To bolster the credibility and validity of the research, comparisons will be made based on data collected through observation checklists, interview questions, and post-tests. These comparisons will involve cross-verifying the information obtained through observations of pupils' responses during the action, post-tests administered to pupils, and interviews conducted with experienced English teachers in the school.

Qualitative data needs to be collected to evaluate the effectiveness of this research and act as evidence. Data collection is essential to ensure the research process is done correctly and in order. As Johnson (2012) stated in his book, action research is not simply writing about what you think to be accurate; instead, it is collecting data and making conclusions based on that data. I used three methods to collect data for my research: pre and post-test, interview, and observation.

Table below shows the data collection method used.

Table 3: Data Collection Method

Research Questions	Instruments
Research Question 1 Does 'Winises' help to improve Year 5 DLP pupils' use of past simple?	✓ Pre & post-test ✓ Semi-structured Interview with teacher ✓ Observation checklist
Research Question 2 Are the Year 5 DLP pupils interested in using 'Winises' to improve their use of past simple?	✓ Observation checklist ✓ Reflective writing
Research Question 3 How does 'Winises' improve Year 5 DLP pupils' use of past simple?	✓ Semi-structured Interview with teacher ✓ Observation checklist

Action plan

Kemmis and McTaggart (1988) developed the concept of action research, emphasising its role as a participatory, self-reflective practice aimed at improving practices, understanding, and conditions within social settings. Both are renowned academics, with Kemmis affiliated with Charles Sturt University and McTaggart recognised for his contributions to the field. Their work outlines action research as a cyclical process of reflection and action for social improvement.

Figure below shoes the cycle of Kemmis and McTaggert Action Research Model (1988)

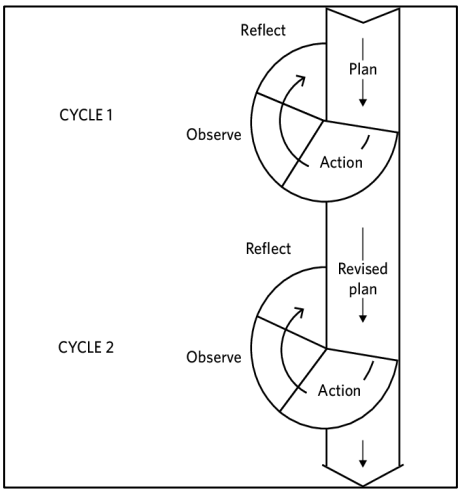


Figure 1: Cycle of Kemmis and Mctaggart Action Research Model (1988)

I have chosen Kemmis and McTaggart's model to guide every action I made in my research. The figure above shows the steps of the Kemmis and McTaggart action research model: plan, action, observe and reflect.

i. **Step 1: Plan**
The first step in Kemmis and McTaggart's model is to plan. In the planning stage, I have identified a specific educational issue: using past simple among Year 5 DLP pupils. This involves consulting with the co-teachers, reviewing literature and formulating research questions.

ii. **Step 2: Action**
Then, I continued the research with action. At this step, I implemented a coherent intervention

related to my plan. This involved modifying the intervention according to the need.

iii. Step 3: Observe

In the observation stage, I collected data to assess the impact of the intervention. This included qualitative data such as observations, interviews and quantitative data for pre and post-tests.

iv. Step 4: Reflect

The final step is to reflect. I critically analysed the data collected and reflected on my experiences. I have decided to complete my research on the first cycle.

The intervention 'Winises' involved implementation phases, as shown in the table below.

Table 4: Implementation of action

No.	Activity	Implementation Date
1.	Pre-test	19th October 2023
2.	Observation	22nd October 2023 - 26th October 2023
3.	Implementation of action	4th September 2024 – 5th September 2024
4.	Observation	4th September 2024 - 5th September 2024
5.	Post-test	6th September 2024
6.	Interview	6th September 2024

The intervention was implemented, in which I entered English lessons in one week. I had explicitly written lesson plans tailored to the stages of 'Winises' for each lesson to ensure that the implementation followed accordingly.

FINDINGS

Research Question One:

a) Does 'Winises' help to improve Year 5 DLP pupils' use of past simple?

The researcher has demonstrated that pupils' ability to use the simple past tense improved after implementing 'Winises'. The methods to address the first research question included a post-test, teacher interview, and observation. The primary focus of 'Winises' was to enhance the correct usage of regular and irregular verbs in the past simple tense, helping pupils better differentiate between them. Data analysis revealed a significant improvement in pupils' ability to correctly use past simple verbs after engaging with 'Winises'. This improvement was evident through the pre and post-test results and insights gained from the teacher interview and observation checklist.

i. Pre and Post-test

Table below shows the percentage of improvement on the post-test by the participants.

Table 5: Percentage of improvement on the post-test

Participants	Pre Test		Post Test		Improvement
	Marks (6)	Percentage (%)	Marks (10)	Percentage (%)	Percentage (%)
A	0	0	10	100	100
B	0	0	10	100	100
C	0	0	10	100	100
D	0	0	10	100	100
E	0	0	10	100	100

The bar chart below shows the comparison of pre test and post test results.

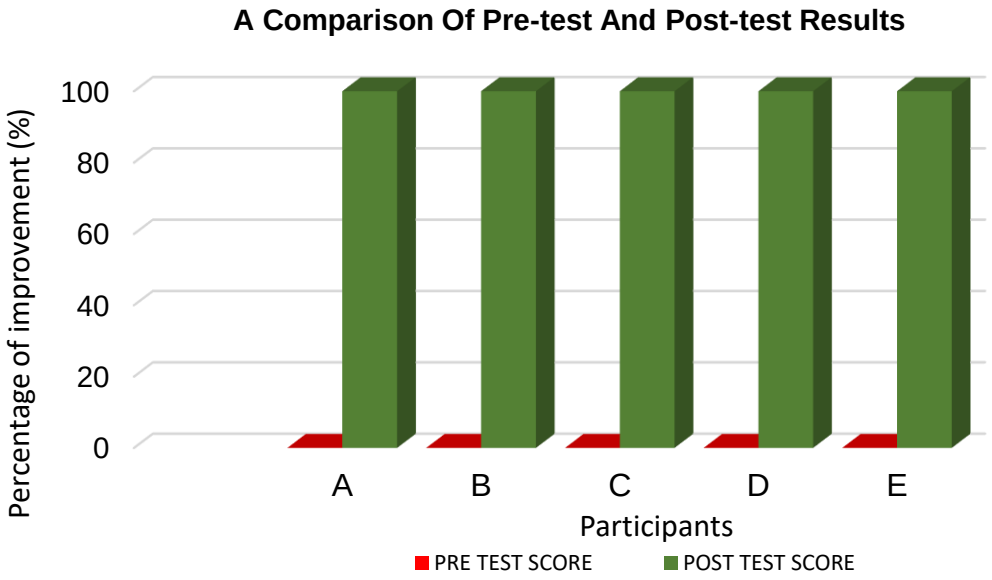


Chart 2: Comparison of Pre and Post test results

The test results analysis indicates a significant improvement in using the past simple. All participants, from A to E, demonstrated remarkable progress from the pre-test to the post-test. Initially, they all scored 0% in the pre-test, but after the implementation of 'Winises', each participant achieved a perfect score of 100% in the post-test. This overwhelming positive outcome clearly shows that 'Winises' had a powerful impact, with all participants scoring 100% after its implementation.

The analysis of the test results in the chart shows that all participants—Participant A, Participant B, Participant C, Participant D, and Participant E—significantly increased their marks in the post-test. Each participant achieved a 100% improvement after using 'Winises', demonstrating the success of the intervention. This analysis confirms that all participants showed notable progress in their test scores. The results strongly support the belief that 'Winises' effectively helped all participants improve their use of the past simple. (Refer to the appendices for participants' pre and post-test)

ii. Teacher Interview

Table 6,7&8 below shows the Analysis of Interview Transcription with Expert Teachers A, B and C

Table 6: Interview transcription of Teacher A

Transcription			Theme/Sub-Theme
Researcher	:	Have you noticed any improvement in pupils' use of simple past tense after using 'Winises'?	
Teacher A	:	*(nodding her head)* **Yes**! They have **improved a lot**. Before this many students struggled with irregular verbs in particular. But now I think they have understood the fact that it has to be memorised and irregular verbs are unpredictable.	
Researcher	:	Based on your observation, do you think 'Winises' help the pupils to memorise the rules of simple past tense?	Effectiveness • Improvement • Retention • Correct usage of past simple • Improved participation
Teacher A	:	Ya. Actually, this way **looks easier** for the students to memorise because it is **short and simple to understand**. And the **games seemed to reinforce** what they have learnt. You have done a good job here!	
Researcher	:	What are the positive changes that you notice among the pupils after using 'Winises'?	
Teacher A	:	Uhmmm… Looks like they are more concerned in **using the past simple correctly** during writing practices actually. Before this when they listen to	

	the word past tense, they will look confused and bored. Now, it has totally changed. They are **more interested and confident**.	

Table 7: Interview transcription of Teacher B

		Transcription	Theme/Sub-Theme
Researcher	**:**	Have you noticed any improvement in pupils' use of simple past tense after using 'Winises'?	Effectiveness • Improvement • Retention • Correct usage of past simple • Improved participation
Teacher B	**:**	*(nodding her head)* **Oh yes**, they have progressed. Before this, many of them would mix up the -ed & -d with the irregular verbs, but after using 'Winises,' they have improved.	
Researcher	**:**	Based on your observation, do you think 'Winises' help the pupils to memorise the rules of simple past tense?	
Teacher B	**:**	Hmm…**Ya**. When I see them with your infographic they like to refer to it. The infographic is **very straightforward**. And the **games was very engaging**. I saw pupils getting excited. Even I was attracted to that game.	
Researcher	**:**	What are the positive changes that you notice among the pupils after using 'Winises'?	
Teacher B	**:**	Uhmmm… Since I am not teaching the class now. I am not really sure about it (chuckling). But according to what I saw during your teaching session, I see them **more engaged**, that's for sure. They're not just sitting back and listening; they're **actively trying to figure out the answers**. And when they get it right, there's this sense of accomplishment. They're also more **willing to correct themselves**, which is great to see.	

Table 8: Interview transcription of Teacher C

Transcription			Theme/Sub-Theme
Researcher	:	Have you noticed any improvement in pupils' use of simple past tense after using 'Winises'?	Effectiveness • Improvement • Retention • Correct usage of past simple • Improved participation
Teacher C	:	Ahmmm… Since I haven't teach this class, I can't speak from direct teaching experience, but from what I've observed, **yes**, there's been improvement. The pupils seemed more confident using the simple past tense, especially when it comes to irregular verbs.	
Researcher	:	Based on your observation, do you think 'Winises' help the pupils to memorise the rules of simple past tense?	
Teacher C	:	From what I see, yes, 'Winises' seemed to help the pupils **understand and remember the rules**. The way you have edited this infographic is very cute and colourful. You can see them referring back to the infographics when they were unsure, which shows that it was really **supporting their learning**.	
Researcher	:	What are the positive changes that you notice among the pupils after using 'Winises'?	
Teacher C	:	Even though I am not teaching them, it was clear that the pupils became **more engaged** as the lessons went on. They were more **willing to participate**, and I noticed they were **more comfortable** using the simple past tense in both speaking and writing. The environment **felt more energetic**. (haha) They were fighting to answer the questions.	

Based on the interview transcript, the teachers' responses reflected their observations on how the implementation of 'Winises' improved pupils' use of the past simple during English lessons. The interview was conducted after 'Winises' was implemented as part of the action research. It was evident that pupils showed noticeable improvement in their use of the past simple after engaging with 'Winises'.

Three interview questions addressed research question one. The interviews were conducted with three English teachers. The first question asked if they had noticed any improvement in pupils' use of the simple past after using 'Winises'. All three teachers reported that pupils had significantly improved using the past simple.

The second question focused on whether the teachers observed that pupils found memorising the rules of the past simple tense easier through 'Winises'. The responses were overwhelmingly positive, with teachers noting that pupils found the rules easier to remember. 'Winises' effectively helped the pupils improve their usage of the past simple through infographics and interactive games. Pupils could correctly identify and use regular and irregular verbs in the past simple.

The third question asked about the positive changes teachers noticed in pupils after using 'Winises'. The teachers' responses clearly indicated that pupils demonstrated positive changes in their understanding and use of the past simple. After analysing the interviews with all three teachers, it is evident that 'Winises' effectively improves pupils' use of past simple correctly.

iii. Observation checklist

The bar chart below shows the observational checklist results for items 1,2,3 and 4

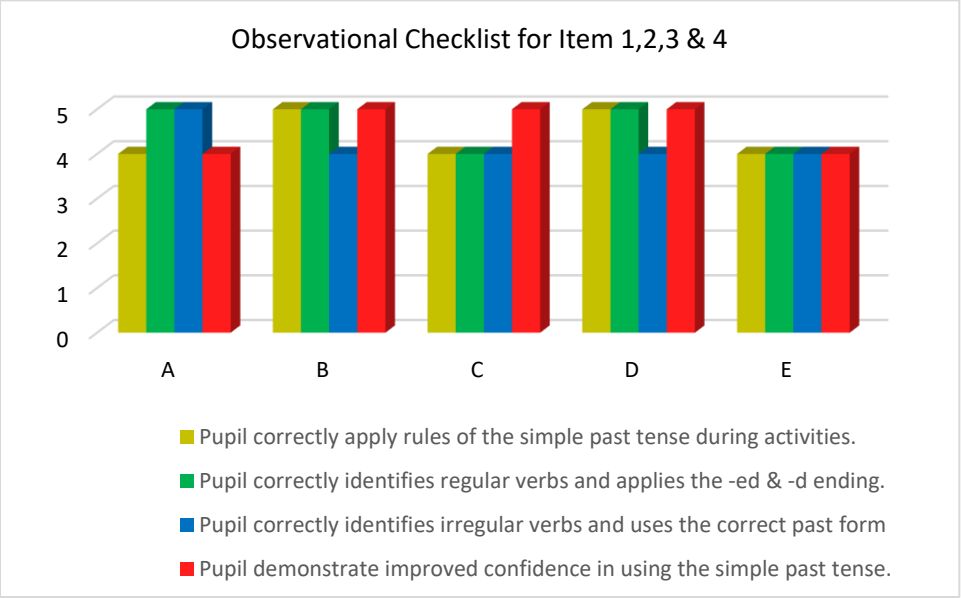


Chart 3: Observational Checklist for Item 1,2,3 & 4

Four items from observational checklist were used to answer research question one. Item 1 was about pupils' ability to apply rules of the simple past tense during activities correctly. Participants B and D scored 5, showing excellent understanding and consistent application of the rules. They actively engaged in all activities and demonstrated clear and accurate use of the simple past tense. However, participants A, C, and E scored 4 and were categorised as 'good'. Pupil A correctly applied the rules but occasionally rushed through the task, affecting her overall accuracy. Pupil C participated well but needed occasional reminders to ensure consistent application. Pupil E demonstrated good understanding but lacked some confidence in more complex tasks, leading to minor hesitation.

The second item gauged pupils' ability to identify regular verbs and correctly applied the -ed and -d ending. Participants A, B, and D scored 5, indicating excellent performance. They consistently and correctly applied the -ed and -d endings without errors during the lesson. Pupils C and E scored 4. While both were generally accurate, Pupil C occasionally hesitated, requiring prompts to ensure correct application. Pupil E needed additional time to recall and apply the rules but demonstrated a solid overall understanding.

The third item concerns pupils identifying irregular verbs and using the correct past form. Participant B scored 5, displaying a solid grasp of irregular verbs. He was quick and accurate in identifying and applying the correct past forms. Participants A, C, D, and E scored 4. They demonstrated

good understanding but occasionally paused before determining the proper forms. Pupil A, in particular, was confident but sometimes needed to verify the irregular forms before applying them.

The fourth item assessed pupils' improvement of confidence in using the simple past tense. Participants B, C and D scored 5, showing significant confidence. They participated enthusiastically, consistently applying the simple past tense throughout the lesson with minimal hesitation. Pupils A and E scored 4. While they were generally confident, Pupil A occasionally rushed, and Pupil E demonstrated growing confidence but still held back during certain activities.

In conclusion, the data from the post-test, observation checklist, and teacher interview strongly support the finding that 'Winises' has significantly improved Year 5 DLP pupils' use of the past simple tense. Therefore, the first research question answered, confirming that 'Winises' improves pupils' ability to use the past simple correctly.

Research Question Two:

b) Are the 5 DLP pupils interested in using 'Winises' to improve their use of past simple?

The researcher anticipates that 'Winises' will provide an engaging and enjoyable way for pupils to learn the past simple tense. This expectation stems from the fact that 'Winises' incorporates games and infographics, which will likely motivate and encourage pupils to actively participate and improve their use of the past simple. Two instruments, observation and participants' reflective writing were used to address this research question.

i) Observation checklist

The bar chart below shows the observational checklist results for items 5,6,7 and 8

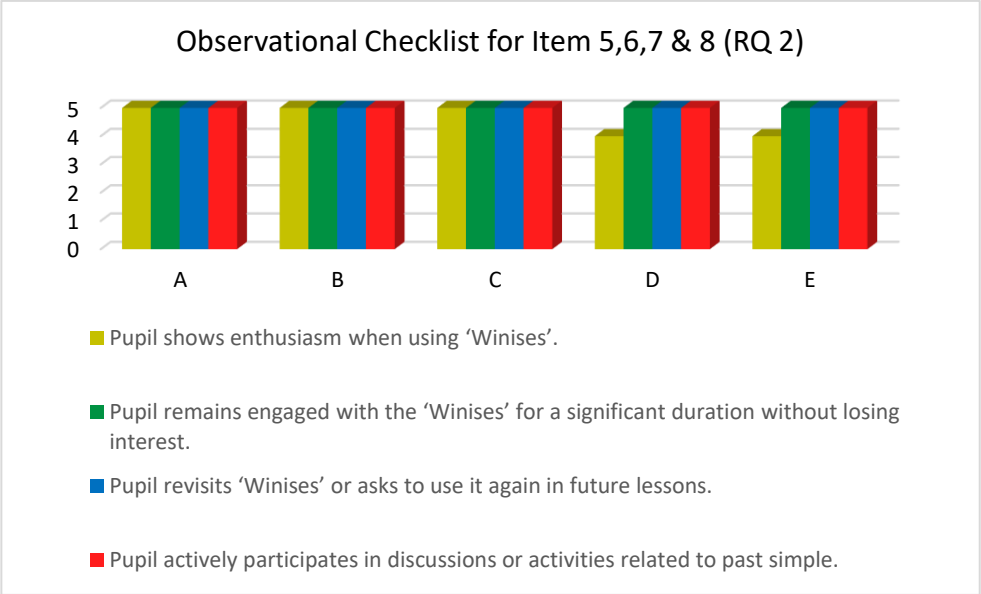


Chart 4: Observational Checklist for Item 5,6,7 & 8

Four items from the observational checklist were used to answer research question one. Item five was about pupils' enthusiasm when using 'Winises'. Pupils A, B, and E scored 5, demonstrating high enthusiasm. They were consistently engaged, smiling, and expressing excitement during the activities. They were enthusiastic, frequently raising their hands and interacting with the tool without hesitation. Pupils C and D scored 4. Although they participated well and expressed interest,

there were brief moments where their attention slightly wavered. However, their overall engagement remained strong, showing enjoyment and focus.

The sixth item gauged pupils' ability to stay engaged with 'Winises' for a significant duration without losing interest. Pupils A, D, and E scored five and maintained strong engagement throughout the session. They interacted with 'Winises' continuously without any signs of distraction, eagerly participating in all tasks. Pupils B and C scored 4. While they were generally engaged, there were moments when they seemed to lose focus or become momentarily distracted. Despite this, they quickly re-engaged and continued to work with 'Winises'.

The seventh item was about pupils revisiting 'Winises' or asking to use it again in future lessons. Surprisingly, all five pupils scored 5, indicating a strong interest in continuing to use 'Winises' in the future. All participants with a score of 5 were explicitly asked to use it again, showing excitement for future lessons involving 'Winises'.

The last item assessed whether pupils actively participate in discussions or activities related to past simple. All five pupils scored 5, indicating full participation and enthusiasm in discussions and activities related to the past simple. Each pupil contributed actively, shared their thoughts, and confidently engaged in tasks. This consistent score across all pupils suggests a high level of involvement and interest in the subject matter, showing that the activities and use of 'Winises' successfully fostered engagement and active learning.

The overall analysis of this observation shows that the use of 'Winises' sparked strong interest and engagement among all the pupils. In conclusion, the data from the observation checklist supports that the pupils enjoyed using 'Winises,' with most showing high enthusiasm and engagement. These positive results confirm that 'Winises' successfully attracted pupils' interest and kept them involved in the lesson.

i) Participants' Reflective Writing

Table below shows the reflective writing of the participants.

Table 9: Reflective writing

PARTICIPANT	Reflection		Themes/Sub-Themes
	Comments about today's class/lesson	**Favourite games**	
A	I am **so happy** today because Teacher Wini teach and I played games	**Detective Wini**	Interest • Happy, fun, enjoyed • Snake and ladder • Detective Wini
B	Today I study about simple past tense. We play games. It's **so much fun**. Teacher Wini teach us. It's **really fun**.	**Detective Wini**	
C	Today I **very happy** because I played games with Teacher Wini.	**Snake & Ladder**	
D	I **so happy** about today because I learn about past simple. I **enjoyed** the class and I **understand** what	**Detective Wini**	

	Teacher Wini teaching me. She do games for this class.		
E	I feel **very happy** because the **game is fun**. Today class was amazing! I really **liked** playing the game with my classmates and Teacher Wini.	**Snake & Ladder**	

The participants' reflective writing reveals that the use of game-based learning in the lesson positively impacted pupil engagement and enjoyment. All participants expressed feelings of happiness and enthusiasm, with each reflection highlighting the fun and interactive nature of the activities. For example, Participant A stated, "I am so happy today because Teacher Wini teach and I played games," while Participant C shared, "Today I very happy because I played games with Teacher Wini." These emotional responses suggest that the games used in the lesson, such as Detective Wini and Snake & Ladder, played a key role in creating a positive and engaging learning environment.

Moreover, the majority of participants mentioned specific games as their favourites, with Detective Wini being the most popular among three pupils and Snake & Ladder favoured by two others. The enjoyment of these games, coupled with their interactive nature, seems to have sustained the pupils' attention and interest throughout the lesson, as reflected in Participant B's comment: "We play games. It's so much fun." This reinforces the idea that game-based learning can be engaging and memorable, helping pupils retain focus and participate actively.

In addition to emotional engagement, several pupils understood the lesson content, explicitly mentioning the simple past tense. For example, Participant D noted, "I learn about past simple. I enjoyed the class and I understand what Teacher Wini teaching me." This suggests that while the games were entertaining, they also helped reinforce the key academic concepts of the lesson. The combination of fun and learning enhanced the pupils' understanding of the past simple tense, aligning with the overall objective of the lesson.

Lastly, the pupils frequently mentioned Teacher Wini in their reflections, expressing appreciation for her teaching style and the way she incorporated games into the lesson. This highlights the important role of the teacher in facilitating an engaging learning experience. Overall, the reflective data indicates that the lesson was successful in making learning enjoyable and effective, supporting the conclusion that the use of 'Winises' and other games helped improve the pupils' understanding of the past simple.

The data from the observation checklist and participants' reflective writing indicate that 'Winises' encourages pupils to pay more attention by making lessons more engaging through infographics and active involvement in games. This suggests that the use of games captures pupils' interest and adds an element of fun to the learning experience. In conclusion, it was observed that participants were excited to use 'Winises' and willingly recommended the game to their peers. Therefore, the second research question is answered, as 'Winises' effectively attracts pupils' interest in correctly using the past simple tense.

Research Question Three:

c) How does 'Winises' improve Year 5 DLP pupils' use of past simple?

The researcher assumes that the key features of 'Winises', namely infographics and games, will help participants improve their use of the past simple tense. Teacher interviews and observations were conducted to answer this question.

i. Teacher interview

Table 10,11&12 below shows the analysis of Interview transcription with expert Teacher A, B and C

Table 10: Interview transcription of Teacher A

Transcription			**Theme/Sub-Theme**
Researcher/interviewer	**:**	What are the features of 'Winises' that you think helped pupils use the simple past tense better?	How • Infographic • Game • Ease of reference
Teacher A	**:**	*(Leaning forward slightly)* okay… (Thinking) To, I will say that both the infographic and games **helped to improve** the pupils ' past simple. If I have to say one, I would say it's the **infographic**. Because they **refer to it** when they are in doubt or confused.	
Researcher/interviewer	**:**	How does the infographic help pupils use the simple past tense?	
Teacher A	**:**	The infographic provides a **clear, visual representation of the rules**. So pupils can **quickly reference** it if they're in doubt. I see the pupils refer to the infographic even during writing tasks to avoid making mistakes. It's a great way for them to **learn without my help.**	

Table 11: Interview transcription of Teacher B

Transcription			**Theme/Sub-Theme**
Researcher/interviewer	**:**	What are the features of 'Winises' that you think helped pupils use the simple past tense better?	How • Infographic • Game • Ease of reference
Teacher B	**:**	*(nodding slightly)* I think… (*Thinking*) the **infographics are the big help**. It shows past simple as a simple grammar for the pupils. It is very colourful and attractive. I also like how the material presents both regular and irregular	

		verbs side by side; it really **helps pupils see the difference easily.**	
Researcher/interviewer	**:**	How does the infographic help pupils use the simple past tense?	
Teacher B	**:**	The infographic is great! *(leaning forward slightly)* Because it's like a **quick reference tool** for pupils. When they're not sure about a verb, they just look at it, and it's all there. Regular verbs on one side, irregular on the other. I see them **checking it during writing tasks**, and it really **helps avoid mistakes.** They don't need to ask teacher much.	

Table 12: Interview transcription of Teacher C

Transcription			**Theme/Sub-Theme**
Researcher/interviewer	**:**	What are the features of 'Winises' that you think helped pupils use the simple past tense better?	How • Infographic • Game • Ease of reference
Teacher C	**:**	*(nodding slightly)* I think the **games really stood out.** The pupils' engagement during the game was awesome! But as an experienced teacher, I will say **infographic is the effective feature** of your 'Winises' ; The way you present the regular and irregular verbs side by side makes it much **easier** for the pupils to understand. Also, the the infographics are **simple and colourful** grabs their attention. It's a quick reference guide that **doesn't overwhelm** them and they can **use it for a long time. They can keep it with themselves**.	
Researcher/interviewer	**:**	How does the infographic help pupils use the simple past tense?	
Teacher C	**:**	*(leaning forward slightly)* The **infographic** helps **pupils to easily understand past simple.** From what I observed, when they stuck on a verb, they just take a look at the infographic, and they find the **answer without any struggle.** It's simple but effective, and it supports **independent learning**. I think the infographics were **useful for the most of the students.**	

Two questions from the interview were aimed at answering my research question regarding the features of 'Winises' that help pupils use the simple past tense effectively. I found the responses

from the participants particularly insightful, as they highlighted different aspects of the tool that contributed to pupils' learning. Teacher A emphasised the importance of the infographic, noting that it serves as a reliable resource for pupils when confused or in doubt. Teacher B echoed this sentiment, praising the visual appeal and clarity of the infographics, which present regular and irregular verbs side by side, making it easier for pupils to understand the differences. Teacher C reiterated these points, stressing the effectiveness of the infographics in simplifying the grammar concept. Overall, the teachers' responses suggest that the infographic feature in 'Winises' plays a crucial role in enhancing pupils' understanding of the simple past tense, reinforcing the idea that visual aids are effective learning tools.

The second question focused on how the infographic specifically helps pupils use the simple past tense. All three teachers acknowledged the infographic's role as a quick reference tool that promotes independent learning. Teacher A noted that pupils often refer to the infographic during writing tasks, allowing them to avoid mistakes and learn without constant teacher support. Teacher B highlighted the infographic's effectiveness in providing clarity, enabling pupils to check their understanding without needing help. Teacher C also mentioned that the infographic helps pupils find answers independently, making the learning process smoother. These responses collectively illustrate that the infographic facilitates understanding and fosters confidence and autonomy among pupils, contributing significantly to their mastery of the simple past tense.

Overall, the diverse responses reveal that 'Winises' encompasses several elements contributing to pupils' mastery of the simple past tense. The infographic's vibrant and organised presentation effectively engages pupils, while its accessibility promotes self-directed learning. By integrating visual elements with the grammar content, 'Winises' supports a more interactive and meaningful learning experience, benefiting the pupils in their language acquisition journey.

ii. Observation

The bar chart below shows the observational checklist results for item 9

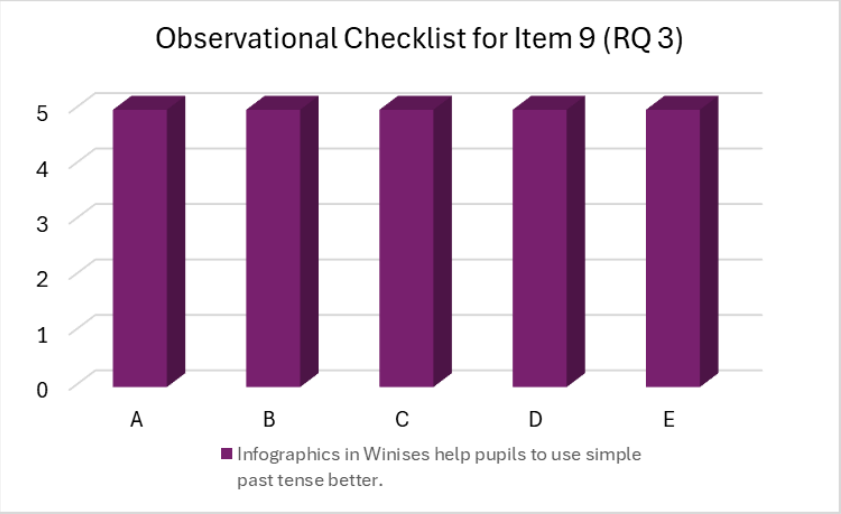


Chart 5: Observational Checklist for Item 9

The results from the observation checklist indicate a robust positive impact of the infographics in 'Winises' on the pupils' ability to use the simple past tense. With all five participants achieving the highest score of 5, it is evident that the visual aids effectively facilitated their understanding and application of the grammatical structure. The unanimous scoring suggests that the infographics enhanced the pupils' engagement during the lesson and provided a clear and accessible representation of the simple past tense, allowing them to grasp

its usage with confidence. This finding supports the premise that incorporating visual elements in learning tools can significantly improve students' performance in language tasks. The consistent scoring reflects a high level of comprehension among the participants, underscoring the effectiveness of 'Winises' in promoting the mastery of the simple past tense. Overall, the data demonstrates that using infographics is a valuable strategy for helping pupils better understand language concepts.

The data from the interviews and observations strongly demonstrate how 'Winises' improves pupils' use of the past simple tense. The vivid graphic representations of the rules aid in understanding the past simple, while the games enhance pupils' comprehension. Thus, the third research question is answered clearly, confirming that 'Winises' effectively helps pupils correctly use the past simple tense.

DISCUSSIONS

This action research explored the effectiveness of 'Winises' innovation in enhancing Year 5 DLP pupils' mastery of the past simple. The study employed a mixed-methods approach, combining a post-test, teacher interview, observation checklist, and reflective writing to gather comprehensive data on pupils' performance and engagement.

The findings revealed notable improvements in the pupils' ability to use past simple, mainly when analysed through the three constructs of this study: linguistic accuracy, engagement, and motivation. Based on the observation checklist, all pupils scored either 4 or 5, with no pupils receiving lower scores of 2 or 3, reflecting a significant positive outcome.

However, ten pupils scored 0 during early data collection, an anomaly highlighting the need for additional support. By applying the observation method, five pupils who needed specific intervention were identified, underscoring the importance of targeted assistance in improving their mastery. The personalised focus on identifying struggling learners helped boost their subsequent performance.

Regarding methodology, integrating interactive digital resources played a crucial role in producing the results. 'Winises' provided a visually appealing and dynamic way for pupils to learn past simple, combining infographics with game-based learning elements. This methodological choice is vital, as it fostered a more engaging and student-centered learning experience, enabling pupils to practice their skills through repetition in a low-pressure environment. The result was a clear improvement in their ability to recall and apply verbs in past simple, reinforcing the idea that methodologically sound innovations can bridge learning gaps.

The research suggests that 'Winises' can effectively improve Year 5 DLP pupils' mastery of irregular verbs in the past simple tense. Combining visual learning and interactive activities helped pupils engage more deeply with the content, improving both their linguistic accuracy and motivation. In alignment with existing research on digital learning tools, the results highlight the value of incorporating innovative teaching methods into language learning for enhanced pupil outcomes.

REFLECTIONS

The results of my research confirm that 'Winises,' a combination of infographics and game-based learning, significantly benefited my pupils and my teaching practice. Through this digital tool, I enhanced my instruction of past simple, making the learning process more engaging and effective. By incorporating game elements, I observed that students were more motivated, actively participated in the lessons, and showed noticeable improvement in their understanding and application of grammar rules. This experience has encouraged me to integrate more digital tools and gamification techniques into my teaching, not just for grammar but other language aspects.

Conducting this research has been invaluable for my professional growth. The process allowed me to reflect on my teaching strategies and experiment with innovative methods, ultimately leading to a deeper understanding of how technology can support language learning. Seeing my pupils' significant progress using 'Winises' was incredibly rewarding, surpassing my initial expectations. The data collected from observations, post-tests, and interviews all aligned, indicating that this tool improved the pupils' grasp of past simple and increased their interest in learning English.

One key takeaway from this research is that interactive learning tools like 'Winises' can substantially affect classroom outcomes. The positive feedbacks from pupils and teachers reinforces the effectiveness of such digital innovations in education. Moving forward, I aim to expand the use of 'Winises' and similar tools to address other learning challenges, thereby continuing to foster an engaging and effective learning environment. In summary, the research has been a valuable stepping stone for further exploration of how digital tools can transform traditional teaching methods into something more dynamic and impactful.

Suggestions for Further Actions

To further improve the effectiveness of 'Winises,' several enhancements can be considered. The teachers' feedback suggested several improvements for 'Winises' to enhance its effectiveness. One suggestion was to include a section where pupils can create their sentences using the past simple, which could encourage more active application of the past straightforward and reinforce their learning. Another recommendation was to incorporate longer sentences, such as those found in short stories, to give pupils a more contextual understanding of how the past simple is used in continuous narratives. This could help them grasp the concept better by seeing the tense applied in realistic language use. Additionally, it was advised to expand the tool by introducing more words and examples of the past simple, as a wider variety of examples would further solidify their understanding. Finally, suggestions were made to extend 'Winises' beyond just the simple past tense and develop similar infographics and games for other tenses. This would create a comprehensive learning tool that supports pupils' mastery of various aspects of English grammar.

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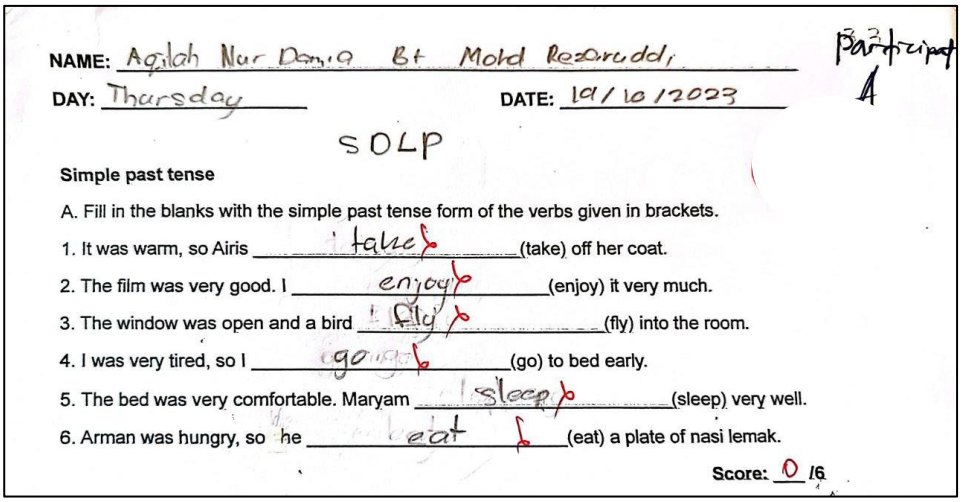
APPENDICES

Figures below show pre-test of participants

Participant A



NAME: Aqilah Nur Dania Bt Mohd Rezaruddi Participant A

DAY: Thursday DATE: 19/10/2023

SDLP

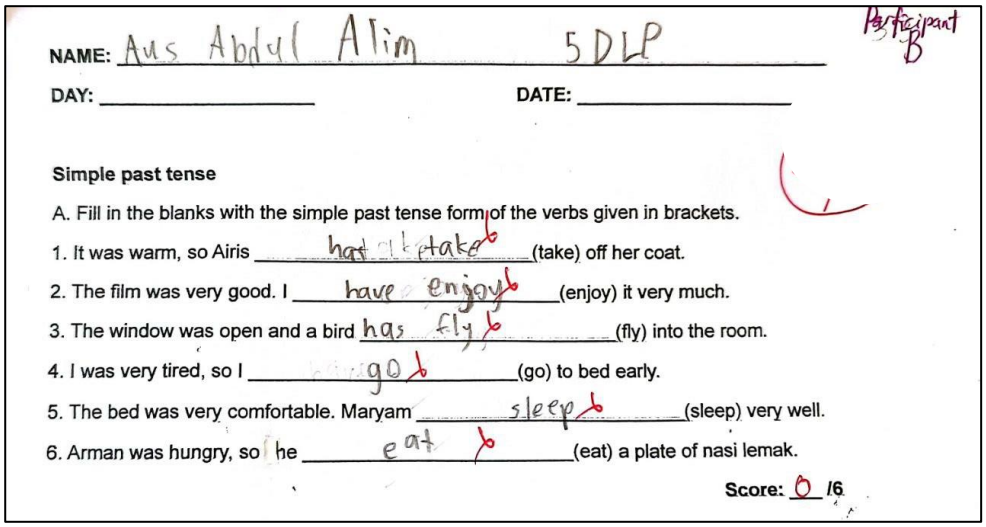
Simple past tense

A. Fill in the blanks with the simple past tense form of the verbs given in brackets.

1. It was warm, so Airis take (take) off her coat.
2. The film was very good. I enjoy (enjoy) it very much.
3. The window was open and a bird fly (fly) into the room.
4. I was very tired, so I go (go) to bed early.
5. The bed was very comfortable. Maryam sleep (sleep) very well.
6. Arman was hungry, so he eat (eat) a plate of nasi lemak.

Score: 0 /6

Participant B



NAME: Aus Abdul Alim 5DLP Participant B

DAY: DATE:

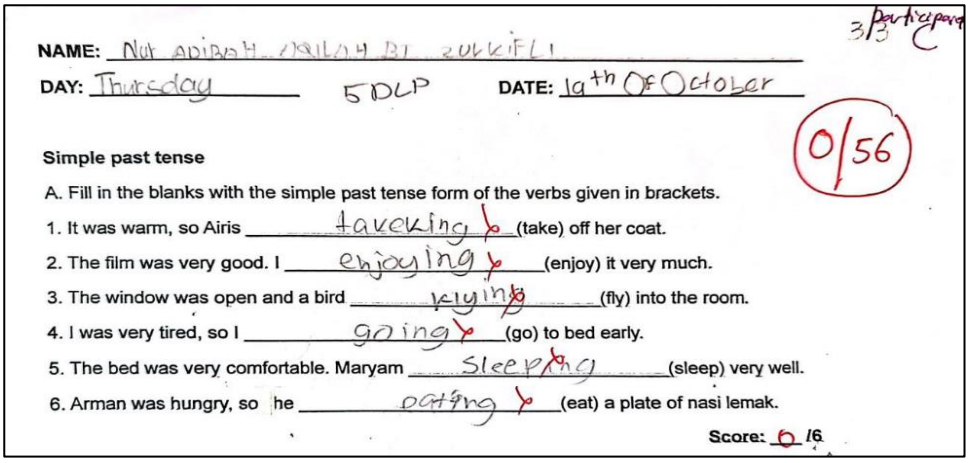
Simple past tense

A. Fill in the blanks with the simple past tense form of the verbs given in brackets.

1. It was warm, so Airis ~~had~~ take (take) off her coat.
2. The film was very good. I have enjoy (enjoy) it very much.
3. The window was open and a bird has fly (fly) into the room.
4. I was very tired, so I go (go) to bed early.
5. The bed was very comfortable. Maryam sleep (sleep) very well.
6. Arman was hungry, so he eat (eat) a plate of nasi lemak.

Score: 0 /6

Participant C



NAME: NUR ADIBAH ... BT ZULKIFLI

DAY: Thursday 5DLP DATE: 19th OF October

3/3 participant C

0/56

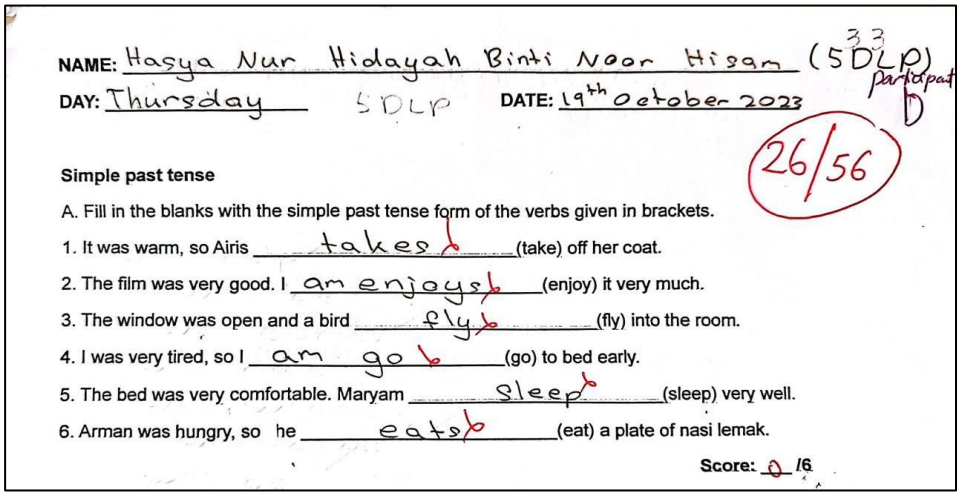
Simple past tense

A. Fill in the blanks with the simple past tense form of the verbs given in brackets.

1. It was warm, so Airis taveking (take) off her coat.
2. The film was very good. I enjoying (enjoy) it very much.
3. The window was open and a bird flying (fly) into the room.
4. I was very tired, so I going (go) to bed early.
5. The bed was very comfortable. Maryam sleeping (sleep) very well.
6. Arman was hungry, so he eating (eat) a plate of nasi lemak.

Score: 0 /6

Participant D



NAME: Hasya Nur Hidayah Binti Noor Hisam (5DLP) 33

DAY: Thursday 5DLP DATE: 19th October 2023

participant D

26/56

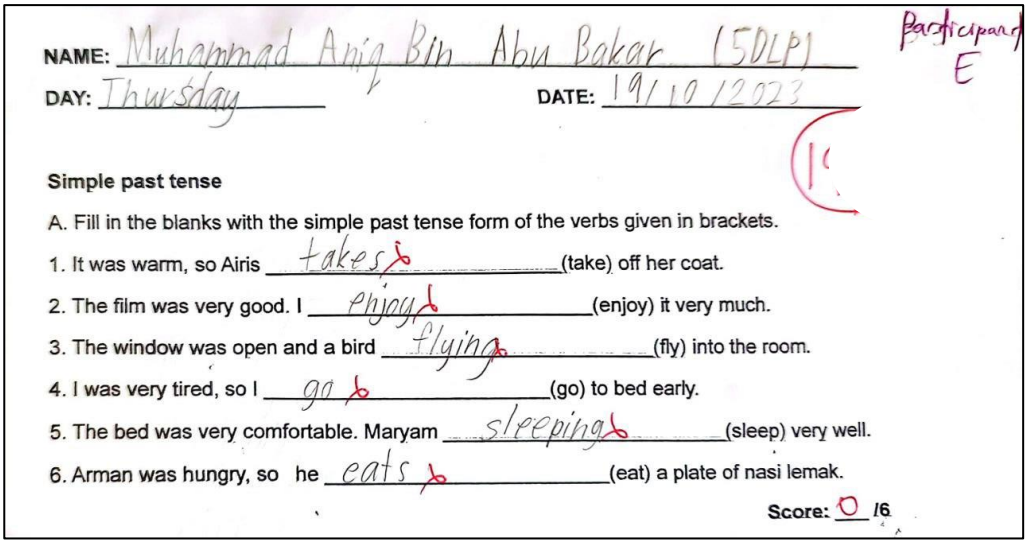
Simple past tense

A. Fill in the blanks with the simple past tense form of the verbs given in brackets.

1. It was warm, so Airis takes (take) off her coat.
2. The film was very good. I am enjoys (enjoy) it very much.
3. The window was open and a bird fly (fly) into the room.
4. I was very tired, so I am go (go) to bed early.
5. The bed was very comfortable. Maryam sleep (sleep) very well.
6. Arman was hungry, so he eats (eat) a plate of nasi lemak.

Score: 0 /6

Participant E



NAME: Muhammad Aniq Bin Abu Bakar (5DLP)

DAY: Thursday DATE: 19/10/2023

Participant E

Simple past tense

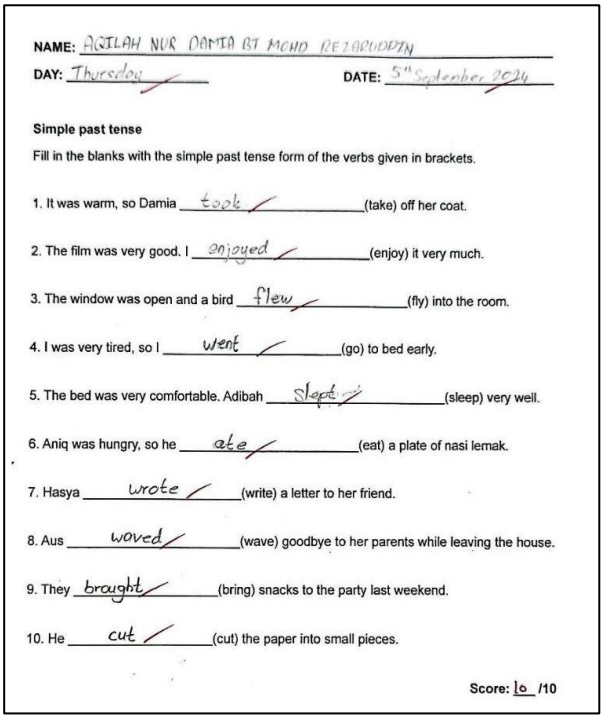
A. Fill in the blanks with the simple past tense form of the verbs given in brackets.

1. It was warm, so Airis takes (take) off her coat.
2. The film was very good. I phjoy (enjoy) it very much.
3. The window was open and a bird flying (fly) into the room.
4. I was very tired, so I go (go) to bed early.
5. The bed was very comfortable. Maryam sleeping (sleep) very well.
6. Arman was hungry, so he eats (eat) a plate of nasi lemak.

Score: 0 /6

Figures below show post-test of participants

Participant A



NAME: AQILAH NUR DAMIA BT MOHD REZARUDDIN

DAY: Thursday DATE: 5th September 2024

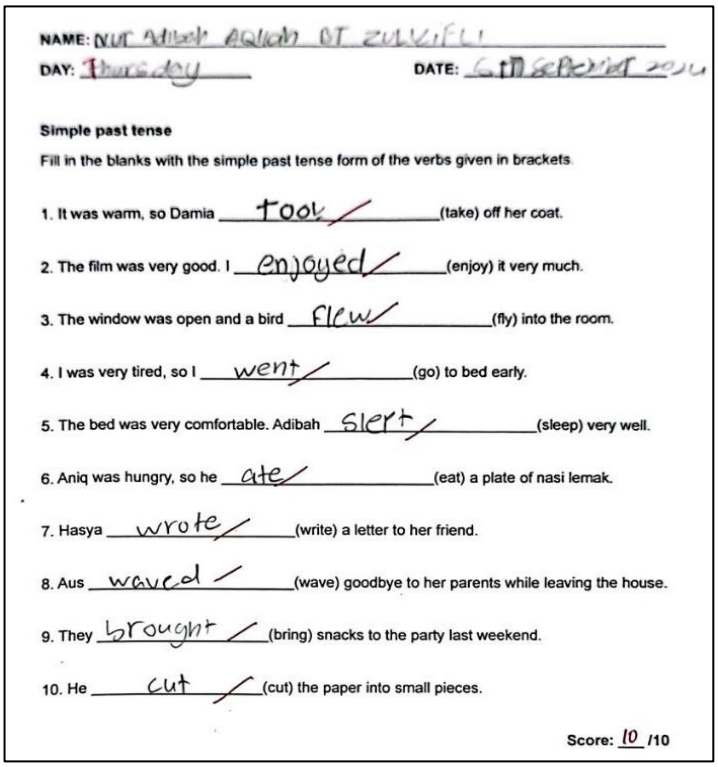
Simple past tense

Fill in the blanks with the simple past tense form of the verbs given in brackets.

1. It was warm, so Damia took (take) off her coat.
2. The film was very good. I enjoyed (enjoy) it very much.
3. The window was open and a bird flew (fly) into the room.
4. I was very tired, so I went (go) to bed early.
5. The bed was very comfortable. Adibah slept (sleep) very well.
6. Aniq was hungry, so he ate (eat) a plate of nasi lemak.
7. Hasya wrote (write) a letter to her friend.
8. Aus waved (wave) goodbye to her parents while leaving the house.
9. They brought (bring) snacks to the party last weekend.
10. He cut (cut) the paper into small pieces.

Score: 10 /10

Participant B



NAME: NUR ADIBAH AQILAH BT ZULKIFLI

DAY: Thursday DATE: 5th SEPTEMBER 2024

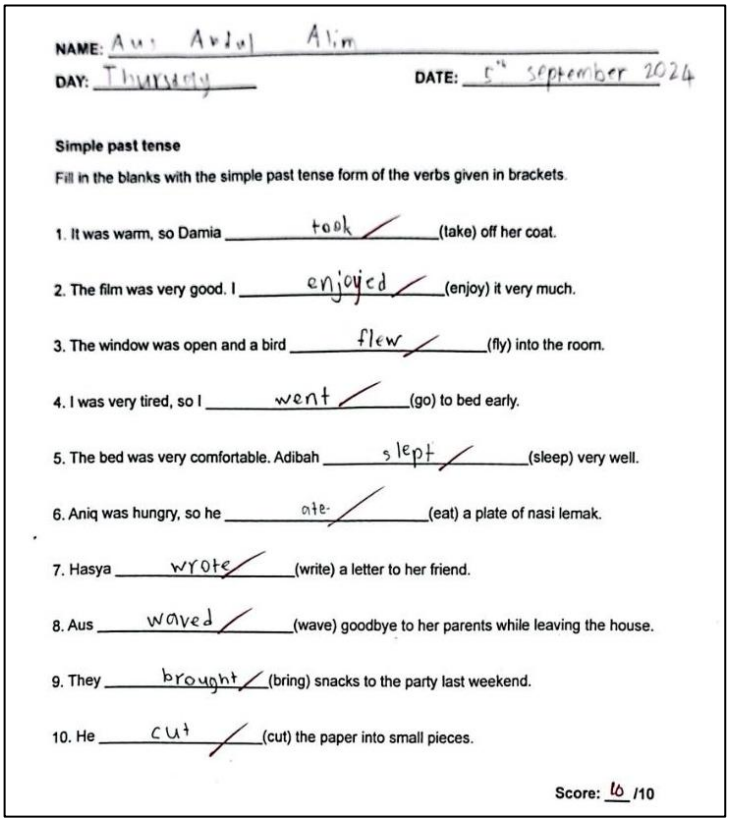
Simple past tense

Fill in the blanks with the simple past tense form of the verbs given in brackets.

1. It was warm, so Damia took (take) off her coat.
2. The film was very good. I enjoyed (enjoy) it very much.
3. The window was open and a bird flew (fly) into the room.
4. I was very tired, so I went (go) to bed early.
5. The bed was very comfortable. Adibah slept (sleep) very well.
6. Aniq was hungry, so he ate (eat) a plate of nasi lemak.
7. Hasya wrote (write) a letter to her friend.
8. Aus waved (wave) goodbye to her parents while leaving the house.
9. They brought (bring) snacks to the party last weekend.
10. He cut (cut) the paper into small pieces.

Score: 10 /10

Participant C



NAME: Aus Abdul Alim

DAY: Thursday DATE: 5th september 2024

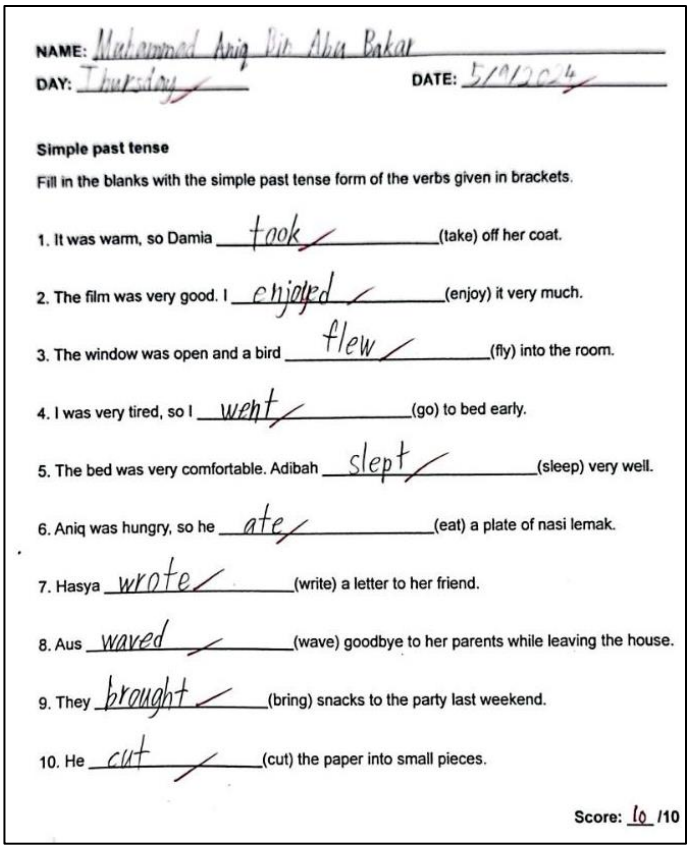
Simple past tense

Fill in the blanks with the simple past tense form of the verbs given in brackets.

1. It was warm, so Damia took (take) off her coat.
2. The film was very good. I enjoyed (enjoy) it very much.
3. The window was open and a bird flew (fly) into the room.
4. I was very tired, so I went (go) to bed early.
5. The bed was very comfortable. Adibah slept (sleep) very well.
6. Aniq was hungry, so he ate (eat) a plate of nasi lemak.
7. Hasya wrote (write) a letter to her friend.
8. Aus waved (wave) goodbye to her parents while leaving the house.
9. They brought (bring) snacks to the party last weekend.
10. He cut (cut) the paper into small pieces.

Score: 10 /10

Participant D



NAME: Muhammad Aniq Bin Abu Bakar
DAY: Thursday DATE: 5/9/2024

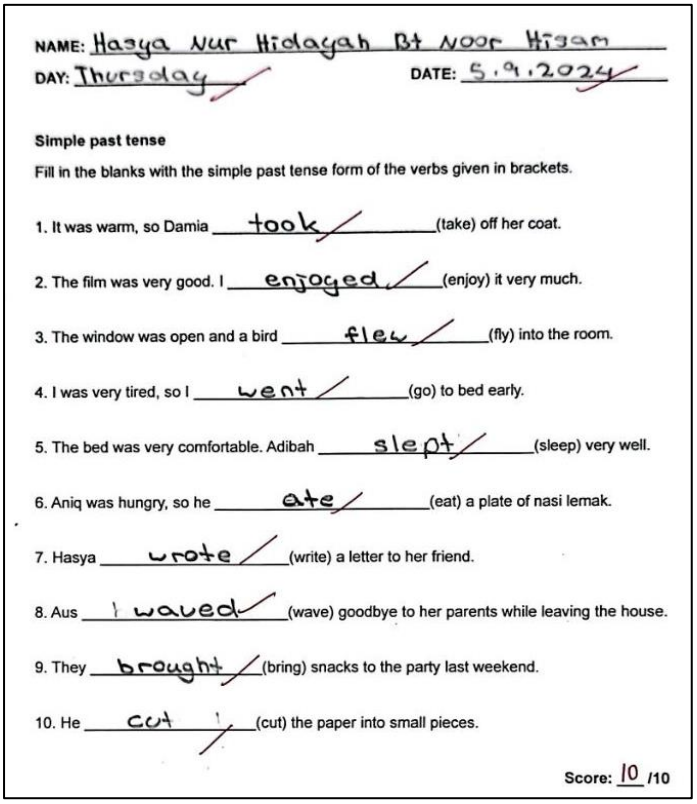
Simple past tense

Fill in the blanks with the simple past tense form of the verbs given in brackets.

1. It was warm, so Damia took (take) off her coat.
2. The film was very good. I enjoyed (enjoy) it very much.
3. The window was open and a bird flew (fly) into the room.
4. I was very tired, so I went (go) to bed early.
5. The bed was very comfortable. Adibah slept (sleep) very well.
6. Aniq was hungry, so he ate (eat) a plate of nasi lemak.
7. Hasya wrote (write) a letter to her friend.
8. Aus waved (wave) goodbye to her parents while leaving the house.
9. They brought (bring) snacks to the party last weekend.
10. He cut (cut) the paper into small pieces.

Score: 10 /10

Participant E



NAME: Hasya Nur Hidayah Bt Noor Hisam
DAY: Thursday DATE: 5.9.2024

Simple past tense

Fill in the blanks with the simple past tense form of the verbs given in brackets.

1. It was warm, so Damia took (take) off her coat.
2. The film was very good. I enjoyed (enjoy) it very much.
3. The window was open and a bird flew (fly) into the room.
4. I was very tired, so I went (go) to bed early.
5. The bed was very comfortable. Adibah slept (sleep) very well.
6. Aniq was hungry, so he ate (eat) a plate of nasi lemak.
7. Hasya wrote (write) a letter to her friend.
8. Aus waved (wave) goodbye to her parents while leaving the house.
9. They brought (bring) snacks to the party last weekend.
10. He cut (cut) the paper into small pieces.

Score: 10 /10

PENGGUNAAN APLIKASI TEKNOLOGI BERTERASKAN E-BOOK DALAM MENINGKATKAN KEMAHIRAN MEMBACA KANAK-KANAK DI PRASEKOLAH

Nur Mumtahanah Binti Shukri[1*] *(mumtahanah0422@gmail.com)*

[1]*Universiti Malaya Kuala Lumpur*

ABSTRAK

Kajian ini bertajuk penggunaan aplikasi teknologi berteraskan E-book dalam meningkatkan kemahiran membaca kanak-kanak di prasekolah. Objektif dalam kajian ini berdasarkan mengenalpasti penggunaan aplikasi E-book yang digunakan oleh guru dalam meningkatkan kemahiran membaca kanak-kanak di prasekolah. Seterusnya, mengenalpasti masalah atau isu dalam mengaplikasikan teknologi berteraskan E-book dalam kalangan kanak-kanak prasekolah. Di samping itu, untuk menilai sejauhmana penerimaan guru dalam aplikasi teknologi berteraskan E-book meningkatkan kemahiran membaca kanak-kanak di prasekolah. Manakala, kajian ini menggunakan kaedah kualitatif yang menggunakan tiga instrumen iaitu ujian penilaian kemahiran membaca, pemerhatian senarai semak dan temubual. Responden yang terlibat dalam kajian ini adalah kanak-kanak yang berumur 6 tahun seramai empat orang yang berlainan prasekolah dan empat orang guru prasekolah. Dapatan kajian ini berdasarkan data yang dikumpul dan dianalisiskan menggunakan data primer dan data sekunder daripada hasil responden yang terlibat.

***Kata Kunci**: Kemahiran membaca, teknologi, kanak-kanak prasekolah dan E-book.*

PENGENALAN

Dalam sistem pendidikan negara telah berubah ke arah sistem pendidikan digital yang mana proses pengajaran dan pemudahcaraan (PdpPc) dapat diteruskan dengan norma baharu. Hal ini kerana berlakunya pandemik COVID-19 pada tahun 2019 menyebabkan kaedah pengajaran dan pembelajaran dipertingkatkan mengikut arus permodenan teknologi dan situasi atau keadaan dalam sebuah negara. Perubahan pendidikan yang beralih kepada bentuk dalam talian juga telah memberi kesan kepada guru, kanak-kanak dan ibu bapa. Terdapat pelbagai platform dan medium teknologi digunakan demi memastikan kualiti sistem pendidikan dikekalkan bagi menentukan kesesuaian PdPc kepada kanak-kanak. Kehadiran teknologi baharu menyebabkan platform penerbitan semakin berkembang sehingga terwujudnya buku digital atau buku elektronik (E-book).

Malah pembangunan maklumat dan teknologi rangkaian yang menyebabkan cara pembacaan tradisional berubah kepada digital terutama dalam kalangan golongan muda dan kanak-kanak yang lahir dan membesar dalam era moden teknologi. Ini ditambah pula dengan golongan kanak-kanak yang telah terdedah dengan pelbagai gajet dan peranti digital seperti telefon mudah alih, komputer riba, tablet dan ipad yang merupakan sebahagian keperluan harian kanak-kanak. Bagi pendapat Roskos et al. (2014) yang menyatakan pembangunan pelbagai aplikasi mengubah buku cerita tradisional awal kanak-kanak kepada literasi pengalaman multimedia yang sangat interaktif. Maka, selain buku bercetak, lebih banyak buku kanak-kanak digital dihasilkan bagi memenuhi keperluan golongan muda ini.

Selain itu, guru yang menggunakan teknologi sebagai alat atau bahan pengajaran dan pembelajaran tanpa mengubah kaedah pengajaran dapat merangsang idea kepada kaedah pengajaran baru. Oleh kerana itu, pelbagai maklumat yang boleh didapati di dalam internet yang dapat membantu untuk meningkatkan lagi kualiti pengajaran dan pembelajaran serta dengan adanya, program latihan perguruan

lebih memfokuskan kepada penggunaan teknologi supaya para guru dapat mencari dan memperoleh maklumat yang berguna bagi sesi pengajaran dan pembelajaran kepada kanak-kanak. Pada pendapat Collis dan Jung (2003), kesan penggunaan internet dan web sebagai alat komunikasi yang biasa digunakan memberi kesan yang besar terhadap sistem pendidikan guru. Tambahan pula, alat bantu mengajar berteknologi tinggi, slaid PowerPoint, akses Internet dalam bilik darjah, penggunaan CD-ROM, penggunaan buku teks di laman Web, sumber-sumber dan pautan laman Web, menggabung jalinkan komponen laman Web untuk pengajaran tradisional, laman Web sebagai alat pengajaran dan pembelajaran berasaskan laman Web.

Dalam kata yang lain, kanak-kanak belajar dengan adanya sentuhan, uji-cuba dan pengulangan seperti mana kanak-kanak terdahulu sebelum wujudnya alat teknologi ini. Menurut Cohen (2011) menyatakan bahawa skrin sentuhan telah mengambil alih kegembiraan kanak-kanak dan juga telah digunakan secara meluas oleh ibu bapa dan pendidik di dalam memperkenalkan sesuatu perkara baharu kepada kanak-kanak. Oleh yang demikian, tidak hairanlah jika terdapat perubahan dalam pendidikan pada masa kini yang menekankan penggunaan teknologi atau aplikasi mudah alih khususnya dalam pendidikan awal kanak-kanak

KAJIAN LITERATUR

Satu kajian yang bertujuan untuk memberi pengenalan teknologi digital yang memberi kesan yang ketara kepada sistem pendidikan di seluruh dunia, termasuk dalam konteks pendidikan awal kanak-kanak. Salah satu perubahan yang signifikan ialah penggunaan e-book dalam proses pengajaran dan pembelajaran di prasekolah. E-book yang merupakan buku digital dengan ciri-ciri interaktif, memainkan peranan penting dalam membantu kanak-kanak mengembangkan kemahiran membaca pada usia awal.

Selain itu, penggunaan aplikasi teknologi di prasekolah Dalam pendidikan prasekolah, guru memainkan peranan yang kritikal dalam memanfaatkan teknologi untuk meningkatkan pengalaman pembelajaran kanak-kanak. E-book dilihat sebagai alat bantu mengajar yang efektif, kerana ia mampu menarik minat kanak-kanak melalui elemen interaktif seperti grafik, animasi, dan suara. Menurut Burnett (2010), kanak-kanak yang didedahkan kepada teknologi multimedia dapat belajar dengan lebih cepat dan berkesan.

Dalam kajian ini terdapat definisi dan teori berkaitan e-book E-book atau buku elektronik merupakan medium penyampaian maklumat yang menggunakan data elektronik. Buku ini boleh mengandungi elemen multimedia yang menarik, seperti audio dan video, yang dapat membantu memperkayakan pengalaman membaca kanak-kanak. Menurut Saxena (2009), buku digital membolehkan pengguna menyesuaikan format, seperti saiz teks dan gaya, untuk kemudahan pembacaan. Penyelidikan juga menunjukkan bahawa E-book yang dilengkapi dengan elemen interaktif lebih menarik bagi kanak-kanak. Justeru, teori pembelajaran kognitif dan kemahiran membaca Jerome S. Bruner, dalam teori pembelajaran kognitifnya, menekankan pentingnya interaksi sosial dan pengalaman yang berulang dalam perkembangan linguistik kanak-kanak. Beliau menyarankan bahawa pembelajaran kanak-kanak berlaku melalui tiga tahap: enaktif, ikonik, dan simbolik. E-book membantu dalam tahap ikonik, di mana kanak-kanak memahami dunia melalui gambar dan symbol.

Menurut kajian ini, terdapat lima konsep utama dalam mengajar kemahiran membaca kepada kanak-kanak prasekolah: mengenal huruf, kaedah fonik, kemahiran mengeja, kemahiran membaca ayat mudah, dan kelancaran bacaan awal. Dengan menggunakan kaedah fonik, kanak-kanak dapat memahami hubungan antara simbol huruf dan bunyi, yang merupakan asas untuk membaca perkataan dan ayat. Kajian menunjukkan bahawa penggunaan E-book di prasekolah meningkatkan kemahiran membaca kanak-kanak, kerana ianya menyediakan elemen interaktif yang membantu dalam proses

pembelajaran. E-book juga membolehkan kanak-kanak belajar pada kadar mereka sendiri, yang memberikan pengalaman pembelajaran yang lebih personalised.

Penggunaan e-book dalam pendidikan awal kanak-kanak mempunyai implikasi yang positif bukan sahaja kepada kanak-kanak, tetapi juga kepada guru dan sistem pendidikan secara keseluruhan. Ia memberikan alternatif kepada bahan pembelajaran konvensional, dan membuka peluang untuk meningkatkan kualiti pembelajaran di prasekolah. Serta Penggunaan teknologi seperti e-book dalam pendidikan prasekolah mampu memperkaya proses pembelajaran kanak-kanak. Ia membantu meningkatkan kemahiran membaca mereka melalui pendekatan yang interaktif dan menarik, sejajar dengan perkembangan teknologi dan tuntutan kurikulum pendidikan masa kini.

METODOLOGI

Kajian ini menggunakan reka bentuk kajian kualitatif untuk meneroka keberkesanan teknologi E-book dalam meningkatkan kemahiran membaca kanak-kanak prasekolah. Pendekatan kualitatif dipilih kerana ia membolehkan pengumpulan data secara mendalam mengenai pengalaman guru dan kanak-kanak dalam suasana prasekolah. Kajian ini memfokuskan kepada bagaimana penggunaan teknologi E-book mempengaruhi perkembangan kognitif kanak-kanak, khususnya dalam kemahiran membaca. Kajian melibatkan empat orang guru prasekolah dan empat orang kanak-kanak berusia enam tahun dari dua prasekolah yang berbeza, iaitu Sekolah Kebangsaan Petaling 1 dan Sekolah Kebangsaan Petaling 2, Kuala Lumpur. Sampel dipilih secara bertujuan untuk memastikan pandangan yang pelbagai diperolehi daripada guru-guru yang berpengalaman dan kanak-kanak prasekolah. Guru memberikan maklumat tentang penggunaan E-book dalam pengajaran, manakala kemahiran membaca kanak-kanak dinilai untuk menilai keberkesanan teknologi ini.

Selain itu, tiga instrumen utama digunakan dalam kajian ini dengan ujian penilaian kemahiran membaca bagi menilai keupayaan membaca kanak-kanak. Komponen yang dinilai termasuk pengecaman huruf, fonik, membaca perkataan, dan kelancaran membaca. Ujian ini diubah suai daripada kajian terdahulu untuk disesuaikan dengan konteks prasekolah. Borang senarai semak digunakan untuk memerhatikan kemahiran psikomotor dan afektif kanak-kanak semasa aktiviti membaca dengan menggunakan E-book. Instrumen ini menilai penglibatan kanak-kanak dan interaksi mereka dengan E-book, termasuk tingkah laku seperti imitasi dan manipulasi. Temu bual separa berstruktur dijalankan dengan guru-guru prasekolah bagi mendapatkan pandangan mereka mengenai penggunaan E-book. Temu bual dijalankan secara bersemuka dan atas talian kerana kekangan masa. Soalan yang ditanya meneliti cabaran dan manfaat penggunaan E-book dalam pengajaran di bilik darjah.

Analisis Faktor Demografi Terpilih Responden

Bahagian ini melaporkan analisis data yang telah dikumpul dengan menggunakan kaedah yang sesuai bagi membuktikan persoalan kajian yang dibentuk dapat disokong dan dibuktikan ketepatan penyelidikan yang dijalankan. Analisis secara kualitatif dapat dijalankan untuk menentukan sama ada objektif kajian tercapai atau tidak. Menganalisis data dengan menggunakan kaedah mengumbul setiap data yang diterima daripada responden dan memasukkan data dalam satu kolum mengikut soalan yang ditanyakan. Analisis data latar belakang kajian adalah seperti yang ditunjukkan dalam Jadual 1, Jadual 2, dan Jadual 3.

Jadual 1: Analisis Jadual Demografi Kanak-Kanak Prasekolah

Nota: Kanak-kanak (KK) dan Sekolah Kebangsaan Petaling (SKP)

Item	KK 1	KK 2	KK 3	KK 4
Jantina	Perempuan	Lelaki	Lelaki	Perempuan
Umur	6 tahun	6 tahun	6 tahun	6 tahun
Nama Sekolah	SKP1	SKP1	SKP2	SKP2

Jadual 1 menunjukkan 4 orang kanak-kanak prasekolah telah dipilih sebagai responden kajian bagi Ujian Penilaian Kemahiran Membaca Kajian, pemerhatian senarai semak dan beberapa maklumat demografi kanak-kanak seperti umur, jantina kanak-kanak dan nama sekolah kanak-kanak.

Jadual 2: Analisis Jadual Demografi Guru Prasekolah

Nota: Guru (G) dan Sekolah Kebangsaan Petaling (SKP)

Item	G 1	G 2	G 3	G 4
Jantina	Perempuan	Perempuan	Perempuan	Perempuan
Umur	53 tahun	35 tahun	33 tahun	42 tahun
Nama Sekolah	SKP1	SKP1	SKP2	SKP2
Pengalaman mengajar	13 tahun	6 tahun	16 tahun	7 tahun

Jadual 2 menunjukkan 4 guru prasekolah yang diminta untuk 48 melibatkan diri dalam temubual yang dijalankan secara bersemuka dan atas talian di atas faktor-faktor tertentu.

Jadual 3: Analisis Komponen Ujian Penilaian Kemahiran Membaca Kajian

Jenis Kemahiran	Hasil Pembelajaran	Pencapaian Hasil Pembelajaran		
		Lemah	**Sederhana**	**Cemerlang**
Keupayaan Mengingat	HP 1: Mengenal pasti huruf besar dan huruf kecil secara berurutan dan tidak berurutan.			

Keupayaan Memahami	HP 2: Membaca suku kata terbuka (KV), dan suka kata tertutup (KVK)			
Kupayaan Mengaplikasi	HP 3: Membaca perkataan yang mengandungi suku kata terbuka, tertutup, diftong, konsonan bergabung, vokal berganding, digraf, dan perkataan berimbuhan.			

Jadual 3 menunjukkan ujian penilaian kemahiran membaca merupakan instrumen kajian yang digunakan untuk menguji kemahiran membaca subjek kajian selepas dan pembelajaran dijalankan. Ujian ini hanya menguji model pertama dalam Kemahiran Membaca, iaitu Pengecaman Huruf dan Pengetahuan Grafik. Dalam modul ini, terdapat tiga hasil pembelajaran dan pencapaian hasil pembelajaran. Hasil pembelajaran ini diuji sama ada tercapai atau tidak dengan Ujian Penilaian Kemahiran Membaca yang di kaji terhadap kanak-kanak prasekolah.

OBJEKTIF KAJIAN

Objektif-objektif yang ingin dicapai melalui kajian ini adalah seperti berikut, iaitu:

1. Mengenalpasti penggunaan aplikasi E-book yang digunakan oleh guru dalam meningkatkan kemahiran membaca kanak-kanak di prasekolah.

2. Mengenalpasti masalah atau isu dalam mengaplikasikan teknologi berteraskan E-book dalam kalangan kanak-kanak prasekolah.

DAPATAN KAJIAN

Dapatan kajian daripada hasil responden peserta kajian iaitu dengan menggunakan data primer dan data sekunder. Pengkaji membentangkan dapatan kajian dengan merumuskan data serta maklumat yang diperolehi dari kajian yang dijalankan bagi mencapai sasaran yang ditetapkan dalam objektif kajian. Dapatan dan analisis kajian ditunjukkan seperti dalam Jadual 4 di bawah:

Jadual 4: Hasil Ujian Penilaian Kemahiran Membaca Kanak-Kanak Prasekolah

Jenis Kemahiran	**Hasil Pembelajaran**	**Pencapaian Hasil Pembelajaran mengikut tahap Lemah, Sederhana dan Cemerlang**											
		KK1			**KK2**			**KK3**			**KK4**		
		L	**S**	**C**	**L**	**S**	**C**	**L**	**S**	**C**	**L**	**S**	**C**
Keupayaan Mengingat	HP 1: Mengenal pasti huruf besar dan huruf kecil secara berurutan dan tidak berurutan.			√		√				√		√	
Keupayaan Memahami	HP 2: Membaca suku kata terbuka (KV), dan suka kata tertutup (KVK)			√		√				√	√		
Keupayaan Mengaplikasi	HP 3: Membaca perkataan yang mengandungi suku kata terbuka, tertutup, diftong, konsonan bergabung, vokal berganding, digraf, dan perkataan berimbuhan.			√	√				√		√		

Berdasarkan Jadual 4, Bahagian ini hasil ujian penilaian kemahiran membaca kanak-kanak prasekolah seramai 4 orang yang berlainan prasekolah dan berbeza tahap kemahiran yang dicapai dengan menggunakan aplikasi penggunaan E-book yang terdapat di prasekolah masing-masing.

- **KK1**: Mendapat **skor cemerlang** dalam semua jenis kemahiran, termasuk mengenal pasti huruf, membaca suku kata terbuka (KV), tertutup (KVK), dan membaca perkataan dengan suku kata kompleks.
- **KK2**: Memperoleh **skor sederhana** dalam kemahiran mengingat dan memahami, tetapi **lemah** dalam mengaplikasi kemahiran membaca perkataan kompleks.

- **KK3**: **Cemerlang** dalam mengingat dan memahami, namun **sederhana** dalam mengaplikasi kemahiran membaca perkataan.
- **KK4**: Memperoleh **skor sederhana** dalam mengingat, tetapi **lemah** dalam memahami dan mengaplikasi kemahiran membaca.

Secara keseluruhan, kanak-kanak menunjukkan tahap kemahiran membaca yang berbeza di prasekolah, dengan perbezaan signifikan dalam kemampuan mengingat, memahami, dan mengaplikasi

Jadual 5: Hasil Senarai Semak Pemerhatian Kanak-Kanak Prasekolah

Item 1 berkaitan dengan Psikomotor

ITEM 1	Mahir menggunakan koordinasi tangan			
RESPONDEN	**KK 1**	**KK 2**	**KK 3**	**KK 4**
Ya	√	√	√	√
Tidak				

***KK merujuk kepada kanak – kanak*

Berdasarkan hasil senarai semak pemerhatian ke atas 4 orang kanak-kanak prasekolah di dalam jadual 5 bagi item 1 berkaitan dengan psikomotor menunjukkan kesemua kanak-kanak mahir menggunakan kemahiran koordinasi tangan semasa pembelajaran berlangsung di prasekolah.

Item 2 berkaitan dengan Psikomotor

ITEM 2	Mahir menggunakan koordinasi mata dan tangan			
RESPONDEN	**KK 1**	**KK 2**	**KK 3**	**KK 4**
Ya	√		√	
Tidak		√		√

***KK merujuk kepada kanak – kanak*

Bagi item 2 berkaitan dengan psikomotor pengkaji didapati bahawa KK1 dan KK3 mahir menggunakan koordinasi antara mata dan tangan semasa pembelajaraan dan pemudahcaraan di prasekolah. Sementara itu, terdapat dua orang kanak-kanak tidak mahir menggunakan koordinasi antara mata dan tangan iaitu KK2 dan KK4. Hal ini kerana kanak-kanak tersebut tidak dapat memberi tumpuan yang sepenuhnya terhadap bahan atau objek yang berada di sekitar mereka.

Item 3 berkaitan dengan Psikomotor

ITEM 3	Menggunakan bahan teknologi dengan satu tangan			
RESPONDEN	**KK 1**	**KK 2**	**KK 3**	**KK 4**
Ya	√		√	
Tidak		√		√

***KK merujuk kepada kanak – kanak*

Mengikut pemerhatian yang dijalankan oleh pengkaji berkaitan dengan tingkah laku kanak-kanak semasa pembelajaran berlangsung yang menunjukkan item 3 iaitu KK1 dan KK3 dapat menggunakan bahan teknologi dengan satu tangan seperti telefon pintar. Manakala, KK2 dan KK4 masih tidak dapat menggunakan bahan teknologi dengan satu tangan dan memerlukan bantuan daripada guru. Guru memberikan pertolongan kepada KK2 dan KK4 semasa pembelajaran dan pemudahcaraan berlangsung di dalam kelas. Oleh demikian itu, kekangan masa dan bahan teknologi yang terdapat di dalam kelas menyebabkan KK2 dan KK4 tidak dapat perhatian sepenuhnya daripada guru. Selain itu, bahan teknologi yang guru gunakan semasa pembelajaran dan pemudahcaan adalah terhad yang mana hanya menggunakan komputer riba sahaja.

Item 4 berkaitan dengan Psikomotor

ITEM 4	Menggunakan bahan teknologi dengan kedua belah tangan			
RESPONDEN	**KK 1**	**KK 2**	**KK 3**	**KK 4**
Ya	√	√	√	√
Tidak				

***KK merujuk kepada kanak – kanak*

Dalam jadual 5 bagi item 4 berkaitan dengan psikomotor menunjukkan kesemua kanak-kanak boleh menggunakan bahan teknologi dengan kedua belah tangan sama ada menggunakan telefon pintar ataupun komputer.

Item 5 berkaitan dengan Psikomotor

ITEM 5	Mengalihkan bahan teknologi dari satu tempat ke tempat yang lain			
RESPONDEN	**KK 1**	**KK 2**	**KK 3**	**KK 4**
Ya	√	√	√	√
Tidak				

***KK merujuk kepada kanak – kanak*

Semasa pemerhatian, hasil analisis item 5 berkaitan dengan psikomotor pengkaji didapati kesemua kanak-kanak dapat mengalihkan bahan teknologi dari satu tempat ke tempat yang lain dengan menggunakan kedua belah tangan.

Item 6 berkaitan dengan kemahiran afektif

ITEM 6	Tertarik dengan objek yang bergerak			
RESPONDEN	**KK 1**	**KK 2**	**KK 3**	**KK 4**
Ya	√	√		√
Tidak			√	

***KK merujuk kepada kanak – kanak*

Bagi item 6, hanya terdapat seorang sahaja kanak-kanak yang tidak menunjukkan kemahiran afektif dalam bahan teknologi yang mana tidak tertarik dengan objek yang bergerak iaitu KK3. Hal ini

kerana pengkaji mendapat KK3 tidak menumpukan perhatian semasa sesi pengajaran dan pembelajaran di dalam kelas.

Item 7 berkaitan dengan kemahiran afektif

ITEM 7	Tertarik dengan objek yang berbunyi			
RESPONDEN	**KK 1**	**KK 2**	**KK 3**	**KK 4**
Ya	√	√		√
Tidak			√	

***KK merujuk kepada kanak – kanak*

Berdasarkan item 7 yang berkaitan dengan kemahiran afektif, pengkaji didapati tiga orang kanak-kanak menunjukkan reaksi tertarik dengan objek yang berbunyi iaitu KK1, KK2 dan KK3. Di samping itu, KK3 juga tidak menumpukan perhatian semasa sesi pengajaran dan pembelajaran kerana leka bermain bakul alat tulis yang berada di atas mejanya.

Item 8 berkaitan dengan kemahiran afektif

ITEM 8	Menunjukkan minat terhadap objek yang berwarna-warna			
RESPONDEN	**KK 1**	**KK 2**	**KK 3**	**KK 4**
Ya	√			√
Tidak		√	√	

***KK merujuk kepada kanak – kanak*

Bagi item 8 iaitu KK1 dan KK4 menunjukkan minat terhadap objek yang berwarna-warna. Manakala, KK2 dan KK4 masih tidak menunjukkan minat terhadap objek yang berwarna-warna.

Item 9 berkaitan dengan kemahiran afektif

ITEM 9	Menunjukkan minat terhadap objek yang besar			
RESPONDEN	**KK 1**	**KK 2**	**KK 3**	**KK 4**
Ya		√	√	
Tidak	√			√

***KK merujuk kepada kanak – kanak*

Dalam jadual 9 bagi item 9 berkaitan dengan afektif menunjukkan dua orang kanak-kanak menunjukkan minat terhadap objek yang besar iaitu KK1 dan KK4. Manakala, KK2 dan KK3 tidak menunjukkan minat terhadap objek yang besar walaupun guru menggunakan komputer sebagai alat dan bahan teknologi dengan mengaplikasi penggunaan E-book dalam pembelajaran dan pengajaran.

Item 10 berkaitan dengan kemahiran afektif

ITEM 10	Mudah untuk penyesuaian diri dengan benda baru			
RESPONDEN	**KK 1**	**KK 2**	**KK 3**	**KK 4**
Ya		√	√	
Tidak	√			√

***KK merujuk kepada kanak – kanak*

Bagi item 10, pengkaji didapati bahawa KK1 dan KK4 mudah untuk penyesuaian diri dengan benda baru. Sementara itu, terdapat dua orang kanak-kanak tidak mudah untuk penyesuaian diri dengan benda baru iaitu KK2 dan KK3.

PERBINCANGAN

Dapatan kajian ini mempunyai responden seramai 4 orang kanak-kanak prasekolah telah memberi maklumat tentang jantina dan umur. Selain itu, Ujian Penilaian Kemahiran Membaca Kanak-Kanak dan Pemerhatian Senarai Semak yang dilakukan ke atas 4 orang kanak-kanak di prasekolah yang berbeza di prasekolah.

Berdasarkan setiap kemahiran tersebut mempunyai hasil pencapaian tersendiri dan tahap yang bergantung mengikut hasil pencapaian yang ingin diukur. Terdapat tiga ujian yang diuji dalam kemahiran kognitif kanak-kanak iaitu keupayaan mengingat, memahami dan mengaplikasi. Manakala instrumen kedua mengenai Pemerhatian Senarai Semak dijalankan ke atas 4 orang kanak-kanak prasekolah bagi memerhatikan dua keupayaan tambahan dari segi psikomotor dan afektif. Terdapat sebanyak 10 soalan disenaraikan dalam bahagian ini, iaitu 5 soalan berkaitan dengan psikomotor dan 5 soalan bagi kemahiran afektif.

Berdasarkan Huraian dan Analisis Ujian Penilaian Kemahiran Membaca Kanak-Kanak Prasekolah yang menunjukkan responden KK1 dan KK4 dapat menunjukkan peningkatan dalam kemahiran membaca dengan mengaplikasikan penggunaan E-book. Akan tetapi, responden KK2 dan KK3 masih kurang menunjukkan peningkatan dalam kemahiran membaca dengan mengaplikasikan penggunaan E-book. Oleh demikian itu, dalam analisis ujian penilaian kemahiran membaca kanak-kanak prasekolah menerapkan teori kemahiran membaca iaitu Taksomi Bloom yang diperkenalkan oleh Gagné & Driscoll (1988). Terdapat lima jenis pembelajaran atau peringkat hasil pembelajaran, iaitu informasi lisan, kemahiran intelektual, strategi kognitif, sikap, dan kemahiran motor.

Kemahiran Taksomi bloom ini dikembangkan melalui penetapan objektif dalam pembelajaran, iaitu melalui aktiviti atau tugasan yang diberikan kepada kanak-kanak. Daripada situ, kanak-kanak menggunakan Domain Kognitif Dalam Taksonomi Bloom iaitu mengingat, memahami, mengaplikasi, menganalisis, sintesis dan menilai dalam melakukan kerja atau tugasan yang diberi oleh guru. Kanak-kanak didedahkan dengan pengalaman literasi seawal usia mereka mengikut tahap perkembangan masing-masing. Elemen perwakilan boleh diterapkan menerusi gambar, contengan, menulis abjad dan seterusnya kanak-kanak akan beransur-ansur belajar kemahiran membaca. Oleh itu, kemahiran membaca dapat dikatakan sebagai aktiviti membuat gambaran, memberikan penjelasan, atau membuat analisis (Muhammad Saiful Haq Hussin 2006, p.39). Apabila kanak-kanak menggunakan bahan pengajaran interaktif maka aktiviti pembelajaran boleh diulang sehingga mereka menguasai kemahiran yang diharapkan.

Hal ini kerana kanak-kanak lebih sesuai dengan kaedah pembelajaran yang lebih interaktif dan dapat menarik perhatian mereka. Menurut (Anikina & Yakimenko, 2015) T. Alia dan Irwansyah (2018) berpendapat bahawa teknologi ini memberikan rangsangan suara dan visual yang akan mempercepatkan proses pembelajaran kanak-kanak. Tambahan pula kanak-kanak dapat mempelajari banyak perkara dalam satu masa melalui teknologi, terutamanya sejak kemunculan telefon pintar yang pelbagai jenis fungsi. Dalam pembelajaran, guru boleh menayangkan video atau sedutan video beberapa babak yang mempunyai nilai dan pengajaran. Kemudian kanak-kanak akan memerhati dan mendalami tingkah laku model dalam video tersebut dan seterusnya pembelajaran melalui pemerhatian akan berlaku.

Seterusnya penyediaan latihan serta penggayaan dalam aplikasi penggunaan teknologi berteraskan E-book dapat memberi peluang kepada kanak-kanak mengukuhkan pemahaman mereka terhadap pengajaran yang diajar oleh guru (Ros Azura, 2007). Minat dan motivasi kanak-kanak dalam proses PdPc juga dapat mewujudkan implikasi yang positif. Pada pandangan Siti Ezaleila (2014) yang menyatakan bahawa komunikasi dan interaksi sosial kini tidak lagi terbatas pada komunikasi teks, tetapi lebih nyata dan menyeronokkan dengan kemajuan teknologi realiti maya dan teknologi animasi sehingga dapat digunakan untuk membentuk pembelajaran dan pengajaran di sekolah.

RUMUSAN

Secara keseluruhannya, hasil kajian dan membincangkan hasil kajian secara menyeluruh berdasarkan hasil kajian yang diperolehi oleh pengkaji. Pelbagai cabaran dan strategi yang diperolehi juga dibincangkan berdasarkan pengalaman guru dan perkembangan kanak-kanak itu sendiri bagi memperkukuhkan lagi dapatan kajian ini. Penambahbaikan ini perlu wujud selaras dengan peningkatan bilangan kemasukan kanak-kanak yang tidak menguasai kemahiran asas membaca, menulis, dan mengira saban tahun. Secara keseluruhannya, guru mempunyai inisiatif diri untuk merubah corak pengajaran seiring dengan perkembangan teknologi terkini. Perubahan yang berlaku dalam Pengajaran dan Pembelajaran tidak akan tercapai sekiranya guru tidak merubah cara pengajaran kerana guru adalah elemen penting dalam institusi pendidikan negara. Akhir sekali, dicadangkan kajian lanjutan untuk meneruskan penyelidikan dalam membantu kemahiran membaca kanak-kanak dengan menggunakan aplikasi teknologi berteraskan E-book.

Melihat sejauhmana peningkatan kemahiran membaca dalam kalangan kanak-kanak yang terlibat dalam kajian menunjukkan peningkatan yang ketara dalam pengecaman huruf, membaca suku kata terbuka dan tertutup, serta membaca perkataan dengan suku kata yang lebih kompleks seperti diftong dan konsonan bergabung. Keupayaan untuk mengingat dan memahami huruf dan perkataan turut meningkat dengan ketara bagi kebanyakan kanak-kanak. Justeru, penglibatan yang lebih aktif terhadap kanak-kanak yang menggunakan E-book dilihat lebih berminat dan terlibat dalam aktiviti pembelajaran berbanding dengan kaedah pembelajaran tradisional. Pemerhatian menunjukkan peningkatan dalam tumpuan dan keaktifan mereka semasa proses pembelajaran.

Manakala penerimaan guru terhadap penggunaan E-book yang mana guru-guru menyatakan bahawa E-book membantu meningkatkan minat kanak-kanak terhadap membaca dan menyediakan elemen interaktif yang memudahkan pemahaman mereka. Walaupun demikian, guru juga berdepan dengan cabaran dari segi teknikal dan keperluan peralatan yang mencukupi. Walaupun cabaran teknologi aplikasi E-book berkesan dalam meningkatkan kemahiran membaca, cabaran seperti kekangan masa, penyediaan alat teknologi, dan kemahiran guru dalam mengendalikan teknologi ini perlu ditangani dengan lebih baik. Secara keseluruhan, kajian ini menyokong penggunaan teknologi seperti E-book dalam meningkatkan kemahiran literasi di kalangan kanak-kanak prasekolah, tetapi menekankan keperluan untuk sokongan teknikal dan latihan lanjut untuk guru-guru.

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PRODUCT INNOVATION AND INVENTION-FOCUSED PEDAGOGY IN TEACHING CRITICAL AND CREATIVE THINKING

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ABSTRACT

The objective of this study is to assess the level of critical and creative thinking of the foundation students of Universiti Utara Malaysia (UUM) in the class AALK0013 Critical Thinking and to identify the problems faced and solution deployed while doing a product innovation and invention project. The work is based on the quantitative research method, and the data is analysed using descriptive analysis of the questionnaires administered. The instrument developed from the Torrance Test of Creative Thinking (TTCT, Torrence, 1982) and the Watson-Glaser Critical Thinking Appraisal (WGCTA, Watson and Glaser, 1980) is comprised of forty items and subdivided into seven constructs. The study involved 59 students as the sample of participants. Quantitative data was analysed on the SPSS statistical tool to calculate the mean and standard deviation of the results of the critical and creative thinking abilities of the students besides providing an idea of the difficulties encountered in completion of the project. The specific objectives of the study are: To assess: (i) the changes in the critical and creative thinking abilities of students after the application of the product innovation and invention project, (ii) the challenges faced by the students during the project and (iii) the ways in which the challenges were dealt with by students. The results show improvements in the evaluation of cognitive abilities, identify gaps in knowledge and skills, issues of time management, shortage of resources as well as team and prototyping problems and present solutions to these shortcomings. It therefore becomes important to incorporate aspects of product innovation, invention activities in the curriculum to ensure they enhance the thinking skills and problem-solving qualities of every learner.

***Keywords**: critical thinking, creative thinking, product innovation and invention*

INTRODUCTION

The aspirations of students to develop a diverse perspective, critical and creative thinking, problem-solving abilities, and an entrepreneurial mindset were emphasized in the Malaysia Education Blueprint 2015–2025 (Higher Education). By highlighting the innovation ecosystem and aiming to make innovation the main driver of the country's economic growth, this will assist Malaysia in achieving its seventh thrust. To guarantee that this objective is accomplished, students must be able to think critically and creatively to produce high-quality products. Students must master these subjects to generate creative ideas for creating high-quality products that can be sold. Students who start with innovative ideas and creative thinking will be able to realize the national goals.

It is impossible to understate the monumental importance of critical and creative thinking within the walls of the classroom. According to research by Chiam et al. (2014), fostering such higher-order cognitive abilities is integral to empowering students to craft unorthodox solutions, inspect issues from alternative angles, and acclimate to fluctuating conditions. Further works by scholars Ma (2023) and Dai-you (2021) coincide with this assertion. However, numerous academic institutions continue to

struggle with meaningfully implementing these competencies through pedagogies proven to be impactful. By exploring approaches to harmoniously weave invention and innovation into the fabric of the learning experience to catalyse critical and creative cognition in students, this paper aims to shrink this disconnect.

Ma, (2023), identify creativity and innovative problem-solving skills are in high demand across various sectors, from engineering and technology to education and beyond. Cultivating these abilities in students is a top priority for educational institutions seeking to prepare the next generation of problem-solvers and innovators. Classroom instruction plays a pivotal role in developing students' creative capacities and fostering an innovative mindset when done effectively. Stimulating creative thinking through a variety of hands-on methods is essential for empowering students to become active contributors to progress and innovation. By incorporating authentic product design challenges into the curriculum that encourage thinking outside the box and exploring novel ideas, educators can provide opportunities for students to develop innovative solutions through critically examining problems from new perspectives.

Creativity demands original pickings. This might mean thinking a new or coming up with innovative solutions for an old problem. In an age when many automated tasks, creativity is a valuable skill that is too hard for machines of occupy its place. Creative student progress leads to breakthroughs, production of goods and services that stand out from a crowded market. Even if it's designing apps or developing cooperation models that can provide a sustainable future-or writing film scripts, students who master creativity can rise to market industry changes.

Furthermore, critical thinking involves evaluating data, sifting evidence to see where the truth lies and then knowing that truth. For today 'internal world of information society, where information is bountiful and yet frequently unreliable, it is essential that students can think critically: to filter out factual data from fiction; understand complex issues and therefore tackle them effectively. It enables students to deal with problems in logic and reason, as well as in business science technology or any other field. These skills help students to cope with ambiguity, choose what objective appeals most to them out of all the choices in front of them. Students can start early to build a story and create thoughtful solutions for real-life situations.

The rise of automation, artificial intelligence and digital platforms means many traditional jobs are changing or disappearing. Students need and can become more innovative in adapting to these new technologies; learning not just how they came about but also using tools like AI or data analysis for their own the study of marketing these days demands that a student also understand social media strategy and data analytics. By creating novel ways to use these tools, they can shine in a competitive job market. On the other hand, the importance of global challenges such as climate change, sustainability, public health concerns become increasingly evident; students must think innovatively if they hope for solutions. Innovation enables students to make a substantial and unique contribution to solving complex problems of real meaning. Students studying environmental science today have to learn additional skills that allow them to create sustainable technologies and designs, the polluting footprint of which is minimal or that derive energy using renewable sources.

Teaching and learning Reflection

Enhancing critical and creative thinking among students is one of the goals that has preoccupied educators for many years because these skills are essential for problem-solving and creative work. Although acknowledging and using abstract ideas is rather problematic for many students because it poses a certain level of difficulty. Lecturers have realised that when students are in a position where they are unable to differentiate or relate between different ideas that are interrelated, they get disengaged. All these elements have been used in research with the stress on the effectiveness of fieldwork in enhancement of comprehension outlined. For a better development of these skills, the

researcher suggests the use of invention, and product development in real life. Teaching students with lots of critical and creative projects helps to counter the issues they face when it comes to grasping theories. This makes it easy to establish connections between ideas and practice that may serve as a way of reigniting passion through practical tasks that exemplify critical thinking and creativity. When students are engaged on real-life projects, they stand a better chance of being able to practice what they have learnt; this may have eager them up, besides enhancing their skills in problem solving. (DeHaan, 2011)

Even while considering the strategies for teaching and learning activities of the topic Critical and Creative Thinking, concern arises in the mind of the researcher. In this regard, this concern arises from the huge area of discussion under this topic, where a myriad of strategies and techniques of cultivating these abilities among students is provided. Instead of expecting learners to memorise a range of strategies, it is critical that they understand the defining characteristics of sound critical and creative thinking. They also need to effectively know how to apply such view about problem solving and innovation, among others. This is in concordance with recent research done in education, promoting the notion of firsthand field interaction as a means of enhancing understanding and memory of substances that are hard to grasp (Ma, 2023). The students get prepared for invention and product development and in return, they develop competitive and innovative thinking processes as well as collaborative teamwork in problem solving across curriculum fields as noted by Ma, (2023, October 7).

Issues that learners encounter in terms of recalling, comprehending, and integrating abstract ideas often feature during the lecturers' discourses. Due to the challenge of being able to draw abstract figures and be able to remember them in the future, the student's motivation reduces when learning this subject. The assessment of the teaching and learning strategies showed that there are several strategies that the educators employed to teach critical and creativity skills, and they include field studies, lectures and visits. The study also pointed that the skills such as manual initiatives are needed to improve the practice of offering critical and creativity skills. In view of these concerns the researcher wants to use invention and product innovation to solve these problems. This approach helps to familiarise students with real life critical and creative thinking and helps them recover from the problems that they face while learning abstract concepts. Users of practical projects have improved chances of applying and visualizing what they have learnt and are also likely to have increased zeal hence better problem-solving abilities. This real-world experience also complements what has been advancing in the educational sector as of late that restates a new perception on learning through experience to enhance comprehension and recall of topics and concepts that are in some way challenged to grasp. The findings of the gathered data will entail the discovery and analysis of themes, patterns, and benchmarks that will be essential in the creation of teaching strategies that will be proposed and valuable in promoting product innovation or invention into the learning curriculum.

Problem Statement and Scope of the research

According to the analysis of the problems arising in connection with the acquisition of knowledge concerning critical thinking and creative thinking, the data on the students' performance, as well as the discussions involving lecturers, it is necessary to state that there are several issues, which must be solved to improve the effectiveness of critical thinking and creative thinking. As a further check on these problems from the students' standpoint, a questionnaire was completed by 150 students of a critical thinking class in third semester at the Centre of Foundation Studies, Universiti Utara Malaysia. The results revealed that 86.7% of the students were interested in learning about critical thinking, 7 % were interested in learning critical thinking while 13 % in argumentation and 3% who were not. Altogether, the primary learning difficulties were determined despite the students' concern towards assessment of critical thinking and creative thinking. The learning of critical and creative thinking skills poses a lot of challenges to students in class and how they can deal with the challenges and or barriers. Such difficulties can be beginning with the creation of ideas, the connection between the theory and the practice, and problems that may be encountered in the process of the creative work. In addition, students

can fail to collaborate and communicate well in their respective groups, thus hindering their performances as well as becoming frustrated. Adding to this, it is crucial to identify these difficulties and predict how students can approach and overcome them in the given field to enhance the approaches to teaching and learning used in this sphere. In the feedback questionnaire applied to the students, their responses were coherent with the reactions the researcher noted during activities in the classroom and while answering questions and providing answers. The findings indicated that students' attitudes to learning were quite passive, and their knowledge was extremely weak when having to respond to questions that required application of moderate to high levels of intellect. Hence, the researcher postulates that corrective actions are severely wanted to rectify these concerns. A large amount of time should be spent showing, or telling, students about real-life cases. Classroom teaching activities must be engaging, and students must employ their reasoning and imaginative abilities to enhance their performance and knowledge concerning creativity and critical thinking as concepts and terms.

Objective and Research Question

Based on the focus of the study, the general objective of the research is to enhance students' mastery of critical and creative thinking skills with Product Innovation and Invention focused pedagogy.

Meanwhile, the specific objectives outlined are as follows:

i. To evaluate the differences of student's critical and creative thinking in the implementation of product innovation and invention in the classroom.
ii. To discover the problem, happen during the implementation of product innovation and invention in the classroom.
iii. To identify how student solve the problem during the creation of product innovation and invention.

Based on the established research objectives, three research questions have been proposed as follows

i. How does the implementation of product innovation and invention in the classroom enhance students' critical and creative thinking skills?
ii. What challenges arise during the implementation of product innovation and invention in the classroom?
iii. How do students address and solve problems encountered during the creation of product innovation and invention?

METHODOLOGY

Action Strategies

Focusing on interactive activities related to Product Innovation, where the implementation of Teaching and Learning (PdPc) optimizes face-to-face sessions with lecturers to ensure effective learning, actions have been carried out through the Product Innovation and invention approach as shown in Figure 1. Figure 1 illustrates the implementation of Product Innovation and invention activities during the class session.

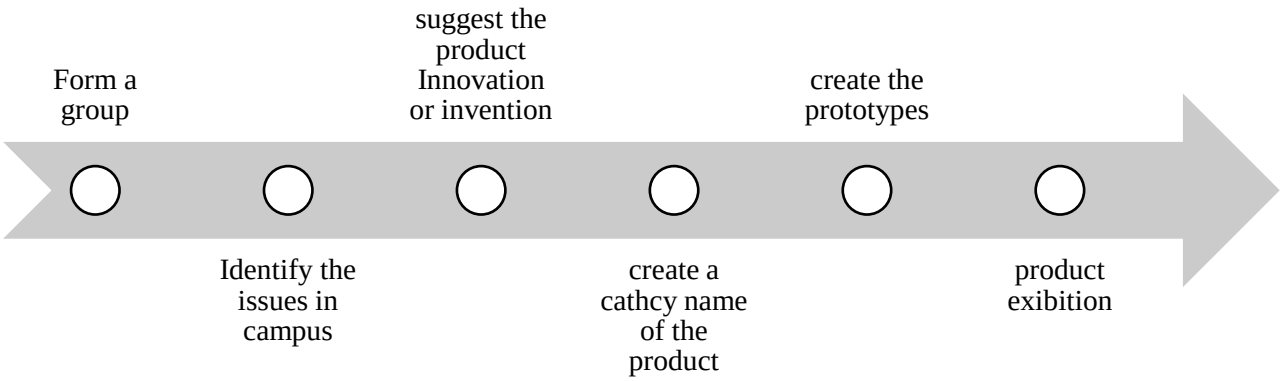

Figure 1: Implementation of Product Innovation and Invention

Research Respondent

A total of 59 of semester 3 students from the Critical Thinking course (AALLK0013) at the Centre for Foundation Studies, Universiti Utara Malaysia, are involved in this study.

Instrument

The collected data from the questionnaire were analysed using descriptive analysis involving mean and standard deviation to assess students' critical thinking and creative thinking skills as well as the problem identification during the study. Quantitative analysis was conducted using SPSS software. The research instrument was adopted to suit with the research from The Torrence test of Creative Thinking (TTCT, Torrence,1982) and The Watson-Glaser Critical Thinking Appraisal (WGCTA, Watson and Glaser, 1980) with 40 items divided into 7 constructs **(table 1)**. The instrument was developed to get the feedback from the students after the implementation of the product innovation and invention in the classroom.

Table 1: Instrument of the research

Instrument	Items	Sources
Creativity skills	1. Fluency 2. Originality 3. Elaboration	Torrance Test of Creative Thinking (TTCT)
Critical Thinking Skills	1. Inference 2. Recognition from assumption 3. Interpretation 4. Evaluation on argument	Watson-Glaser Critical Thinking Appraisal (WGCTA)

Implementation Phase

This study is action research. The design of this action research is implemented based on the Lewin model (1946) in Adelman (1993). According to Lewin (1946), action research demonstrates a spiral of steps. An action research cycle consists of four steps: planning, acting, observing, and reflecting. This cycle continues into the next cycle, which involves re-planning, acting, observing, and reflecting to produce a new cycle. Lewin's action research model is shown in Figure 2.

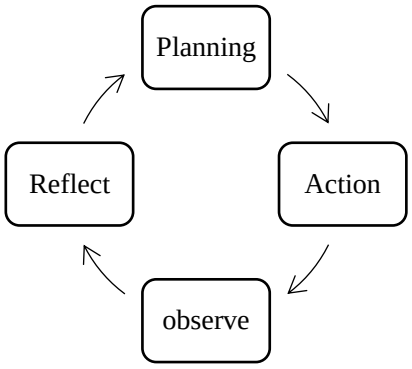

Figure 2: Lewin's Action Research Model (1946)

The implementation of this action research through Lewin's model (1946) begins with planning actions. Based on the issues faced by previous semester students who lacked critical and creative thinking skills, the tasks given were traditionally structured, where students only submitted written assignments addressing issues they needed to resolve. This approach was outdated and made students bored with producing better assignments. Therefore, the researcher adopted a new approach to ensure mastery of critical and creative thinking could be minimally implemented to ensure that the assignments given were produced with interesting and creative ideas. The implementation of product innovation and invention involves the process of planning and producing the product. Details and activities of the students are shown in Table 2.

Phase 1: Planning Phase

In this phase, Students begin in lectures to grasp how important it is that learners do critical and creative thinking in product development. Critical Thinking enables them not to get all mixed up in problems but approach them methodically and evaluate their responses, while creativity aids in new concepts and putting thoughts outside the box. The lecturer provides an analytical framework for innovation (improving or modifying existing products or processes) and invention (creating something entirely new). This lays the groundwork for students to understand what sets an evolutionary change apart from a revolutionary advance. The lecturer issues a topic for product innovation, mainly centred on some campus-related problem. This ensures that the innovation - or invention is directly related to the daily life of students. It is then easier for them to understand and solve the problem meaningfully.

Phase 2: Action Phase

In action phase, students brainstorm ideas within groups and discuss them. They do this to satisfy any specifications set by the lecturer. Group discussions can be used by students to trade ideas, unite ideas from different working parties and criticize each other's ideas. This promotes both unconstrained creativity with brainstorming at its best and meticulous thought which is forced to be constructive. The purpose of this Phase is particularly essential for idea generation and planning. The series of structured questions arrested students' thought patterns, forcing them to take a long hard mental look at the entire product. With such rigor students cannot help but have ideas that are grounded in the real world and useful as well. It also prompts them to work together and push critically on both what the new function is going for and all components.

Phase 3: Observe Phase

The lecturer builds a platform (Padlet and Trello) where students can update their progress. Using these online platforms, students can both record and monitor their progress visually. Uploading evidence of their work provides one contributor to accountability, helps students and lecturers both spot different stages in development. Student then will ask to present their ideas to receive feedback from their classmates. By putting their ideas in front of their classmates, students put themselves in for constructive critique and suggestions on improving ideas. This step will encourage peer learning reflection of all things also because students assess one another's work and receive fresh ideas regarding their own projects. All this dialogue is crucial as it leads to some thinking about what people do right or wrong when raising these questions further. On the observation phase feedback loops combine with the project. Students modify their ideas in order not to misunderstand, their accounts along with its simple review mechanism Feedback from classmates, teachers and lecturers helps students improve their ideas making them more effective and interesting This phase also ensures continual progress; it keeps members from forgetting any key element of the project or failing to finish some part thereof.

Phase 4: Reflect Phase

In the final stage, the product exhibition will organize by the lecturer to reflect to the student work. It is a showcase for product innovations. The lecturer also takes advantage of the exhibition to instruct students on how to present their finished products chances for commercial production, features that addition will give practical machines. The exhibition is evaluated using a set of criteria. Students must articulate the rationale for their invention, its use or practical application, and how they happened to think about it this way. At this phase also facilitates students to their own performance and the results of learning. In addition, when students present their work, it is an opportunity to develop communication skills, as they also look back and reflect on how they progressed from the initial idea until the production of the prototype. Students are able, therefore, to rethink their product innovation and invention from a different perspective. At this point students can look back over their learning process, criticize what has gone wrong in an honest and constructive way (constructive criticism), such that there is continuous improvement of both innovation itself as an embodied form that continually adapts to changing circumstances, using ever-more flexible methods for solving problems now coming on stage one after another. In this structured approach, students not only engage in creative or critical thinking but also learn from the practical skills: innovation, cooperation, feedback integration and self-reflection are vital for their later careers.

Table 2: Product Innovation and Invention Phase

Phase	Description of task
Planning	i. Planning the assignment related to the critical and creative thinking. ii. Provide an overview of what innovation and invention. iii. Lecturer sets the theme for the product innovation or invention to be covered for the brainstorming session. The product will follow the theme that set by the lecturer (based on the campus problem)
Action	i. Prepare a set of question to be answered before the students start to produce their innovation or invention. The question as follow a. What is the invention/work about? What is the issue/problem you are trying to solve with the innovation? b. Function/objective of invention/work? c. What is its used for? d. What are the components/elements/phases involved in this invention/work? Where did you get the idea from? What is the inspiration for this innovation? What are the references used to get the idea for the innovation? e. What is the benefit/contributions of this invention/work to the society?

	f.	Illustration of Invention/Work
	ii.	Student will brainstorm the idea from the group members as well as discuss to fulfill the criteria given by the lecturer.
Observe	i.	The lecturer sets up a platform (such as Padlet or Trello) for students to update their progress on their product innovation or invention. Students upload evidence of their progress to this platform.
	ii.	Students present their ideas in class to receive feedback from their classmates, helping them improve their product innovation.
Reflect	i.	The lecturer will organize a product innovation exhibition where students will present their products to evaluates using a provided rubric.
	ii.	Students will prepare and display their products during the exhibition.
	iii.	Students will present their products during the exhibition and justify their choose product

RESULT

Demographic Analysis

Gender

The sample's gender distribution is shown in table 3. It shows that women represent 66.1% of the total participants and men fill comprised the remaining 33.9%.

Table 3: Gender Distribution

Gender	Frequency	Percentage
Male	20	33.9
Female	39	66.1

Age Distribution

According to the data that has been provided, most students are in the 19–21 age range, making up 96.6% of all students. There are 57 students who fit into this age group. In comparison, the age group of 22–24 students make up only 3.4% of the student body, with 2 students falling into this cohort.

Table 4: Age Distribution

Age	Frequency	Percentage
19-21	57	96.6
22-24	2	3.4

Analysis of Research Objectives

To evaluate the differences between student's critical and creative thinking in the implementation of product innovation and invention in the classroom.

Based on the analysis of the data presented in table 5, it can be concluded that all the identified variables increase during the assessment of critical and creative thinking of students in relation to the creation of a product and invention. The t-value of 39. 56 also calculated for the test of mean difference by fluency show that the overall mean significant deviated from the test value of 0 with $p <. 001$ indicating the existence of significant difference. Analyzing **fluency** in connection with the enhancement of critical and creative thinking of the students in the framework of the product innovation and invention project, it becomes possible to observe a positive difference. This means that the one-sided and two-sided p-

values are less than 0. Pearson correlation coefficient is used to estimate the significance of the difference of the two groups with $p < 0.001$, thus proving that this difference is indeed statistically significant. The mean difference came to 4. 13 posits that, on average, students' fluency scores are, 4. 13 more than 0 they have the ability of fluency in their thought processes.

There are several ways through which students can showcase their fluency which includes the following, the product innovation and invention project, the students are able to come up with different ideas. They can toss out as many ideas as are feasible given the timeline which goes well with the creativity endowed upon them when under time constraint. Moreover, the adequacy of the students, especially their ability to bend and always look at the problems with fresh perspective is very clearly seen. This is especially important where they realize that there is a need for breathing space while working on the ideas – knowledge of the incubation period is thus deemed crucial. Lastly, the fact of their not yielding to the temptation of holistic thinking before analyzing all the necessary information as well as keeping their minds open to other options strengthen the argument of the increased level of fluency in critical and creative thinking. The 95% confidence interval for the mean differential fluency varies between 3. 92 to 4. More understanding can be derived from the fact that the said percentage, 34, does not include 0, hence suggesting that students' fluency is rather higher than the test value. Fluency appears strong in most of the classes and indicates that students are well prepared to do creative problem solving and idea generation during the product innovation and invention project.

Likewise, **Originality** has a t-value of 43. 79, with 58 (df), and the mean difference of 4. 23. The p-values are below 0. 001 and the confidence interval (4.03 to 4.42) suggesting that students come up with very creative work and are original in their work. Accordingly, it suggests that there is not either right or only answers when searching for novelties; they can be as trivial as putting a shoe on one's head. Which implies that students are likely to focus more on novelty than any other competences when called upon to give ideas. It also proves that when the number of responses rises, the creativity rises as well; this is because students can come up with responses which are not necessarily the most conventional ones. This can be attributed to their ability to reason well hence they are able to address more of the fundamental and more likely generate new designs. Creative thinking strategies: Students come up with ideas that the other members may not probably think of, thus making them be unique in the process of innovating. They also can switch from a normal perception to a different one and this informs their manner of handling problems. Their ability to look at things without the biases of the conventional way of doing things is crucial in delivering the product innovation and invention project.

Furthermore, students unleash innovation in handling the product innovation since they can develop an aesthetic attitude, in the process observing beauty in art. This creative thinking is also reflected in the ways they can nurture the germs of idea- and change-generation to achieve a continuous creation of new ideas. The students also do not get stuck as they dare to question the rules that have being set and developed, skills that make them most flexible to bend conformities when needed making them creative. The remaining and equally impressive skill of I's & S's is the clear and forceful narrative, which enhances their originality. They employ fantasizing as means by which they assert propositions and solve issues creatively, and they discover that, dreaming and being emotional is helpful towards the effectiveness of their creativeness of the project.

Additionally, students can put two elements together or apply them together so that ideas or objects can be depicted in peculiar structures, and to think beyond the surface: to think internally and involve the process. From them, the boundaries of a problem are extended and broken, as well as, as a rule, the use of humour in the creative process, which contributes to originality in the implementation of a product innovation and invention project. In general, the numerical data provide the evidence for affirming the hypothesis which states that the students come up to a certain degree of creativity, as well as the stances they take and the behaviours they exhibit in terms of creative thinking practices and approaches during the course of the project.On the other hand, the students' significant ability to develop concepts in detail is reflected in their t-value of 41.84 and mean difference of 4.27 ($p < .001$)

for Elaboration, and this capability is further validated by the confidence interval (4.06 to 4.47). This indicates that students are proficient in fleshing out ideas with depth and complexity, ensuring that their contributions to the product innovation and invention project are thoroughly developed and well-considered. Additionally, they demonstrate the ability to capture the essence of given information to produce imaginative and appropriate titles, further enhancing the quality and creativity of their work.

Inference is likewise strong with a t-value of 38.66 and mean difference 4.28 showing the students inference skills, they can make decisions based on facts as well (Table3). This means that students cannot just think creatively, but also analyze and synthesize information in a way leading to accurate conclusions. The talent is statistically significant as indicated by the confidence interval (4.06 to 4.51) ($p <. 001$), illustrating that their logical inference is significantly better than 0, as rational thinking can be applied in many projects.

With a mean difference of 4.12, and t-value = 40.10 in **Assumption** sub- scale of critical thinking construct, general capability to identify assumptions made during the project appears to be revealing considerable strength for students ($p <. 001$). Supported by the confidence interval (3.92 to 4.32), showing that this competence is quite high, it turns out Students show an increased awareness of assumptions, trying not to error when completing the product innovation/invention project. They consistently use general rules and guidelines in their reasoning but not by Using emotional reasoning or extreme attitudes when they evaluate the truth or falsehood of a statement before deciding what to do. They also believe that transformation does not occur the next day and their reflective process to produce thoughtful, strong results for the project is in fact argumentative by nature — they are critiquing facts.

Interpretation scores were consistently higher with a mean difference of 4.31 and t value 43.32, such results would suggest that students demonstrated superior interpretive skills as compared to other subjects involved in this study ($p <. 001$). These results show that students understand and think more accurately and critically when they complete the product innovation blend invention. They enjoy reviewing data to determine if it makes sense, is correct or true (valid) and then whether the situation at hand values that specific data before taking steps in a project. They make a clean separation between observation and inference, discuss only the main points during discussions, focus on coherent communication with care about clarity and precision**.** The question well helping them sort out the true from everything that is not while clearly identifying problems, investigating evidence and gaining knowledge about whatever assumptions or biases they may have. In plain word, this means that they always search for the best solutions in response to challenges and issues appearing during each stage of product innovation or invention (including implementation) which results from a full support finishing out the project effectively and timely.

The result, **evaluating on argument** abilities, shows a t-value of 39.06 (mean difference: -4.05 ($p <. 001$) show students' critical and creative thinking abilities incredibly strong for all constructs, as they believe there is only one way to be right in appraising the success of a product innovation/invention project (rationalizing doing so), can generate no magic/illusion or take in quickly on themselves high ruins other products when needs making decision what thoughts ever going to rise out during project production.

As a result, the statistical analysis related to product innovation and invention projects indicated that our students embodied significant strengths in different constructs of critical and creative thinking. Students demonstrate strong fluency, originality and elaboration, inference recognition assumptions, interpretation evaluation arguments All of these abilities are well above the test value of 0, with large than t- value are highly significant. The analysis indicated that students were capable to make and investigate original ideas, applying knowledge and an ability to interpret data, whilst critically evaluating arguments. They can also sense implicit assumptions, think both logically and imaginatively as well as communicate with precision and clarity. Though the results speak to student competence in basic critical and creative thinking over time, which stems from several contexts that are relevant for

product innovation/invention projects. This is on par with evidence showing that executive functions and social emotional learning are trainable (thus improving problem solving which in turn increases innovative capacities).

Table 5: Research Objective 1

INSTRUMENT	CONSTRUCT	T value	Df (n-1)	Mean differences	Significant value (p)
Creativity skills	Fluency	39.56	58	4.13	0.001
	Originality	43.79	58	4.23	0.001
	Elaboration	41.84	58	4.27	0.001
Critical Thinking skills	Inference	38.66	58	4.29	0.001
	Assumption	40.10	58	4.12	0.001
	Interpretation	43.32	58	4.31	0.001
	Argument	39.06	58	4.05	0.001

*Significant level=0.95

To discover the problem, happen during the implementation of product innovation and invention in the classroom.

The researcher identified five themes in the students' problems they encountered during a Product Innovation and Invention Project (based on responses from them through survey) — of which skills & knowledge, time management and product development planning issues were most frequently occurring. Many responses indicated they lack the requisite abilities and experience to develop an app and run a project. This shows a major gap in technical skills and tooling awareness that is hampering any kind of advancement or pace within projects. The result of this apparent training shortage is significant, as many responses reveal that there are indeed gaps in these fields that can be filled if certain team members receive more instruction. Here are the open responses as provided by the student on survey:

> *"My innovation project is an app. So, me and my teammates had problems creating the prototype, as we didn't have any experience in creating an app before."*
> *"Lack of knowledge and some skills in editing."*
> *"Not knowing how to use Figma to create the prototype."*

On the other hand, Issues related to managing time effectively and balancing commitments among team members are frequently mentioned. Effective time management is crucial for project success, and the inability to balance project tasks with other commitments often leads to delays and last-minute work. Effective time management is critical in balancing project demands with other commitments. The responses indicate that many teams struggle with scheduling and allocating sufficient time for project tasks, leading to delays and rushed work. Improving time management practices could enhance project efficiency and reduce stress. Example responses stated by the students are as follow:

> *"More time needed for the product invention."*
> *"Time management between members with other commitments."*
> *"Yes, time barrier with a packed schedule."*
> *"Not really, probably just time management."*

In addition, challenges faced by students in the pedagogy that are oriented on product innovation and invention are closely associated to resources constraint. This included the problems of finding materials, tools and budget necessary. This is a major issue, as the team does not have enough to purchase basic things that are needed in manufacturing of prototype and completion of project. Necessary resources are fundamental for project development. Both responses underscore the material, tool and budget challenges typical to makerspaces: resource planning needs to be revisited for improved project success. A few of the answer's students gave included:

> *"Yes, to complete the project, there are a few objects or things that are expensive and hard to find online."*
> *"Yes, budget to complete our design."*
> *"Yes, we don't have transportation to buy the ingredients needed."*
> *"Limited tools to make."*

There are other challenges or obstacles which also occurred in the development and invention. These include team dynamics as part of the project. This theme shows various problems in the team such as little collaboration, low productivity and different contributions. The successful execution of a project largely depends on teamwork. Problems in team dynamics wreak havoc on the project progression and its quality. The success of a collaborative project depends on team dynamics. Problems like non-participation reduce progress, along with procrastination and weak communication. Developing a friendly and proactive team atmosphere is requisite in the face of these challenges. Here is a response example from the students as follows:

"Not every member in the group is well aware of what the project is (just follow what the leader says and not having any opinions and wait for others to take the lead)."
"Some team members procrastinate and lead to last-minute work."
"Yes, in terms of generating ideas and cooperation from the group member."

Finally, issues faced while generating and implementing the prototype. During the prototyping process, practical implementation hurdles often come up, leading to rounds of trial and error before a functioning prototype is realized. Real challenges translate from the prototype phase to hands on iterative problem yes solution capture. It reveals that changes and revisions may frequently differ due to unforeseen issues arising in the team's work. Strengthening Problem solving abilities and promoting a more robust mindset can allow teams to get over these hurdles faster. Teams that keep these themes in mind are going to generally perform better and persevere through the toughest moments of product innovation and invention projects. Example of the responses:

"We have troubles putting the alarm on the handbag because it keeps falling."
"Yes, we got some obstacles regarding how to combine all those three items into one product."
"Constantly revising ideas to achieve a better one."

To identify how student solve the problem during the creation of product innovation and invention

Based on the survey's data, the research scholar categorized responses pertaining to the dynamism of teams and execution of projects into four broad themes: effective team collaboration and communication; learning and utilization of resources; problem solving and adaptivity; time management and task delegation. The team provides an environment that encourages every member to contribute ideas and join in the discussion. Regular meetings are held to maintain consistency and provide an opportunity to quickly correct any deviations from the plan. The project leader mainly monitors the interplays and activities by guiding behaviours for consistency to accomplish timelines. There is a high level of idea exchange and effective contribution from members during brainstorming sessions for the deliberation and augmentation of the project. The reactions from the students are presented below:

"We divided the task fairly for everyone and practiced two-way communication in our group."
"Frequent meetups with my team and seek help from lecturers."
"The leader took the lead, initiated discussions, and gave tasks accordingly."

However, at the team level, where a customer success support agent might use YouTube or attend an online course to brush up on new skills and troubleshoot issues. They also take help from teachers, friends or experts who give new ideas and improve the quality of work. Furthermore, they look for ways to find another method even if the traditional way no longer exists or when it does not fit a new need showing their capacity in creativity and being malleable with challenges. Answers as told by the students:

"Learning with friends and YouTube and exploring it myself."
"We use an alternative object to complete our product, such as replacing the metal rod with a chopstick."
"Ask parents" and "Discuss with my friend."

In addition, the team applies creative and critical thinking to solve technical issues to adapt properly. They test and iterate many ideas until they find the one that works. They adapt to limitations by making use of alternative tools or materials, showing flexibility and innovation in solving problems. They may test various versions or materials to achieve a desired result, so long as the final product meets their end-game project needs in alignment with those survey responses.

"Do a lot of tests from my group ideas."
"Try different tools that give a similar effect."
"Discuss with team members and find the best solutions to our problems."

To team upscaling regarding time management and delegation, responsibility is divided in a way that we always have the right kind of person available which will help us from having an inefficient workflow. To ensure everyone keeps up with their deadlines, the leader must remind team members of tasks in a timely frame. Also, team workers have learned multitasking such as handling multiple jobs at the same time to hold up the process and reach the objective of a project. The survey that came out in October laid out the responses of students to this statement as:

"Separate the work with members."
"The leader takes the lead, initiated discussions, and reminded team members about future deadlines."
"Multitasking."

DISCUSSION

This research used questionnaire responses of 59 students who took critical thinking course at University Utara Malaysia to obtain several crucial insights which could be applied into further depth in understanding the problems that confronted by the university student, and effectiveness of teaching strategies existed respectively. This research will provide a way of thinking about how to categorize the differences between critical and creative thinking, problems that are encountered through implementation of those goals and strategies students employ in connection with invention or product creation.

Results showed that most students (86.7%) were excited to learn about critical thinking, demonstrating a high level of interest. However, there remain significant obstacles to developing critical and creative thinking skills. The students' struggles with critical and creative thinking activities also directly mirror how they did in conceptual reasoning chores that needed pretty high levels of idea formation. This glowing need stresses a necessity of pedagogical strategies tailored to the gamut of critical or creative abilities exhibited by learners. Some of the examples can be like some students would have good thoughts to something antecedental undiscovered, however they'll not return that within the sensible use. To narrow this gap, and enhance student performance in general, these gaps can be addressed through specified actions as well as feedback.

However, observational data and survey results do imply several caveats in the day-to-day implementation of product innovation and invention. Students tend to put hurdles in their way, which include looking for new ideas and converting theoretical knowledge into a practical one hence breaking off the barriers of creativity. Within organizations, a lack of collaboration and communication can result in operational inefficiencies causing frustration among team members that leading to bottlenecks blocking progress. Supported by Banaeianjahromi, et al. (2019) points it out but does not show that the lack of quality communication and collaboration causes many bad symptoms for example, no common goals nor a proper shared mind among teammates. When there is misalignment, it breeds distrust among team members that only serves to compound issues of working effectively together. They add up, worsen till these little stresses within organizational processes. This suggest that how teaching is currently being done might not be adequate to enable students with the necessary innovation and product development skills.

On the other hand, to improve instruction, lecturer need to understand how students deal with these challenges. student feedback indicates that they are amenable to using different approaches, including learning independently, working in groups and sourcing external information when needed. Carless and Boud (2018) mentioned in the investigation by de Kleijn (2021), then highlight that, as educators we should also consider to equally support students effectively using feedback suggestions literacy may scaffold. In other words, empowering students to internalize and use feedback that enriches learning how they learn or problem-solve. This will allow students to make the most use of their feedback, enhancing academic performance on a greater scale. Even worse, it appears that the lack of structured support and opportunities for real-world implementation in the classroom is preventing these from being as effective. The problem-solving skills will not increase without the exposure to practical experience, interactive teaching and learning curves.

Besides, students develop an understanding of critical and creative thinking skills through hands-on, real-world modelling & inquiry-based problem-solving activities with classroom management completely agree with Guido (2017) as stated by Gholam (2019), they add up to seven benefits from that. These advantages include building the curriculum content, supporting better understanding and encouraging both initiative and self-management. Experience and flexibility by incorporating students in the process, they build these crucial skills which allow them to better adapt learning environments; hence ensuing more active class participation. Modelling and problem-solving using inquiry has been widely accepted as one of the most powerful pedagogical approaches in

classrooms, when used together with real-world examples. These activities not only assist students to have a richer notice of critical and creative thinking become skilled transactions skills but also provide other advantages. These activities are primarily helpful as they promote curriculum building. Students can get a much better grip on subject matter by doing some hands-on, real-world modelling of the things that they are learning. In addition, such activities facilitate a deeper grasp of the content material because students must engage and physically apply what they are in understanding how things work. (Saputra, 2022). To making students feel like practicing creativity, hands-on inquiry-based modelling activities can train them in initiative, and self-management. Student ownership will come from allowing the students to learn and solving the problem on their own, but an engaged student in participation leads to more engaging and active participation in the classroom as students feel like they have been empowered and can take control of their education life. Additionally, these exercises teach students how to respond in various educational environments. By including students, this provides them with essential skills which prepares them for success in other educational environments.

The results in this area imply several areas that need correction, if we are to address the shortcomings identified and improve the effectiveness of critical thinking instruction. Educational experiences should primarily aim to facilitate student participation and encourage learners to think critically in relation what is done beyond the classroom on a routine basis. They may include case studies, simulations or practical projects with real-world applications that test student´s theoretical knowledge. In the next point that is positive feedback with resolving issues of group work and non-effectiveness, creating a collaborative learning environment help students engage their communication and even teamwork skills. Third: providing additional support such as peer review process, mentorship and tailored resources will also help student in solving problem by guidance, improving their self-critical thinking and developing innovative mind set. Research by Suparni, (2020), suggests that critical thinking is not only central to an education, but it's one of the most important elements underpinning good character. The incorporation of creative learning strategies is required to boost the critical thinking skills in students. The study adopts the classroom action research orientation, specifically using Kemmis and Mc Taggart's model of planning, acting or implementing a plan in class based on outcomes from that planning stage, observation, reflection steps. On the other hand, the integration of problem-based learning is a supportive approach that can improve problem-solving and critical thinking in the education context by creating an authentic experience (Magpantay & Pasia, 2022; Benedicto & Andrade, 2022). Framing questions in such a way that students can apply pea-theoretical knowledge to real-world are two principles for critical thinking. Besides a collaborative learning environment enables students to voice out, discuss ideas and help one another informally in order that critical thinking skills & teamwork blossoms. In addition, mentorship opportunities and tailored feedback on their work as well a guidance to develop their analytical skills can raise self-appreciation of critical thinking. Such holistic solutions power students to be independent, inventive thinkers who can use what they know at the real-world.

In conclusion, even if students have a great interest in critical thinking, the difficulties they encounter underscore the necessity of focused interventions and enhanced instructional strategies. Through the implementation of interactive teaching techniques, practical application, and improved support structures, educators may assist students in acquiring the critical and creative thinking abilities that are essential for success in product innovation and invention.

REFLECTION

Using a teaching framework focused on innovative product-creation we have made important findings into the efficacy and scope of an application like this. Simply put, it has been impactful and transformational in an educational context that is meant to hopefully provide a great deal of depth for students as they learn the critical importance of product innovation dovetailed with hands-on improvement skills.

The entire pedagogical model revolves around activity and moving away from traditional passivity. The approach is designed to address the gap between academic learning and practical application by integrating structured activities whereby students can apply theoretical concepts directly into real-world problems. This experience not only illustrates the importance of theoretical knowledge; it also equips students to relate product innovation theories back and forth with real products. The practical application of concepts through real-life scenarios has made learning more meaningful, enabling students to appreciate the intricacies of product development.

One advantage that this approach has is the nurturing of critical thinking and problem-solving abilities. Mind mapping as a technique connecting the core elements of innovation in product development entails, further implies higher order cognitive functions from students. This enforced them to structure their thinking, dissect complex problems and come up with creative solutions. These are vital skills in the world of product development, where new ideas need to be generated, and challenges will be faced along the way. It also resulted to a notable enhancement of student motivation and engagement within the pedagogical model. This experiential, practical approach to skills development the games and discussions culminate in problem solving exercises based on real challenges many of students stated has compelled a greater sense commitment. The creativity and perseverance of students increased due to their active participation in these activities. This increased motivation becomes essential to push through the problems of product design and development.

It also offers great opportunities for spotting and healing weak points. Structured activities guide students and researchers can detect areas of improvement, provide timely interventions, and evolve teaching strategies constantly. This made a model that could adapt and evolve as needed through its evaluation cycle, making in-class learning more responsive to what would be most effective. In addition to this, an enhanced development of innovation thinking transpires through solving real-world problems and students thus acquire experience that is beneficial in relation to their future professions. Students are prepared to address real world challenges and solution problems that occur in product development, providing them with the skills needed for professional success. This real-life connection to the subject matter, then, not only helps students become more adept critical thinkers and problem solvers.

The success of this pedagogical model suggests that it may be further used and replicated in the future. Next steps might consider incorporating more add-on components, for example feedback mechanisms and design iterations to enhance learning outcomes at scale. Broadening the model to incorporate varied views and interdisciplinary action would similarly provide students a more wholistic view of product innovation. To keep this approach working effectively all the time, a persistent focus on creativity and innovation is essential. Periodically updating the curriculum to include contemporary issues or challenges in product development and encouraging students to explore new technologies will help keep it both valid and influential.

In conclusion, as a teaching concept for product innovation and first-hand experience epochs, the pedagogic approach has indeed proved its worth: promoting students' comprehension while developing their power of critical thinking and sense challenge. By refining this concept, which will result a new kind of methodology, educators should be able to nurture students into both high-Caliber and inventive professionals able for the future challenges that lie ahead. The insights gained from this model underscore its effectiveness in fostering a deeper connection between theoretical knowledge and practical application, ultimately contributing to the development of competent and creative individuals in the field of product innovation.

RECOMMENDATION

The study provided some suggestions for future research to help improve the visibility of adaptation on product innovation pedagogies and moved forward. This proposal would encompass the curriculum setting, government policy in education and student engagement. Include full trainings on core product innovation and app development tools within the curriculum.

i. curriculum setting

Deliver basic software tools training example Figma, prototyping basics and app development essentials This method of trained-while-doing, ensures that students get the skills and knowledge before they are involved in a project work. This method does the hard work of bridging technical expertise and combing through real challenges for product innovation. Conversely, future research can inform policies that support students who may have educational needs beyond standard course experience and availability by offering flexible learning pathways and supporting project-based learning. Grant and or incentivize institutions to follow through on this training effective project management, time management output. The varied learning spaces have allowed students freedom over these different facilities for them manage time more effectively between project commitments. Secondly, include teamwork and cooperation skills in curriculum requirements. This would have courses or activities based around effective teamwork, communication and conflict resolution.

ii. Government's policy

Design requirements to provide financial support and resources for innovations, such as grants specific material-subsidy tools-share facilities equipment access. This can be facilitated through government support (set up to help mitigate these financial or logistical burdens, ultimately allowing students to access the resources needed for successful project completion. Furthermore remote policies that support collaborative learning environments as well payment to a team projects can also be helpful supported by the government in terms of funding. Additionally, provide funding for innovation labs, maker spaces and equipment students can use to prototype solutions. The mentoring and financial support can allow students to utilize prototyping facilities, thereby helping in overcoming the challenge of implementation which is crucially linked with better project outcomes. Collaborative learning, supported by the government can improve team dynamics and help in increasing the success rate of projects.

iii. Students' engagement

Promote students to attend skill-building workshops, online courses and peer-learning groups. Facilitate students to collaborate with professionals and seasoned mentors through real-world projects. Involving students directly in learning process and real-world application further develops necessary skills needed to drive successful project execution, translating into innovation. Institutions, in general, therefore have to take steps like the use of project management software and other planning tools. Encourage students to use these resources when constructing their task plans so they can keep track of deadlines. By providing students with practical tools and techniques to manage their own time-flipping, it becomes tightens the outcomes of classroom projects.

The results of this study, and as such the conclusions that are drawn from them add to our understanding of teaching approaches which foster critical and creative thinking ability by providing examples for educators who aim at incorporating product innovation & invention in their pedagogy. This research could have far-reaching implications for education by elucidating how inquiry-based pedagogical interventions can foster the development of competent action systems and enable students to be active change agents in progress and innovation.

CONCLUSION

The data analysis has exposed very interesting outcomes in developing creative and analytical abilities of students. Durable and highly significant improvements can be observed in the statistical results across multiple dimensions (Fluency, Originality, Elaboration, Inference Assumption Interpretation Argument). In general, the mean differences within each dimension were all positive implying that students made strong gains in these critical and creative thinking dimensions. Overall, the results highlight students' creativity and critical thinking capabilities at a global dimension. The confidence intervals in each dimension validate that these improvements are statistically significant. Although the outcomes are largely positive, several barriers have been identified that may affect how well young people and schools can increase creativity or critical thinking skills. Educational institutions, by means of targeted curricular modifications, supportive policies and enhancing student involvement in creative thinking processes can overcome some of these barriers more effectively to foster creativity and the capacity for critical inquiry among students. By implementing these, universities would build a better pedagogical place of study that supports students in becoming their complete selves with innovation and critical thinking as well creative skills.

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BUILDING THE FUTURE OF HIGHER EDUCATION: A MOBILE LEARNING FRAMEWORK

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ABSTRACT

In the rapidly evolving landscape of higher education, the integration of mobile learning (m-learning) has become a pivotal strategy for enhancing accessibility, engagement, and adaptability in educational environments. This paper explores the development of a comprehensive mobile learning framework tailored specifically to the Malaysian higher education context. Recognizing the unique cultural, technological, and pedagogical challenges and opportunities present in Malaysia, this framework is designed to bridge the digital divide, promote inclusive learning, and support lifelong education. The study begins by examining the current state of mobile technology adoption in Malaysian universities, highlighting both the successes and areas needing improvement. Through a review of existing literature and an analysis of case studies within Malaysia, key factors influencing the effectiveness of m-learning are identified, including infrastructure readiness, student and faculty digital literacy, and the alignment of mobile learning strategies with national education policies. Building on these insights, the paper proposes a framework that incorporates best practices from global m-learning initiatives while being adaptable to the local context. The framework emphasizes the importance of learner-centred design, continuous professional development for educators, and the integration of local content and languages to ensure relevance and sustainability. Additionally, it addresses potential barriers such as limited access to high-speed internet and varying levels of device availability among students. The proposed mobile learning framework aims to not only enhance the quality of higher education in Malaysia but also to position the nation as a leader in innovative educational practices in the region. By fostering a more flexible and inclusive learning environment, this framework supports the broader goals of Malaysia's education system in producing globally competitive graduates equipped for the demands of the 21st century.

Keywords*: Mobile Learning, Higher Education, Educational Technology, Learning Framework, Mobile Devices.*

INTRODUCTION

The landscape of higher education is undergoing a profound transformation driven by the rapid advancement of digital technologies. Among these, mobile learning (m-learning) has emerged as a pivotal component in the educational ecosystem, offering unprecedented opportunities for enhancing access, flexibility, and engagement in learning. As mobile devices become increasingly ubiquitous, the potential for m-learning to support and extend traditional educational practices has gained significant attention worldwide.

In Malaysia, the push towards digitalization in education aligns with the nation's broader aspirations to become a high-income, knowledge-based economy. The Malaysian Education Blueprint 2015-2025 (Ministry of Higher Education Malaysia, 2015) emphasizes the need for innovation in teaching and learning methods to equip students with the skills necessary for the 21st century. Within this context, the integration of m-learning presents a strategic avenue to address challenges such as geographical disparities, varying levels of access to quality education, and the need for lifelong learning opportunities.

Despite the recognized potential, the adoption of mobile learning in Malaysian higher education institutions has been uneven. While some universities have made strides in incorporating mobile technologies into their curricula, others face significant barriers, including infrastructure limitations, lack of digital literacy among educators and students, and concerns about the quality and relevance of mobile-delivered content. Furthermore, the cultural and linguistic diversity of Malaysia presents unique challenges in designing m-learning solutions that are both inclusive and effective.

This paper aims to develop a comprehensive mobile learning framework tailored to the specific needs and circumstances of higher education in Malaysia. By drawing on both global best practices and local insights, this framework seeks to provide a structured approach for integrating mobile learning into the higher education system in a way that enhances educational outcomes, supports equitable access to learning resources, and aligns with national educational goals.

The objectives of this study are threefold: first, to assess the current state of mobile learning adoption in Malaysian universities; second, to identify the key factors that influence the success of m-learning initiatives; and third, to propose a framework that can guide the effective implementation and scaling of mobile learning across diverse higher education contexts in Malaysia. In doing so, this paper contributes to the ongoing discourse on how digital technologies can be harnessed to build a more resilient and inclusive educational future for Malaysia.

LITERATURE REVIEW

Overview of Mobile Learning (m-Learning)

Mobile learning (commonly referred to as m-learning) is an evolving field that has gained significant traction in recent years, particularly with the advancement of mobile technologies such as smartphones, tablets, and laptops. M-learning refers to the use of these portable devices to facilitate learning, making education more accessible and flexible by allowing learners to engage with educational content anytime and anywhere (Traxler, 2007). This shift from traditional, location-bound education to more flexible, learner-centered approaches has the potential to transform the way students engage with knowledge, educators, and their peers.

The rise of m-learning is driven by the increasing proliferation of mobile devices and internet connectivity. Globally, mobile learning has been recognized for its ability to enhance student engagement, improve learning outcomes, and accommodate diverse learning styles (Ally, 2009). It allows learners to interact with content in real-time, collaborate with peers across different locations, and access resources that would otherwise be restricted by geographic or temporal limitations. As such, m-learning has become particularly beneficial in reaching students in remote or underserved areas, providing them with access to quality education that might otherwise be out of reach (West & Vosloo, 2013).

In the context of higher education, mobile learning holds the potential to enhance flexibility in teaching and learning processes, allowing students to engage with course materials in a way that suits their individual needs. With the increasing demand for flexible learning environments, m-learning has been particularly effective in supporting blended learning models, where mobile technologies complement

traditional face-to-face instruction (Crompton, 2013). This integration of mobile learning into higher education institutions is seen as a key enabler of more inclusive and responsive educational systems.

Mobile Learning in Malaysia

In Malaysia, the push towards integrating digital technologies into education is aligned with national strategies such as the Malaysian Education Blueprint 2015-2025 (Ministry of Higher Education Malaysia, 2015). This blueprint underscores the importance of leveraging technology to enhance teaching and learning, improve access to education, and produce graduates who are competitive in a globalized economy.

Several studies have examined the state of m-learning in Malaysian higher education institutions. These studies generally highlight the growing interest in mobile learning among both students and educators, but they also point out significant challenges. Key issues include the uneven distribution of technological resources, particularly in rural areas, varying levels of digital literacy among students and faculty, and concerns about the quality and pedagogical effectiveness of mobile learning content (Yusof & Rahman, 2017; Razak & Yusop, 2020; Ng & Atan, 2020; Alias, Razak, & Hamid, 2018).

For instance, a study by Alias et al. (2018) found that while students in urban areas generally have good access to mobile devices and the internet, those in rural areas face more significant barriers. This digital divide has implications for the equitable implementation of m-learning across the country. Additionally, studies have shown that educators often lack the training and support needed to effectively integrate mobile technologies into their teaching practices, leading to suboptimal outcomes.

Challenges and Opportunities in Implementing m-Learning

The challenges of implementing m-learning in Malaysia are multifaceted. Infrastructure remains a significant barrier, with some regions still lacking reliable access to high-speed internet. This not only limits students' ability to engage with mobile learning but also affects educators' capacity to deliver high-quality content and interact with students in real time (Ng & Atan, 2020; Alias, Razak, & Hamid, 2018).

Digital literacy is another critical challenge. While younger students tend to be more comfortable with mobile technologies, there is still a need for targeted digital literacy programs to ensure that all students, regardless of their background, can effectively engage with m-learning platforms. For educators, ongoing professional development is essential to keep pace with technological advancements and to develop pedagogical strategies that leverage the unique affordances of mobile learning (Yusof & Rahman, 2017; Looi, Wong, & Song, 2019).

Despite these challenges, there are significant opportunities for m-learning in Malaysia. The diverse linguistic and cultural landscape of the country presents an opportunity to develop m-learning content that is locally relevant and culturally inclusive. Additionally, the widespread use of mobile devices among the youth provides a strong foundation for scaling up m-learning initiatives (Lim & Tinio, 2021; West & Vosloo, 2013).

Global Perspectives on m-Learning

Looking beyond Malaysia, the global landscape of m-learning offers valuable insights into best practices and successful implementation strategies. Countries such as South Korea and Singapore, which have been at the forefront of educational technology adoption, provide useful case studies. These countries have successfully integrated mobile learning into their education systems through comprehensive national strategies, significant investments in infrastructure, and ongoing support for educators (Kim, Kim, Lee, Spector, & DeMeester, 2013; Chee & Wong, 2013; Park & Choi, 2015).

One key lesson from these global examples is the importance of a holistic approach to m-learning implementation. This includes not only the provision of technology but also the development of digital content, the training of educators, and the continuous assessment and refinement of m-learning strategies. Such an approach ensures that mobile learning is not just an add-on but an integral part of the educational experience (Chai, Koh, & Tsai, 2010; Sharples, Arnedillo-Sánchez, Milrad, & Vavoula, 2009; Kukulska-Hulme & Traxler, 2005).

METHODOLOGY

Research Design

This study employs a mixed-method research design, combining both qualitative and quantitative approaches to develop a comprehensive mobile learning framework for higher education in Malaysia. The mixed-method design is chosen to provide a holistic understanding of the current state of mobile learning in Malaysian universities, as well as to identify the key factors influencing its effectiveness. The qualitative component focuses on gathering in-depth insights from educators, students, and policymakers through interviews and focus groups, while the quantitative component involves the collection and analysis of survey data from a broader sample of participants.

Data Collection Methods

Qualitative Data Collection

The qualitative data for this study will be collected through semi-structured interviews and focus group discussions with key stakeholders in the Malaysian higher education sector. These stakeholders include university administrators, faculty members, students, and representatives from the Ministry of Higher Education (Abas, Peng, & Mansor, 2018; Alias, Razak, & Hamid, 2018; Looi, Wong, & Song, 2019; Razak & Yusop, 2020; Ismail, Ahmad, & Samsudin, 2021). The semi-structured format allows for flexibility in exploring participants' experiences and perspectives on mobile learning, while still providing a consistent framework for comparison.

a. Interviews: A total of 20 in-depth interviews will be conducted with educators and administrators across five different universities in Malaysia, representing both public and private institutions. These interviews will focus on understanding the challenges and opportunities associated with mobile learning, as well as the specific needs and expectations of educators in implementing m-learning strategies.

b. Focus Groups: Three focus groups will be held with students from various academic disciplines and backgrounds. Each focus group will consist of 8-10 participants and will explore students' experiences with mobile learning, their perceptions of its effectiveness, and their suggestions for improvement.

Quantitative Data Collection

Quantitative data will be collected through an online survey distributed to a larger sample of students and educators across multiple universities in Malaysia. The survey is designed to gather data on the following aspects of mobile learning:

a. Access to Mobile Devices: Questions will assess the availability and usage patterns of mobile devices among students and educators (Alias, Razak, & Hamid, 2018; Ng & Atan, 2020).

b. Digital Literacy: The survey will measure the participants' self-reported digital literacy levels, including their ability to use mobile learning platforms and tools effectively (Looi, Wong, & Song, 2019).
c. Perceived Effectiveness: Participants will rate the effectiveness of mobile learning in enhancing their educational experience, including aspects such as engagement, comprehension, and convenience (Razak & Yusop, 2020).
d. Barriers to Adoption: The survey will identify common barriers to the successful implementation of mobile learning, such as technical issues, lack of support, and resistance to change (Yusof & Rahman, 2017; Malaysian Communications and Multimedia Commission, 2019).

The survey will be distributed to a sample of 500 students and 200 educators across ten universities, ensuring a diverse representation of the Malaysian higher education landscape.

Data Analysis

Qualitative Data Analysis

The qualitative data from interviews and focus groups will be transcribed and analyzed using thematic analysis. This approach will allow the identification of recurring themes and patterns related to the challenges and opportunities of mobile learning in Malaysian higher education. Coding will be conducted using qualitative data analysis software (e.g., NVivo), and themes will be organized into categories that inform the development of the mobile learning framework.

Quantitative Data Analysis

The quantitative data from the survey will be analyzed using descriptive and inferential statistical methods. Descriptive statistics will provide an overview of the participants' access to mobile devices, digital literacy levels, and perceived effectiveness of mobile learning. Inferential statistics, such as regression analysis, will be used to identify the key factors that influence the success of mobile learning initiatives, such as demographic variables, institutional support, and technology access.

Framework Development

Based on the findings from both the qualitative and quantitative analyses, a comprehensive mobile learning framework will be developed. This framework will include recommendations for best practices in implementing mobile learning in Malaysian universities, focusing on areas such as:

a. Infrastructure Development: Ensuring reliable internet access and availability of mobile devices.

b. Digital Literacy Programs: Providing ongoing training and support for both students and educators.

c. Content Development: Creating culturally relevant and pedagogically sound mobile learning content.

d. Policy and Governance: Aligning m-learning initiatives with national education policies and institutional goals.

The framework will be designed to be adaptable to different university contexts within Malaysia, considering factors such as urban-rural disparities, linguistic diversity, and varying levels of institutional readiness.

PROPOSED MOBILE LEARNING FRAMEWORK

The proposed mobile learning framework for Malaysian higher education is designed to address the unique challenges and opportunities identified through the literature review and empirical research. This framework is comprehensive and adaptable, ensuring that it can be implemented effectively across diverse university environments in Malaysia. The framework is structured around four key components: Infrastructure Development, Digital Literacy Enhancement, Content and Pedagogy, and Policy and Governance.

Infrastructure Development

The foundation of any effective mobile learning strategy is robust and reliable infrastructure. In the Malaysian context, this includes addressing the digital divide between urban and rural areas, ensuring that all students and educators have access to the necessary technological tools, and providing a stable internet connection.

a. Reliable Internet Access: Universities must invest in upgrading their network infrastructure to ensure consistent and high-speed internet access across all campuses. In rural or underserved areas, partnerships with government agencies and private companies can help expand broadband coverage.

b. Availability of Mobile Devices: To ensure equitable access to mobile learning, universities should consider implementing device loan programs or subsidies for students who cannot afford personal devices. This will help bridge the gap between students from different socio-economic backgrounds.

c. Technical Support and Maintenance: A dedicated team of IT professionals should be available to provide ongoing technical support and maintenance of the mobile learning infrastructure. This includes regular updates to software, ensuring compatibility across devices, and troubleshooting connectivity issues.

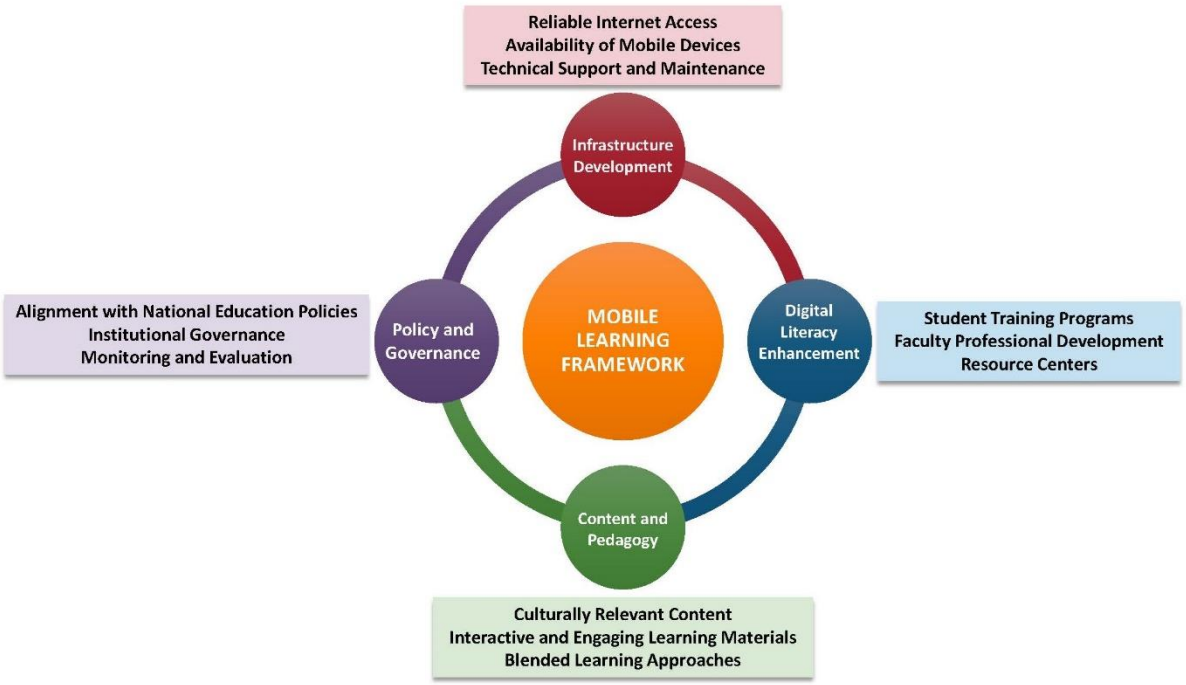

Figure 1: Mobile Learning Framework

Digital Literacy Enhancement

Digital literacy is crucial for both students and educators to fully engage with mobile learning platforms. The proposed framework emphasizes the need for continuous training and support in this area.

a. Student Training Programs: Universities should implement mandatory digital literacy training for all students, particularly focusing on first-year students. These programs should cover basic and advanced skills needed to navigate mobile learning platforms, including data security, online communication, and the use of educational apps.

b. Faculty Professional Development: Educators should receive ongoing professional development to enhance their digital literacy and pedagogical skills for mobile learning. This can include workshops, webinars, and peer-to-peer learning opportunities where faculty members share best practices and innovations in mobile learning.

c. Resource Centers: Establish digital resource centers on campuses where students and educators can access training materials, receive one-on-one support, and experiment with new mobile learning tools and technologies.

Content and Pedagogy

The success of mobile learning is highly dependent on the quality and relevance of the content delivered through mobile platforms, as well as the pedagogical approaches used by educators.

a. Culturally Relevant Content: Content developed for mobile learning should be tailored to the Malaysian context, considering the cultural, linguistic, and educational diversity of the student population. This includes offering content in multiple languages and incorporating local case studies and examples.

b. Interactive and Engaging Learning Materials: Mobile learning content should be designed to be interactive and engaging, utilizing multimedia elements such as videos, simulations, and quizzes to enhance student learning. Adaptive learning technologies that personalize the learning experience based on individual student needs and progress should also be incorporated.

c. Blended Learning Approaches: The framework advocates for a blended learning approach, where mobile learning complements traditional face-to-face instruction. This allows students to benefit from the flexibility of mobile learning while still engaging in in-person discussions and collaborative activities.

Policy and Governance

Effective implementation of mobile learning requires strong institutional policies and governance structures that align with national education goals.

a. Alignment with National Education Policies: Universities should ensure that their mobile learning initiatives align with the Malaysian Education Blueprint and other relevant national policies. This alignment will help secure government support and funding for mobile learning projects. (Ministry of Higher Education Malaysia, 2015; Shah & Stanford, 2020)

b. Institutional Governance: A dedicated mobile learning committee should be established within each university to oversee the implementation and ongoing evaluation of the mobile learning framework. This committee should include representatives from the administration, faculty, IT department, and student body to ensure a holistic approach. (Razak & Yusop, 2020; Ng & Atan, 2020)

c. Monitoring and Evaluation: Continuous monitoring and evaluation mechanisms should be in place to assess the effectiveness of the mobile learning framework. This includes regular feedback from students and educators, analysis of learning outcomes, and adjustments to the framework based on emerging needs and challenges. (Lim & Tinio, 2021; Yusof & Rahman, 2017)

Implementation Strategy

The successful implementation of this mobile learning framework requires a phased approach, starting with pilot programs in select universities and gradually scaling up to include all higher education institutions in Malaysia. The following steps are recommended:

a. Pilot Phase: Select a few universities with varying contexts (urban, rural, public, private) to pilot the framework. Collect data on its effectiveness and gather feedback from participants.

b. Evaluation and Refinement: Analyze the results of the pilot phase and refine the framework based on the findings. Address any issues related to infrastructure, content, or policy that may arise.

c. Scaling Up: Expand the implementation to include more universities, ensuring that the necessary infrastructure and support systems are in place. Provide additional training and resources as needed.

d. Ongoing Support and Development: Establish a national center for mobile learning that can provide ongoing support, research, and development for universities implementing the framework. This center can also serve as a hub for sharing best practices and fostering collaboration among institutions.

RESULTS AND DISCUSSION

The data collected from the qualitative and quantitative components of this study provide valuable insights into the current state of mobile learning in Malaysian higher education. This section presents the key findings and discusses their implications for the proposed mobile learning framework.

Results

Qualitative Findings

The qualitative data gathered through interviews and focus groups revealed several critical themes related to the challenges and opportunities of implementing mobile learning in Malaysian universities.

a. Infrastructure Challenges: A recurring theme across all universities, particularly in rural areas, was the inadequacy of internet infrastructure. Many participants reported frequent connectivity issues, which hindered their ability to fully engage with mobile learning platforms. Even in urban universities, where infrastructure is generally stronger, some students faced difficulties due to inconsistent internet access at home. (Ng & Atan, 2020; Alias, Razak, & Hamid, 2018)

b. Digital Literacy Gaps: Both students and educators identified a need for improved digital literacy. While younger students were generally more comfortable with mobile technologies, they still required guidance on effectively using educational apps and platforms. Educators, on the other hand, often struggled with integrating mobile learning into their teaching practices, citing a lack of training and support. (Razak & Yusop, 2020; Yusof & Rahman, 2017)

c. Positive Attitudes Towards Mobile Learning: Despite the challenges, there was widespread support for mobile learning among students and faculty. Participants recognized the potential of mobile learning to enhance flexibility, access to resources, and student engagement. Many expressed a desire for more interactive and culturally relevant content to be made available through mobile platforms. (Looi, Wong, & Song, 2019; Shah & Stanford, 2020)

Quantitative Findings

The survey data provided a broader perspective on the state of mobile learning across different universities in Malaysia.

a. Access to Mobile Devices: The survey revealed that approximately 85% of students and 90% of educators had access to a mobile device that could be used for learning purposes. However, disparities were noted between students in urban and rural areas, with rural students being less likely to have access to high-end devices. (Alias, Razak, & Hamid, 2018; Ng & Atan, 2020)

b. Perceived Effectiveness of Mobile Learning: On a scale of 1 to 5, with 5 being "very effective," students rated the effectiveness of mobile learning at an average of 3.8. This suggests that while students generally found mobile learning beneficial, there is room for improvement, particularly in the areas of content quality and interactivity. (Looi, Wong, & Song, 2019; Razak & Yusop, 2020)

c. Barriers to Adoption: The most commonly reported barriers to mobile learning adoption were poor internet connectivity (reported by 65% of respondents), lack of training (45%), and concerns about the quality of mobile-delivered content (40%). These findings align with the themes identified in the qualitative data. (Yusof & Rahman, 2017; Malaysian Communications and Multimedia Commission, 2019)

Discussion

The findings from this study highlight both the potential and the challenges of implementing mobile learning in Malaysian higher education. The discussion below addresses the implications of these findings for the proposed mobile learning framework.

Addressing Infrastructure Gaps

The consistent reporting of infrastructure challenges, particularly in rural areas, underscores the need for significant investment in internet connectivity. The proposed framework's emphasis on infrastructure development is well-justified, as reliable internet access is foundational to the success of mobile learning initiatives. Universities, particularly those in rural areas, must work closely with government and private sector partners to enhance their digital infrastructure.

Enhancing Digital Literacy

The gaps in digital literacy among both students and educators highlight the importance of the framework's focus on continuous training and support. The findings suggest that while students are generally more digitally literate, they still require guidance on using educational apps effectively. For educators, professional development programs that focus on the pedagogical use of mobile technologies are crucial. These programs should be tailored to different levels of digital proficiency to ensure that all faculty members can participate and benefit.

Improving Content and Pedagogy

The positive attitudes towards mobile learning and the demand for more interactive and culturally relevant content indicate a clear direction for content development within the framework. Universities should prioritize the creation of mobile learning materials that are not only engaging but also contextually relevant to the Malaysian educational landscape. Blended learning approaches, which combine mobile learning with traditional face-to-face instruction, were also well-received by participants and should be incorporated into the framework as a standard practice.

Policy and Governance Implications

The barriers identified, such as lack of training and concerns about content quality, also have implications for policy and governance. The establishment of a dedicated mobile learning committee within each university, as proposed in the framework, is essential for overseeing the implementation and continuous improvement of mobile learning strategies. This committee should also be responsible for ensuring that mobile learning initiatives are aligned with national education policies and that they receive the necessary institutional support.

Broader Implications for Malaysian Higher Education

The findings of this study have broader implications for the future of higher education in Malaysia. As the nation strives to become a knowledge-based economy, the successful integration of mobile learning into higher education will play a critical role in achieving this goal. The proposed framework, informed by both global best practices and local insights, provides a structured approach to realizing the potential of mobile learning in Malaysia. By addressing the identified challenges and building on the strengths of the current system, this framework can help transform Malaysian universities into models of digital innovation and inclusivity.

CONCLUSION

The integration of mobile learning into higher education represents a significant step forward in adapting educational practices to the demands of the 21st century. In Malaysia, where the higher education landscape is marked by diversity in both student populations and institutional contexts, a well-structured mobile learning framework is essential to ensure that all students have access to quality education, regardless of their geographic location or socio-economic status. This paper has proposed a comprehensive mobile learning framework tailored to the specific needs of Malaysian higher education. The framework addresses key areas such as infrastructure development, digital literacy enhancement, content and pedagogy, and policy and governance. Each of these components is critical to overcoming the challenges identified in the study, such as the digital divide, varying levels of digital literacy among students and educators, and the need for culturally relevant and engaging content.

The findings from both qualitative and quantitative data underscore the potential of mobile learning to enhance educational outcomes in Malaysia. However, the success of mobile learning initiatives depends on the effective implementation of the proposed framework. This requires not only significant investment in technology and infrastructure but also a commitment to continuous professional development for educators and the creation of policies that support innovation and inclusivity in education. By aligning mobile learning initiatives with national educational goals, and by ensuring that they are adaptable to different university contexts, Malaysia can position itself as a leader in digital education in the region. The proposed framework provides a roadmap for universities to follow, enabling them to harness the full potential of mobile learning to create more flexible, accessible, and engaging learning environments.

As Malaysia continues to strive toward becoming a knowledge-based economy, the role of mobile learning in higher education will only grow in importance. The framework proposed in this paper not

only addresses current challenges but also lays the groundwork for future innovations in teaching and learning. By adopting this framework, Malaysian universities can ensure that they are not only keeping pace with global trends but are also setting new standards in educational excellence and inclusivity.

Future research should focus on the longitudinal impacts of mobile learning on student outcomes, the effectiveness of different digital literacy programs, and the scalability of the proposed framework across different types of higher education institutions. As technology continues to evolve, ongoing evaluation and adaptation of the framework will be necessary to meet the changing needs of students and educators alike.

In conclusion, the development of a mobile learning framework for Malaysian higher education is not merely an academic exercise; it is a crucial step in building a resilient and inclusive education system that can meet the challenges of tomorrow. Through careful planning, collaboration, and a commitment to continuous improvement, Malaysia can lead the way in creating a future-ready higher education system that benefits all its citizens.

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KEBERKESANAN PENGGUNAAN KANVAS SPEECH TOPIC AI DALAM PEMILIHAN TAJUK TUGASAN PENGUCAPAN AWAM DI KALANGAN PELAJAR SEMESTER 1 DIPLOMA PENDIDIKAN AWAL KANAK-KANAK

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ABSTRAK

Pengucapan awam adalah kemahiran penting dalam pendidikan, khususnya bagi pelajar dalam bidang Pendidikan Awal Kanak-Kanak. Pelajar semester 1 sering menghadapi cabaran dalam memilih tajuk pembentangan yang sesuai akibat kurang pengalaman. Kajian ini bertujuan menilai keupayaan pelajar menggunakan teknologi seperti ChatGPT dalam membantu pemilihan tajuk pengucapan awam dan keberkesanan kanvas pemilihan tajuk yang disokong oleh teknologi AI. Satu Kaji selidik dilakukan ke atas 230 pelajar Program Diploma Pendidikan Awal Kanak-Kanak semester 1 untuk mengetahui pengalaman pelajar sebelum dan selepas menggunakan ChatGPT. Hasil analisis data menunjukkan peningkatan purata skor responden yang bersetuju bahawa penggunaan ChatGPT dapat membantu pelajar dalam pemilihan tajuk pengucapan awam dari 78.02% sebelum penggunaan ChatGPT kepada 84.29% selepas penggunaan ChatGPT. Peratus pertambahan responden yang bersetuju bagi setiap soalan antara 1.61% hingga 47.33% selepas menggunakan ChatGPT. Majoriti pelajar berpendapat bahawa ChatGPT memudahkan mereka memilih tajuk, meningkatkan keyakinan dan persediaan untuk tugasan pengucapan awam. Selain itu, teknologi ini juga membantu meningkatkan kemahiran yang diperlukan dalam pendidikan awal kanak-kanak.Secara keseluruhan, dapatan kajian ini memberi implikasi positif terhadap integrasi teknologi AI dalam pembelajaran, membantu pelajar lebih bersedia menghadapi cabaran dalam pengajaran dan pembelajaran.

Kata kunci: Teknologi AI, ChatGPT, Pengucapan Awam, Pemilihan Tajuk

PENGENALAN

Pengucapan awam merupakan salah satu kemahiran utama yang perlu dikuasai oleh pelajar, kerana kemahiran ini bukan sahaja membantu mereka menyampaikan maklumat dengan jelas dan berkesan, tetapi juga membina keyakinan serta kemahiran komunikasi yang kritikal dalam pelbagai bidang kerjaya. Namun, pelajar yang baru memulakan pengajian sering berhadapan dengan kesukaran dalam memilih tajuk pengucapan awam yang sesuai. Ini mungkin disebabkan oleh kurangnya pengalaman dan pendedahan kepada topik-topik yang relevan.

Dalam konteks ini, integrasi teknologi seperti kecerdasan buatan (AI) boleh memberikan impak positif terhadap proses pembelajaran. Salah satu teknologi yang semakin digunakan dalam bidang pendidikan adalah ChatGPT, yang dapat membantu pelajar dalam pelbagai aspek, termasuk pemilihan tajuk pengucapan awam. Untuk menyokong proses ini, kanvas pemilihan tajuk telah dibangunkan, mengandungi elemen penting seperti minat, rasional pemilihan tajuk, pendengar dan majlis, kandungan utama, struktur ucapan, tajuk cadangan, objektif, alat bantu, bukti dan sumber, serta teknik penyampaian.

Kajian ini bertujuan menilai sejauh mana keberkesanan penggunaan ChatGPT dalam membantu pelajar memilih tajuk pengucapan awam, di samping menilai potensi penggunaan kanvas tersebut yang disokong oleh teknologi AI. Melalui kajian ini, kita dapat memahami bagaimana pelajar memanfaatkan teknologi AI dalam proses pembelajaran mereka, serta melihat potensi teknologi ini untuk meningkatkan kecekapan dan keyakinan pelajar dalam melaksanakan tugas pengucapan awam.

Refleksi Pengajaran dan Pembelajaran

Sebelum penggunaan ChatGPT, pelajar sering mengalami kesukaran dalam memilih tajuk pembentangan yang menarik dan relevan, dengan banyak yang memilih tajuk yang hampir sama dan tidak berkesan. Mereka juga bergantung kepada carian Google untuk mendapatkan maklumat, tetapi hasil carian yang tidak terstruktur sering mengandungi maklumat yang tidak tepat dan terlalu banyak pilihan, menyukarkan mereka dalam membuat keputusan yang tepat. Masalah ini ditambah lagi dengan kesukaran untuk menilai kualiti maklumat dan kesesuaiannya dengan konteks pembentangan. Dalam hal ini, penggunaan kanvas pemilihan tajuk dapat membantu pelajar dengan menyediakan struktur dan panduan yang jelas, membolehkan mereka menilai pelbagai aspek penting dalam memilih tajuk. Dengan integrasi alat seperti ChatGPT dan kanvas pemilihan tajuk, pelajar diharapkan dapat memperbaiki pengalaman pembelajaran mereka dan menghadapi cabaran dalam pengucapan awam dengan lebih berkeyakinan.

Pernyataan Masalah dan Fokus Kajian

Refleksi terhadap pengajaran dan pembelajaran menunjukkan bahawa pelajar sering mengadakan pembentangan dengan tajuk yang tidak menarik, tidak relevan, dan hampir serupa. Keterbatasan variasi tajuk ini menyebabkan pembentangan menjadi kurang berkesan dan tidak memberi impak yang diharapkan. Lebih membimbangkan, isi laporan bertulis yang dihasilkan oleh pelajar sering kali tidak sepadan dengan tajuk yang dipilih, menjadikan proses penilaian lebih mencabar. Keadaan ini menuntut pendekatan yang lebih strategik dan inovatif dalam membimbing pelajar agar dapat memilih tajuk yang lebih sesuai dan menarik.

Fokus kajian ini adalah untuk meneroka keberkesanan teknologi AI, seperti ChatGPT dan kanvas pemilihan tajuk, dalam membantu pelajar memilih tajuk pengucapan awam. Kajian ini bertujuan untuk menilai sejauh mana teknologi ini dapat menyelesaikan masalah pemilihan tajuk yang dihadapi oleh pelajar, serta meningkatkan keyakinan dan kualiti pembentangan mereka. Dengan menyediakan panduan yang lebih terarah, diharapkan pelajar dapat mengintegrasikan teknologi ke dalam proses pembelajaran mereka dengan lebih berkesan, menjadikan mereka lebih bersedia untuk menghadapi cabaran dalam pengucapan awam.

Objektif

1. Menilai keberkesanan teknologi AI, seperti ChatGPT, bersama dengan kanvas pemilihan tajuk dalam membantu pelajar memilih tajuk pengucapan awam yang relevan dan menarik.

2. Menganalisis kesan penggunaan teknologi AI dan kanvas terhadap keyakinan pelajar dalam pemilihan tajuk dan pembentangan.

3. Meneroka bagaimana integrasi teknologi AI dan kanvas pemilihan tajuk dalam pembelajaran dapat memperkasa pelajar menggunakan sumber digital secara efektif dalam pengucapan awam.

METODOLOGI

Intervensi/Strategi Tindakan

Intervensi yang dilaksanakan dalam kajian ini merangkumi beberapa komponen utama. Pertama sekali, penggunaan kanvas pembelajaran diberikan kepada setiap kumpulan pelajar sebagai alat bantu utama. Kanvas ini mengandungi elemen-elemen penting seperti minat, rasional pemilihan tajuk, audiens yang disasarkan, kandungan utama, struktur ucapan, alat bantu, bukti dan sumber, serta teknik penyampaian. Matlamatnya adalah untuk membantu pelajar merangka ucapan mereka dengan lebih tersusun, memberi struktur kepada proses penyediaan dan meningkatkan pemahaman mereka tentang elemen-elemen kritikal dalam penyampaian ucapan.

Selain itu, intervensi juga melibatkan pembekalan e-book yang mengandungi prompt untuk digunakan dengan ChatGPT. Pelajar digalakkan menggunakan e-book ini sebagai panduan untuk berinteraksi dengan ChatGPT dalam mendapatkan cadangan, memperkaya kandungan ucapan, serta menjana idea kreatif. Langkah ini bertujuan meningkatkan kreativiti pelajar, memperluas pengetahuan, dan membantu mereka mengakses maklumat yang relevan secara efektif melalui teknologi kecerdasan buatan. Borang kaji selidik sebelum dan selepas intervensi juga disediakan untuk menilai impak penggunaan kanvas dan ChatGPT terhadap kemahiran pelajar. Borang ini digunakan untuk mengukur perubahan dalam tahap pengetahuan, keyakinan, serta persepsi pelajar terhadap keberkesanan alat bantu yang diberikan.

Kajian tindakan ini menggabungkan beberapa elemen yang bertujuan untuk memperbaiki proses pembelajaran secara berterusan. Reka bentuk kajian tindakan ini berbentuk kitaran, di mana setiap langkah bermula dengan mengenal pasti masalah, melaksanakan intervensi, mengumpulkan data, dan membuat penambahbaikan berdasarkan maklum balas yang diperoleh. Pada permulaan, masalah dikenalpasti, iaitu kelemahan dalam kemahiran penyediaan dan penyampaian ucapan oleh pelajar, seperti kurang keyakinan dan ketidakupayaan mengorganisasi kandungan dengan baik. Setelah masalah dikenalpasti, pelaksanaan intervensi melibatkan penggunaan kanvas pembelajaran dan e-book dengan prompt ChatGPT sebagai alat bantu utama.

Peserta Kajian

Seramai 230 orang pelajar Semester 1 Diploma Pendidikan Awal Kanak-kanak KPTM Kota Bharu

Instrumen/Strategi Penilaian

Borang kaji selidik yang digunakan dalam kajian ini direka khusus untuk mengukur pemahaman dan keberkesanan penggunaan kanvas serta ChatGPT dalam membantu pelajar memilih tajuk pengucapan awam, dengan tumpuan kepada soalan tertutup. Soalan tertutup membolehkan pengkaji mendapatkan data kuantitatif yang jelas dan mudah dianalisis, membolehkan pemahaman yang lebih mendalam tentang pengalaman pelajar. Dengan menyediakan pilihan jawapan yang terstruktur, seperti pilihan "setuju" atau "tidak setuju," serta skala Likert, pengkaji dapat mengenal pasti pola dan trend dalam respons pelajar terhadap keberkesanan penggunaan kanvas dan ChatGPT. Selain itu, borang ini juga termasuk soalan tentang tahap kesukaran yang dihadapi oleh pelajar, kelebihan yang dirasakan, dan aspek yang ingin diperbaiki, yang semuanya membantu dalam memberikan gambaran yang lebih jelas mengenai kesan alat-alat tersebut dalam proses pemilihan tajuk pengucapan awam. Melalui penggunaan soalan tertutup, kajian ini bertujuan untuk menghasilkan data yang konsisten dan boleh diukur, sekaligus menyokong penambahbaikan dalam strategi pengajaran dan pembelajaran di masa hadapan.

Tajuk-tajuk pengucapan awam yang terhasil melalui proses pemilihan menggunakan kanvas dan ChatGPT merupakan komponen penting dalam kajian ini. Tajuk-tajuk ini bukan sahaja mencerminkan minat pelajar, tetapi juga memberikan gambaran tentang topik yang relevan dan berkesan dalam konteks pengucapan awam. Dalam proses pemilihan tajuk, pelajar didorong untuk mempertimbangkan

kepentingan, kesesuaian, dan daya tarik setiap tajuk kepada audiens mereka. Ini membolehkan mereka mengasah kemahiran dalam memilih tema yang dapat menarik perhatian pendengar dan memenuhi objektif pembelajaran.

Tajuk-tajuk ini juga boleh dikelompokkan kepada pelbagai kategori, seperti isu sosial, motivasi, pendidikan, dan teknologi, yang mencerminkan pelbagai perspektif dan pendekatan dalam pengucapan awam. Dengan adanya variasi tajuk, pelajar berpeluang untuk meneroka pelbagai tema, membangunkan kreativiti, serta meningkatkan kemampuan mereka dalam menyampaikan mesej secara berkesan. Analisis tajuk yang terhasil juga dapat membantu pengkaji memahami trend pemikiran pelajar serta isu-isu yang mereka anggap penting untuk dibincangkan. Melalui proses ini, tajuk-tajuk yang dihasilkan bukan hanya menjadi alat untuk pengucapan awam, tetapi juga sebagai sumber inspirasi bagi pelajar dalam menyampaikan pandangan mereka dengan lebih berkesan dan bermakna.

Pelaksanaan Tindakan

Rajah 1: Carta Aliran Metodologi Kajian

Proses ini dimulakan dengan langkah pertama yang merangkumi penetapan objektif, soalan kajian, dan skop penyelidikan, yang memberikan arah yang jelas kepada penyelidikan. Langkah seterusnya, pembentukan kumpulan pelajar, melibatkan penentuan peserta kajian yang akan terlibat dalam penyelidikan ini. Dalam langkah penggunaan kanvas pembelajaran, pelajar diberikan bahan atau kerangka pembelajaran yang berfungsi sebagai panduan, memastikan akses kepada sumber yang diperlukan untuk kajian.

Tahap seterusnya yang penting adalah penggunaan e-Book dengan prompt, di mana pelajar menerima e-Book yang mengandungi kandungan pembelajaran dan panduan untuk menjana tajuk menggunakan ChatGPT sebagai alat bantu dalam proses pendidikan. Untuk mengukur persepsi dan pengetahuan awal

pelajar, Borang Kaji Selidik (Sebelum) dilaksanakan sebelum aktiviti, memberikan gambaran mengenai keadaan awal yang perlu ditingkatkan.

Pelaksanaan aktiviti melibatkan pelaksanaan kaedah yang telah dirancang berdasarkan bahan dan panduan yang disediakan. Setelah aktiviti dilaksanakan, maklum balas daripada pelajar dikumpulkan melalui borang kaji selidik (Selepas) untuk menilai keberkesanan aktiviti serta penggunaan e-Book dan ChatGPT, yang merupakan elemen penting dalam memperoleh perspektif peserta. Data yang diperoleh daripada kedua-dua borang kaji selidik ini kemudiannya dianalisis dalam proses Analisis data untuk menilai keberkesanan intervensi yang telah dilaksanakan.

Akhirnya, hasil kajian dirumuskan dan kesimpulan serta cadangan penambahbaikan disediakan berdasarkan analisis yang telah dilakukan, yang merupakan langkah penutup dalam proses kajian tindakan. Keseluruhan proses ini mencerminkan pendekatan yang sistematik dan berfokus kepada penilaian sebelum dan selepas intervensi, yang amat penting dalam mengukur impak kajian terhadap kumpulan peserta.

DAPATAN KAJIAN

Jadual 1 : skala Likert 1 hingga 5

Pilihan Jawapan	1	2	3	4	5
Petunjuk	Sangat tidak setuju	Tidak setuju	Berkecuali	Setuju	Sangat setuju

Jadual 2 : Dapatan daripada soal selidik sebelum dan selepas penggunaan ChatGPT

SOALAN	SEBELUM PENGGUNAAN ChatGPT	SELEPAS PENGGUNAAN ChatGPT	PERATUS PERTAMBAHAN RESPONDEN YANG BERSETUJU
	PURATA JAWAPAN RESPONDEN/MIN	PURATA JAWAPAN RESPONDEN/MIN	
1. Saya mempunyai pengetahuan yang mencukupi tentang pengucapan awam.	3.60	3.77	4.72
2.Saya pernah menggunakan alat Teknologi Buatan (AI) seperti ChatGPT dalam	3.00	4.42	47.33

memilih tajuk pengucapan awam.			
3. Saya yakin dengan kemahiran teknologi saya.	3.53	3.84	8.78
4. Saya percaya alat Teknologi Buatan (AI) seperti ChatGPT boleh membantu memudahkan pemilihan tajuk.	4.36	4.43	1.61
5. Saya yakin dengan kebolehan saya dalam menjalankan penyelidikan untuk memilih tajuk	3.73	3.86	3.49
6. Kanvas dan ChatGPT lebih berkesan daripada kaedah tradisional dalam pemilihan tajuk.	3.90	4.16	6.67
7. Saya mendapati ChatGPT mudah digunakan	4.30	4.48	4.19
8. Saya bersedia menggunakan teknologi seperti kanvas dan ChatGPT untuk membantu memilih tajuk	4.31	4.40	2.09
9. Saya akan mengesyorkan penggunaan kanvas dan ChatGPT kepada rakan lain.	4.39	4.56	3.87
Purata skor dalam peratusan bagi semua jawapan responden	78.02	84.29	8.04

ANALISA DAN DAPATAN KAJIAN

Kajian ini melibatkan 230 orang pelajar KPTM Kota Bharu yang dikehendaki menjawab soal selidik melalui *Google Form* dengan 9 soalan yang menggunakan skala pilihan jawapan dari 1 hingga 5, seperti yang dinyatakan dalam Jadual 1. Kajian ini bertujuan untuk menilai kesan penggunaan ChatGPT dalam kalangan pelajar, khususnya dalam membantu mereka memilih tajuk pengucapan awam. Data dianalisis dalam dua keadaan, iaitu sebelum dan selepas penggunaan ChatGPT.

Hasil analisis sebelum penggunaan ChatGPT menunjukkan purata jawapan responden berada dalam julat 3.00 hingga 4.39, yang menggambarkan tahap persetujuan sederhana hingga tinggi terhadap soalan yang diajukan. Walau bagaimanapun, selepas penggunaan ChatGPT, purata jawapan meningkat kepada julat 3.77 hingga 4.56. Ini menunjukkan terdapat peningkatan yang jelas dalam tahap persetujuan responden terhadap keberkesanan ChatGPT dalam membantu mereka.

Dari segi statistik, peratusan peningkatan responden yang bersetuju dengan setiap soalan sebelum dan selepas penggunaan ChatGPT dalam julat antara 1.61% hingga 47.33% (rujuk Jadual 2). Purata skor peratusan yang bersetuju juga meningkat daripada 78.02% sebelum penggunaan ChatGPT kepada 84.29% selepas penggunaannya. Ini menunjukkan kesan positif penggunaan ChatGPT terhadap pelajar dalam konteks pengajaran dan pembelajaran, terutama dalam membantu mereka memilih tajuk pengucapan awam yang lebih sesuai dan relevan.

Penambahbaikan jelas disebabkan oleh kemampuan ChatGPT untuk menyediakan pelbagai cadangan tajuk yang lebih relevan dan berfokus kepada minat pelajar, selain menyediakan rangkaian idea serta bahan rujukan yang lebih mudah diakses dan difahami. Penggunaan kanvas sebagai platform untuk pelajar menyusun idea dan ChatGPT sebagai alat sokongan intelektual telah meningkatkan keupayaan mereka untuk membuat keputusan yang lebih baik dan berasaskan maklumat.

Secara keseluruhannya, penggunaan ChatGPT dalam konteks pembelajaran dan pemilihan tajuk pengucapan awam telah memberikan kesan yang signifikan kepada peningkatan kualiti pembelajaran pelajar, dengan menyokong kreativiti, pemahaman, dan kemampuan untuk berfikir secara kritis.

ANALISA DARIPADA SENARAI TAJUK

1. Kesihatan dan Kesejahteraan:
   - Menabung untuk masa depan: strategi kewangan bijak dalam era ketidakpastian
   - Peranan keluarga dalam menangani kesihatan mental remaja
   - Kesan pandemik terhadap pendidikan
   - Kesan pencemaran udara terhadap kesihatan awam dan cara mengatasinya
   - Peranan tidur dalam kesihatan mental dan fizikal
   - Makanan seimbang dalam era makanan segera
   - Kesan pemakanan sihat terhadap kesejahteraan mental dan fizikal
   - Sukan dan kesejahteraan mental

2. Budaya dan Tradisi:
   - Evolusi pakaian tradisional: dari zaman silam ke masa kini
   - Makanan tradisional sebagai identiti budaya
   - Mengekalkan warisan seni tradisional di era digital
   - Tarian Sumazau Sabah
   - Dikir Barat

- Permainan tradisional dan perkembangan kanak-kanak

3. Sukan dan Aktiviti Fizikal:
   - Kepentingan sukan badminton dalam membina masyarakat yang sihat dan bersatu
   - Peranan sukan dalam menyatukan komuniti
   - Sukan dan pandemik: cabaran dan peluang

4. Isu Sosial dan Kesedaran:
   - Jenayah seksual kanak-kanak: kesedaran dan langkah pencegahan
   - Jenayah keganasan rumah tangga
   - Penyalahgunaan dadah: implikasi sosial dan ekonomi
   - Pengangguran di kalangan anak muda
   - Peranan guru dan rakan sebaya dalam mencegah buli di sekolah
5. Media dan Teknologi:
   - Pengaruh drama Korea terhadap budaya dan gaya hidup remaja
   - Membangun diri dan kejayaan di dunia yang dikuasai oleh sosial media
   - Peranan media sosial dalam mempercepatkan trend fesyen
   - Kesan media sosial terhadap kesihatan mental remaja

6. Pendidikan dan Komuniti:
   - Peranan kelab buku dalam memupuk minat membaca
   - Peranan keluarga dalam menyokong kesihatan mental anak-anak
   - Peranan guru dan rakan sebaya dalam mencegah buli di sekolah

7. Alam Sekitar dan Pelancongan:
   - Kesan perubahan iklim terhadap destinasi pelancongan popular
   - Menggalakkan pelancongan domestik dan membangunkan destinasi tempatan untuk pertumbuhan ekonomi
   - Perancangan percutian keluarga di Cameron Highland
   - Bencana alam dan kesan terhadap komuniti

Tajuk-tajuk ini disusun mengikut kategori berdasarkan tema utama yang mereka wakili.

PERBINCANGAN

Analisis soal selidik menunjukkan peningkatan yang signifikan dalam persepsi pelajar mengenai keberkesanan penggunaan kanvas dan ChatGPT dalam pengucapan awam. Skor purata kepuasan pelajar yang meningkat dari 60% hingga 70% sebelum penggunaan kepada 80% hingga 90% selepas penggunaan menunjukkan bahawa alat-alat ini memberikan impak positif terhadap keyakinan dan persediaan pelajar dalam tugasan pengucapan awam.

Peningkatan ini selari dengan kajian yang menunjukkan bahawa pendekatan visual dan interaktif dalam pembelajaran dapat meningkatkan keterlibatan dan pemahaman pelajar (Gulbahar & Almazroi, 2020). Kanvas sebagai alat bantu visual membolehkan pelajar menyusun dan menguruskan idea mereka dengan lebih sistematik, yang merupakan faktor penting dalam pembelajaran yang berkesan (Hwang & Chang, 2021). Melalui struktur yang jelas, pelajar dapat mengenal pasti dan menyampaikan maklumat dengan lebih teratur, meningkatkan kualiti penyampaian mereka.

Sementara itu, penggunaan ChatGPT sebagai alat sokongan akademik memberikan akses kepada maklumat yang relevan dan penjelasan yang mendalam. Pelajar melaporkan bahawa ChatGPT membantu mereka dengan menyediakan idea-idea tambahan dan memperkaya kandungan ucapan mereka. Ini adalah selaras dengan kajian yang menunjukkan bahawa teknologi AI seperti chatbot dapat memperbaiki pengalaman pembelajaran dan menyokong pencapaian akademik (Zhou et al., 2022).

Keseluruhan dapatan menunjukkan bahawa pengintegrasian kanvas dan ChatGPT dalam pembelajaran bukan sahaja meningkatkan persepsi pelajar terhadap kemahiran pengucapan awam tetapi juga memperkukuhkan kemahiran teknologi yang diperlukan dalam pendidikan awal kanak-kanak. Ini menandakan bahawa penggunaan teknologi dalam pendidikan boleh mempersiapkan pelajar dengan kemahiran yang relevan untuk menghadapi cabaran di masa hadapan.

Tajuk-tajuk yang disenaraikan dalam pembentangan adalah menarik dan relevan dengan isu semasa. Dalam kategori Kesihatan dan Kesejahteraan, tajuk seperti "Menabung untuk masa depan: strategi kewangan bijak dalam era ketidakpastian" sangat relevan dalam konteks ekonomi global yang tidak menentu akibat inflasi dan kesan pandemik. Menurut satu kajian oleh Mohd Fadli et al. (2021), strategi kewangan yang bijak amat diperlukan untuk memastikan kestabilan kewangan jangka panjang dalam masyarakat. Seterusnya, tajuk tentang "Peranan tidur dalam kesihatan mental dan fizikal" mencerminkan peningkatan kesedaran mengenai isu kesihatan mental. Tidur yang mencukupi dapat meningkatkan kesejahteraan mental, seperti yang dibuktikan oleh Rahman et al. (2020), yang menunjukkan hubungan positif antara kualiti tidur dan kesihatan mental di kalangan pelajar . Tajuk "Makanan seimbang dalam era makanan segera" juga menjadi kritikal dalam menekankan kepentingan pemakanan sihat, terutama dalam masyarakat yang terdedah kepada budaya makanan segera (Zainudin, 2019).

Dalam kategori Budaya dan Tradisi, tajuk "Evolusi pakaian tradisional: dari zaman silam ke masa kini" menarik perhatian kerana ia menggabungkan elemen sejarah dan budaya. Menurut Hashim (2018), pemeliharaan pakaian tradisional penting dalam mengekalkan identiti budaya, terutamanya dalam era globalisasi. Tajuk "Mengekalkan warisan seni tradisional di era digital" juga relevan, memandangkan kemajuan teknologi yang pesat. Latif et al. (2020) menggariskan bagaimana teknologi dapat digunakan untuk melestarikan seni tradisional, dengan menyatakan bahawa platform digital membantu mengabadikan warisan budaya.

Dalam bidang Sukan dan Aktiviti Fizikal, tajuk "Sukan dan kesejahteraan mental" menonjolkan kesedaran tentang pentingnya aktiviti fizikal dalam mengatasi tekanan mental, terutama dalam konteks dunia yang sibuk. Kajian oleh Mohd Azhar et al. (2021) menunjukkan bahawa sukan boleh meningkatkan kesejahteraan mental, terutama dalam kalangan remaja.

Sementara itu, dalam kategori Isu Sosial dan Kesedaran, tajuk "Jenayah seksual kanak-kanak: kesedaran dan langkah pencegahan" adalah isu mendesak yang memerlukan perhatian. UNICEF Malaysia (2021) menekankan bahawa kesedaran masyarakat adalah kunci dalam menangani jenayah ini. Selain itu, tajuk "Penyalahgunaan dadah: implikasi sosial dan ekonomi" tetap relevan dalam banyak negara, termasuk Malaysia, dengan kesan jangka panjang terhadap kesejahteraan sosial (Mohamad, 2020).

Dalam aspek Media dan Teknologi, tajuk "Pengaruh drama Korea terhadap budaya dan gaya hidup remaja" menunjukkan bagaimana media luar mempengaruhi generasi muda di Malaysia. Menurut Zahari et al. (2022), gelombang Hallyu memberikan impak besar ke atas gaya hidup remaja Malaysia (Mendeley). Tajuk "Peranan media sosial dalam mempercepatkan trend fesyen" juga mencerminkan realiti semasa di mana media sosial mempengaruhi pilihan fesyen dalam kalangan generasi muda (Ahmad, 2021).

Dalam kategori Pendidikan dan Komuniti, tajuk "Peranan kelab buku dalam memupuk minat membaca" sesuai untuk meningkatkan literasi dalam masyarakat, terutama dalam era digital yang lebih menumpukan kepada media visual. Menurut Lai (2020), kelab buku berperanan penting dalam memupuk minat membaca di kalangan pelajar di Malaysia.

Akhirnya, dalam aspek Alam Sekitar dan Pelancongan, tajuk "Kesan perubahan iklim terhadap destinasi pelancongan popular" adalah isu global yang penting. IPCC (2021) menunjukkan bahawa perubahan iklim memberi kesan kepada sektor pelancongan, mengurangkan daya tarikan destinasi pelancongan di seluruh dunia. Ini amat relevan di Malaysia yang bergantung kepada pelancongan sebagai sumber pendapatan utama (Azman, 2021).

Secara keseluruhan, tajuk-tajuk ini menggambarkan isu semasa yang mendalam dan berimpak. Mereka tidak hanya mengandungi elemen praktikal yang bermanfaat untuk masyarakat, tetapi juga merangsang perbincangan yang lebih luas mengenai cabaran dan peluang yang dihadapi oleh masyarakat kita.

REFLEKSI

Refleksi kajian ini menunjukkan bahawa intervensi yang menggunakan kanvas pembelajaran dan teknologi ChatGPT berjaya meningkatkan kemahiran dan keyakinan pelajar dalam memilih tajuk, menyediakan, dan menyampaikan ucapan. Penggunaan kanvas membantu pelajar merangka ucapan secara lebih teratur, manakala e-book dengan prompt ChatGPT memberikan inspirasi dan memperkayakan kandungan mereka. Walaupun demikian, terdapat beberapa pelajar yang menghadapi kesukaran memahami cara menggunakan prompt dengan berkesan untuk mendapatkan hasil yang diinginkan, di samping kerumitan elemen-elemen dalam kanvas yang menyebabkan kekeliruan. Ini menunjukkan perlunya bimbingan tambahan dalam penggunaan teknologi dan penyesuaian elemen kanvas agar lebih mesra pengguna.

Pelaksanaan kajian tindakan ini juga memberikan peluang untuk memperbaiki amalan pengajaran secara berterusan. Borang kaji selidik sebelum dan selepas intervensi membolehkan penyelidik mengenal pasti perubahan dalam kemahiran pelajar dan menunjukkan keperluan untuk terus memperhalusi pendekatan ini. Pengajaran penting daripada kajian ini adalah bahawa integrasi teknologi, jika diberikan bimbingan yang mencukupi, dapat meningkatkan motivasi dan kreativiti pelajar.

Cadangan/Penambahbaikan

Cadangan penambahbaikan termasuk menyediakan latihan penggunaan teknologi AI secara lebih mendalam dan terperinci, dengan penekanan khusus kepada latihan penggunaan prompt yang betul bagi memastikan pelajar dapat memperoleh hasil yang lebih relevan dan berkualiti tinggi. Langkah ini bertujuan untuk membantu pelajar memahami cara memanfaatkan sepenuhnya alat ini untuk tujuan pembelajaran mereka. Selain itu, elemen-elemen dalam kanvas perlu disederhanakan dan disusun semula agar lebih mudah difahami, tanpa mengurangkan keberkesanan rangka kerja pembelajaran yang ingin dicapai. Bimbingan dan sokongan berterusan juga perlu diberikan untuk memastikan setiap pelajar, tanpa mengira tahap penguasaan teknologi mereka, mampu memanfaatkan intervensi ini secara optimum. Dengan penambahbaikan ini, keberkesanan intervensi diharapkan akan lebih tinggi, seterusnya memperkayakan pengalaman pembelajaran pelajar dan melahirkan individu yang lebih berkeyakinan serta berdaya kreatif dalam proses pembelajaran mereka.

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PENGUASAAN DALAM PENYEDIAAN PENYATA KEWANGAN MELALUI SIMULASI PERAKAUNAN

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ABSTRAK

Kajian ini susulan daripada kajian tindakan berkenaan penggunaan kaedah simulasi perakaunan dalam penyediaan penyata kewangan untuk kursus Perakaunan Kewangan 1. Kesukaran pelajar dalam menyediakan penyata kewangan dalam subjek perakaunan kewangan berpunca daripada kesukaran membayangkan situasi sebenar proses kitaran perakaunan berlaku secara praktikal. Penggunaan teknologi dijadikan salah satu elemen interaktif dalam pengajaran dan pembelajaran (PdP) ke arah memenuhi keperluan pembelajaran abad ke- 21 iaitu satu proses pembelajaran berpusatkan pelajar. Satu usaha ke arah penghasilan pelajar yang memenuhi keperluan alam pekerjaan pada era Revolusi Industri 4.0 (IR 4.0) dengan menerapkan kemahiran teknikal amat digalakkan. Oleh itu, inisiatif bagi menambahbaik PdP kursus perakaunan di Kolej Profesional MARA Ayer Molek kepada bercorak interaktif dengan menggunakan pendekatan 'blended learning' iaitu melalui kaedah simulasi perakaunan dalam penyediaan penyata kewangan telah dijalankan. Program aplikasi Microsoft Excel dipilih dalam simulasi perakaunan bagi membolehkan pelajar menyediakan penyata kewangan dengan berpandu kepada proses kitaran perakaunan. Tujuan kajian ini dilaksanakan bagi meningkatkan kefahaman kitaran perakaunan di kalangan pelajar dengan menggunakan kaedah simulasi perakaunan. Kajian ini dijalankan dengan melibatkan 63 orang responden yang terdiri daripada pelajar semester 6 sesi 1 2024/2025 yang sedang mengambil kursus 'Computerised Accounting'. Justeru itu, kajian ini dilaksanakan melalui kaedah tinjauan dengan menggunakan kaedah pemerhatian dan borang soal selidik skala likert lima pilihan. Hasil analisis dapatan kajian menunjukkan pelajar boleh menyediakan penyata kewangan yang lengkap berpandukan proses kitaran perakaunan untuk suatu tempoh masa perakaunan bermula dengan penyediaan dokumen perniagaan melalui simulasi perakaunan.

***Kata Kunci**: Simulasi Perakaunan, Subjek Perakaunan, Penyata Kewangan, Computerised Accounting*

PENGENALAN

Salah satu program yang ditawarkan di Kolej Profesional MARA Ayer Molek adalah Diploma Perakaunan yang telah mendapat pengiktirafan dari Agensi Kelayakan Malaysia (*Malaysian Qualifications Agency, MQA*). Salah satu kursus yang ditawarkan dalam program ini adalah Perakaunan Berkomputer *(Computerised Accounting, CA/ACC 2663*) pada tahun kedua pengajian kepada pelajar semester 6 sebagai proses pendedahan kepada pelajar tentang penggunaan aplikasi *Microsoft Excel bagi menyediakan pelaporan perakaunan kewangan yang lengkap*. Kandungan kursus CA/ACC 2663 merangkumi proses perakaunan secara umum dalam menyediakan rekod syarikat, menyediakan jurnal dan lejar, merekod urusniaga, meringkaskan maklumat dan menghasilkan laporan kewangan lengkap untuk pengurus perniagaan membuat keputusan. Para pelajar bukan baharu menerokai kursus berkomputer pada semester 6 tetapi telah diperkenalkan ketika semester 1 yang melibatkan pembelajaran asas berkomputer iaitu tentang *Microsoft Excel, Microsoft Word, Microsoft powerpoint* dan lain-lain. Hal ini secara tidak langsung membantu pelajar dalam mengetahui perisian berkomputer dari awal semester dan membolehkan pelajar tidak kekok dalam penggunaan komputer dalam kursus *Computerised Accounting kelak.*

Penguasaan pelajar dalam kandungan kursus sangat penting kerana ia akan memberi kesan kepada pencapaian hasil pembelajaran pada akhir semester. Justeru, proses pengajaran dan pembelajaran (PdP) yang berkesan dengan menggunakan pendekatan kaedah *'blended learning'* sebagai bahan pengajaran interaktif ke arah pembelajaran sepanjang hayat adalah sangat digalakkan. Hal ini disebabkan oleh, transformasi sistem pendidikan konvensional kepada sistem pendidikan digital yang seiring dengan era Revolusi Industri 4.0 (IR 4.0) yang memberi cabaran dalam semua aspek proses pengajaran dan pembelajaran (PdP), alat bantu mengajar dan teknik pengajaran yang digunakan. Gittings et al. (2020) menyatakan amalan pengajaran yang berkesan membawa kepada peningkatan sikap dan kepuasan pelajar terhadap pembelajaran seterusnya kefahaman pelajar tentang pengetahuan teknikal terhadap konsep dan teori yang dapat diaplikasikan melalui aktiviti pembelajaran melalui pengalaman. Perkara ini juga turut dinyatakan dalam kajian Othman & Annuar (2020) yang menunjukkan keputusan analisa minat pelajar terhadap kursus perakaunan dan pemahaman pelajar boleh ditingkatkan dengan menggunakan kaedah penyampaian yang lebih mudah difahami oleh pelajar.

Bukan itu sahaja, pembelajaran kini yang mementingkan kemahiran teknikal dalam pendekatan pembelajaran melalui pengalaman juga amat digalakkan. Hasil daripada variasi kaedah pengajaran dan pembelajaran (PdP) yang dijalankan dapat membantu pelajar dalam '*real world skill*' dan berkemampuan menyelesaikan masalah. Butler et al. (2019) juga amat menekankan pembelajaran melalui pengalaman dalam pembangunan kemahiran berfikir, mahir dalam penyelesaian masalah dan boleh mengendalikan isu kompleks dalam amalan perakaunan. Hal ini juga dinyatakan dalam kajian Palatnik dan Previti (2019), mentakrifkan pembelajaran melalui pengalaman sebagai "*development and application of knowledge, skills and values from direct experiences outside of a traditional academic setting*". Ini merujuk kepada definisi pembelajaran berasaskan pengalaman merupakan satu proses pembelajaran yang memberi satu manfaat kepada peningkatan dari segi semua aspek dalam diri pelajar.

Seiring dengan perubahan tersebut, pengajar juga perlu menggalakkan pembelajaran berpusatkan pelajar dan kaedah '*chalk and talk*' bukan lagi kaedah yang bersesuaian pada era pendidikan masa kini. Pendekatan pembelajaran berpusatkan pelajar ini menitikberatkan pada peranan aktif pelajar sepanjang sesi pengajaran dan pembelajaran (PdP) di dalam kelas mahupun tugasan di luar kelas. Kajian oleh Johnson et al. (2020) dan Yahaya et al. (2019) menunjukkan bahawa penggunaan pendekatan berpusatkan pelajar (*student-centred*), seperti penggunaan kajian kes dan permainan peranan, dapat meningkatkan pemahaman konsep kitaran perakaunan dan memotivasikan pelajar untuk terlibat secara aktif dalam pembelajaran abad ke-21 (PAK21) yang bukan sahaja merujuk kepada penggunaan gajet, perkakasan dan perisian terkini teknologi tetapi sebenarnya bagaimana pengajar menggalakkan penglibatan pelajar dalam proses pengajaran serta penekanan elemen kemahiran berfikir aras tinggi (KBAT). Perkara ini selaras dengan hasrat yang ingin dicapai dalam Pelan Pembangunan Pendidikan Malaysia 2013-2025, iaitu pengajaran yang berkesan selari dengan keperluan abad ke-21, bukan sahaja dapat menambah pengetahuan dan kemahiran dalam diri mereka, malah pelajar akan berpelakuan lebih positif (Ahmad et al., 2019).

Justeru itu, satu inisiatif sebagai langkah awal dengan pemilihan aplikasi Microsoft Excel dalam mewujudkan simulasi perakaunan yang digunakan sebagai salah satu alat pengajaran dan pembelajaran untuk menyediakan penyata kewangan lengkap dengan berpandukan kepada kitaran perakaunan yang bermula dari dokumen perniagaan sehingga penyata kewangan iaitu Penyata Untung Rugi *(Statement of Profit or Loss)* dan Penyata Kedudukan Kewangan *(Statement of Financial Position)*. Galakan kepada penggunaan teknologi dalam pengajaran dan pembelajaran (PdP) bagi subjek perakaunan amat disokong oleh semua pihak. Ini dinyatakan dalam kajian yang dijalankan oleh Chen et al. (2021), mengkaji kesan penggunaan simulasi komputer dalam pengajaran kitaran perakaunan dan mendapati bahawa penggunaan teknologi ini dapat memberikan pengalaman praktikal kepada pelajar dan meningkatkan pemahaman konsep yang rumit. Hal ini disebabkan oleh, penggunaan teknologi dalam pendidikan menjadi keperluan dalam menerapkan kemahiran teknikal dalam kalangan pelajar. Idea dalam membentuk sebuah simulasi seperti Sistem Perakaunan Berkomputer UBS dan SQL telah diperkenalkan melalui kaedah Simulasi Perakaunan agar dapat mencari penyelesaian masalah yang dihadapi dan seterusnya mempraktikkan konsep tersebut dengan berkesan.

Refleksi Pengajaran Dan Pembelajaran

Kemasukan pelajar ke Kolej Profesional MARA Ayer Molek bagi Program Diploma Perakaunan (Diploma in Accounting) bukan sahaja terdiri daripada pelajar yang mempunyai pengetahuan asas dalam perakaunan, tetapi ia adalah berdasarkan kelayakan akademik yang telah ditetapkan oleh Agensi Kelayakan Malaysia (MQA). Berdasarkan Buku Panduan Akademik oleh Bahagian Pendidikan Tinggi MARA (2023), calon yang mendaftar perlu mendapat sekurang-kurangnya kepujian dalam tiga subjek, iaitu Bahasa Melayu, Matematik dan satu subjek lain serta lulus dengan gred D dalam Bahasa Inggeris. Pelajar yang mendapat gred D perlu memohon Program Intensif Bahasa Inggeris (IEP) dan wajib lulus sekurang-kurangnya gred C bagi melayakkan mereka untuk memohon masuk ke Program Diploma Perakaunan Kolej Profesional MARA. Selain itu, keutamaan akan diberikan kepada calon yang memperolehi gred C dalam subjek Bahasa Inggeris.

Kepelbagaian latar belakang pendidikan pelajar yang mendaftar menyebabkan kursus perakaunan dianggap sukar walaupun belum dipelajari, ditambah lagi dengan pandangan sesetengah pihak yang meletakkan persepsi negatif terhadap kursus dalam program diploma perakaunan. Bagi pelajar yang lemah, pandangan ini adalah lumrah dalam memahami sesuatu perkara yang baharu. Perkara ini tidak dinafikan dengan merujuk kepada kandungan silibus kursus FA1 sebagai contoh, yang mana merangkumi enam tajuk iaitu *Introduction to Accounting, Accounting Equation, The Recording Process, Adjustments on Revenues and Expenses, Financial Statements after Adjustment* dan *Bank Reconciliation*. Namun, tanggapan tersebut perlu diubah bermula dari peringkat awal bagi menjadikan pelajar perakaunan mempunyai minat terhadap subjek perakaunan dan seterusnya berjaya mencapai keputusan yang cemerlang. Perkara ini ditegaskan oleh Rakow (2019) tentang peranan utama pendidikan bagi menyediakan pelajar untuk berjaya dalam bidang yang dipilih. Kajian yang dijalankan oleh Ahmad & Azman (2020) pula menyatakan bahawa amalan pengajaran pengajar juga memainkan peranan dalam peningkatan kualiti pengajaran bergantung kepada kompetensi seorang guru dalam memastikan keberkesanan pendidikan dengan menggunakan pelbagai kaedah dan pendekatan pengajaran yang berkualiti serta bersesuaian dengan tahap pelajar.

Sehubungan itu, semua kandungan silibus subjek ini perlu didalami oleh pelajar dalam masa 12 minggu akademik iaitu menyamai satu semester. Salah satu tajuk yang diberi perhatian adalah *The Recording Process*, yang mana tajuk ini melibatkan penyediaan imbangan duga dan penyata kewangan daripada maklumat atau sumber dokumen yang diberi disamping menggunakan '*relative cell referencing*'. Kebanyakan pelajar menghadapi kesukaran mengenal pasti sumber dokumen yang betul kerana terdapat kepelbagaian format atau tiada piawaian yang spesifik dalam penyediaan sesuatu sumber dokumen seterusnya menyukarkan pelajar untuk mengenal pasti piawaian dokumen yang boleh diguna pakai. Secara praktikal, pengajaran yang berkesan kebiasaannya menggunakan dokumen sebenar bagi membolehkan pelajar menghubungkait apa yang dipelajari di dalam kelas dengan dunia sebenar, hal ini selari dengan kajian Brown (2019) yang menggariskan betapa pentingnya memberikan contoh-contoh realiti dalam pengajaran, seperti menghubungkan kitaran perakaunan dengan transaksi harian dalam perniagaan sebenar.

Galakan yang diberikan kepada pelajar untuk mengakses dokumen perniagaan melalui internet bukan sesuatu yang mudah kerana terdapat pelbagai format dokumen yang boleh diperolehi daripada sumber yang berlainan. Masalah ini timbul apabila pelajar hanya bergantung kepada hasil carian tetapi tidak mengaplikasikan pengetahuan dalam merekod urusniaga. Razak (2022) menegaskan bahawa kesilapan dalam merekodkan maklumat akan menyebabkan penyata kewangan yang disediakan tidak tepat dan benar seterusnya menjejaskan kesahihan rekod kewangan sesuatu perniagaan. Ini dapat dibuktikan melalui keputusan tugasan FA 1 pada sesi 1 2023/2024 yang menunjukkan terdapat dua kumpulan telah mendapat markah sederhana iaitu 15.50% dan 15.32% daripada keseluruhan markah sebanyak 20% kerana kurang penguasaan dalam mengenal pasti dokumen perniagaan yang diberikan, memindahkan maklumat ke Buku Catatan Pertama, Buku Tunai dan mengepos ke Lejar, Imbangan Duga dan Penyata Kewangan. Topik ini selalunya dijadikan topik pengenalan kepada para pelajar yang baru mengikuti

kursus perakaunan di peringkat diploma, matrikulasi atau program yang ditawarkan di universiti dan kolej sebagai pengenalan kepada subjek asas Perakaunan Kewangan.

Tambahan lagi, berdasarkan Laporan Peperiksaan Sijil Tinggi Persekolahan Malaysia (STPM) dan Malaysian University English Test (MUET) bagi tahun 2021, yang merujuk kepada subjek perakaunan telah menunjukkan seramai 2,200 calon menduduki peperiksaan bagi mata pelajaran perakaunan dan 60.33% daripadanya telah mendapat lulus penuh. Secara umumnya, komen yang dinyatakan adalah mutu jawapan calon secara keseluruhannya adalah memuaskan. Masalah utama calon yang dikenal pasti dalam kertas 1, ialah calon tidak dapat menghitung pelarasan asas, penyediaan penyata pendapatan dan penyata kedudukan kewangan, pengelasan liabiliti, serta kemahiran menyediakan catatan jurnal pelarasan. Jika catatan jurnal iaitu proses kedua dalam kitaran perakaunan tidak dapat disediakan dengan lengkap oleh pelajar, hatta begitu juga dalam penyediaan penyata kewangan (pelaporan kewangan). Manakala, pelajar Diploma Akauntansi di Politeknik Hulu Terengganu juga menghadapi masalah membezakan penggunaan dan kedudukan debit dan kredit kerana keputusan penilaian berterusan pada awal semester kurang memuaskan terutama pada topik sistem catatan bergu (Othman & Annuar., 2020).

Perkara ini jelas menunjukkan penguasaan pelajar dalam topik yang berkaitan tidak menepati apa yang diingini dalam objektif pembelajaran. Punca daripada masalah ini, disebabkan pemahaman prinsip dan konsep amat penting terutamanya dalam bahagian asas, kerana asas yang tidak kukuh akan berpotensi memberikan masalah kepada proses pembelajaran akan datang. Dalam pembentukan asas yang kukuh, peranan guru amat penting dalam menyediakan kaedah dan pendekatan yang sesuai yang dapat membina pemahaman yang kukuh dalam kalangan pelajar (Fadzillah & Bahari, 2019). Jadi, masa mengajar tajuk ini memerlukan sekurang-kurangnya 8 jam, yang mana ia tidak mencukupi untuk melengkapkan satu kitaran perakaunan jika proses pengajaran dan pembelajaran (PdP) yang dijalankan masih menggunakan kaedah manual (bertulis) atau tradisional. Kaedah ini bukan sahaja tidak praktikal pada masa kini malah tidak digemari oleh pelajar kerana mereka tidak dapat mengimbas kembali apa yang ditulis di papan putih dan memerlukan mereka menggunakan kertas kajang yang banyak. Bukan itu sahaja, masa untuk menyediakan rangka atau format Buku Catatan Pertama, Lejar, Imbangan Duga dan Penyata Kewangan memerlukan masa penyediaan.

Pernyataan Masalah Dan Fokus Kajian

Berdasarkan dapatan yang diperolehi daripada maklumbalas pelajar terhadap subjek Perakaunan Kewangan 1 (*Financial Accounting 1*), iaitu pelajar semester 1 sesi 3 2022/2023 menunjukkan sebanyak 9.1% pelajar menghadapi kesukaran untuk memahami dan menguasai tajuk-tajuk tertentu dalam kursus Perakaunan Kewangan 1. Data ini juga menunjukkan 9.1% pelajar ini adalah terdiri daripada 22.7% pelajar yang tidak mempunyai ilmu asas dalam kursus Perakaunan. Manakala, sebanyak 45.5% pelajar menjawab mungkin menghadapi kesukaran untuk memahami dan menguasai tajuk-tajuk tertentu dalam kursus tersebut. Data ini diambil setelah pelajar telah mempelajari sehingga tajuk *The Recording Process*, yang mana melibatkan satu kitaran perakaunan. Masalah ini berpunca daripada pelajar sukar membayangkan situasi sebenar proses kitaran perakaunan berlaku secara praktikal. Pembelajaran yang berlaku berpandukan sumber dokumen dan maklumat yang terdapat di dalam buku dan bukan melalui praktikal.

Budaya menghafal dalam kalangan pelajar tanpa memahami konsep penyediaan penyata kewangan juga merupakan masalah yang dapat dikenalpasti daripada refleksi pengajaran dan pembelajaran. Pelajar lebih gemar menghafal berbanding memahami konsep penyediaan penyata kewangan menyebabkan mereka perlu banyak menghafal konsep dan format penyata kewangan. Hal ini membawa kepada kesilapan yang sering dilakukan pelajar dengan merekod pada kedudukan yang salah, tidak dapat mengenalpasti kelas akaun yang betul dan tidak dapat menentukan kedudukan debit dan kredit yang betul bagi setiap akaun yang terlibat. Ini membawa kepada pelaporan kewangan yang tidak lengkap dan mempunyai kesilapan merekod serta kesilapan pengiraan.

Objektif Dan Soalan Kajian

Objektif kajian dilaksanakan adalah untuk meningkatkan kefahaman kitaran perakaunan di kalangan pelajar dengan penggunaan simulasi perakaunan. Selepas aplikasi simulasi perakaunan dihasilkan, kajian ini dilaksanakan untuk :

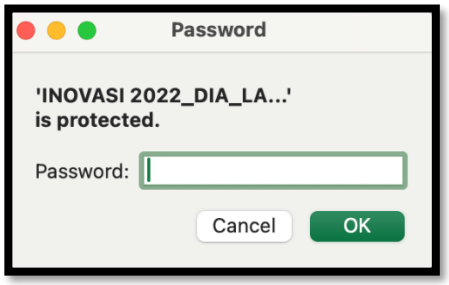
1. Memudahkan pelajar mengenal pasti dan memberi gambaran situasi sebenar mengenai dokumen perniagaan dan penyediaan penyata kewangan/pelaporan kewangan.
2. Memperbaiki amalan pengajaran pensyarah agar proses pengajaran dan pembelajaran dilakukan dengan lebih berkesan dan menyeronokkan.

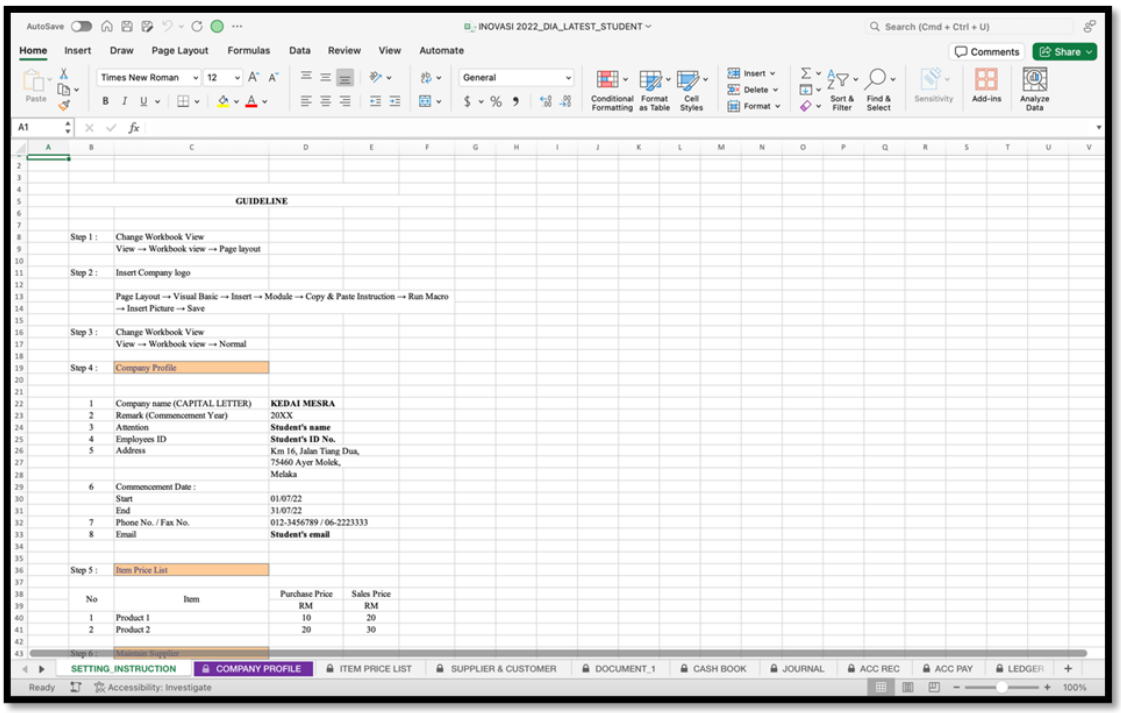
METODOLOGI

Intervensi / Strategi Tindakan

Program aplikasi *Microsoft Excel* dipilih dalam simulasi perakaunan bagi membolehkan pelajar menyediakan penyata kewangan dengan berpandu kepada proses kitaran perakaunan. Template simulasi perakaunan diambil dengan merujuk sistem perakaunan iaitu SQL dan kitaran perakaunan, yang mana terdiri daripada profil syarikat, pembeli & penjual, buku tunai, jurnal, lejar dan penyata kewangan. Selain itu, aplikasi ini menggunakan fungsi dan formula yang telah dipelajari dalam kursus Perakaunan Berkomputer (*Computerised Accounting*) dalam menyediakan platform yang lebih interaktif berbanding pembelajaran tradisional.

Simulasi perakaunan ini juga dibangunkan dengan memberi kemudahan kepada pelajar merekod urusniaga perniagaan dengan menggunakan aplikasi yang tidak memerlukan pembayaran dan kurang penyeliaan kerana pelajar telah didedahkan dengan aplikasi Microsoft Excel sejak semester 1.





Peserta Kajian

Kajian penguasaan dalam penyediaan penyata kewangan melalui simulasi perakaunan di Kolej Profesional MARA Ayer Molek dilaksanakan terhadap pelajar-pelajar semester 6 program Diploma Perakaunan. Pelajar-pelajar ini dipilih berdasarkan bilangan pelajar yang sedang mengambil kursus Perakaunan Berkomputer (CA/ACC 2663) iaitu seramai 63 orang.

Instrumen / Strategi Penilaian

Kajian tindakan terhadap penguasaan dalam penyediaan penyata kewangan melalui simulasi perakaunan ini dijalankan melibatkan proses pengumpulan data dan menganalisis data yang diperoleh daripada instrumen yang digunakan iaitu menggunakan borang soal selidik dan kaedah pemerhatian.

Pelaksanaan Tindakan

Kajian tindakan ini merujuk kepada model Kurt Lewin (1946) kerana model ini diterapkan dalam pelbagai bidang, antaranya bidang pendidikan yang menggunakan pendekatan berasaskan empat langkah dalam menangani perubahan sosial atau organisasi yang melibatkan tindakan bagi mencapai hasil yang lebih baik. Satu kitaran kajian tindakan menerusi model ini adalah :

1. Merancang (planning)
2. Bertindak (acting)
3. Memerhati (observing)
4. Mereflek (reflecting)

Instrumen Mengumpul Data

Dalam kajian tindakan ini, instrumen yang digunakan dalam proses pengumpulan data, adalah :

Soal Selidik

Soal selidik yang disediakan berdasarkan objektif dan masalah kajian. Soal selidik ini diberikan kepada pelajar menggunakan *Google Form*.

Pemerhatian

Pemerhatian yang dilakukan dengan menggunakan telefon bimbit (video & kamera) dan borang penilaian pengajaran dan pembelajaran.

DAPATAN KAJIAN

Data yang diperolehi daripada borang soal selidik dan borang penilaian pengajaran dan pembelajaran adalah seperti berikut :

Borang Soal Selidik

Soal selidik ini disediakan untuk menilai pengajaran dan pembelajaran (PdP) menggunakan simulasi perakaunan. Borang ini diedarkan kepada 63 orang responden yang dipilih setelah selesai pengajaran dan pembelajaran (PdP) bagi tajuk *The Recording Process* menggunakan simulasi perakaunan, yang mana kelas bagi tempoh pelaksanaan tersebut dibuat di makmal komputer. Dapatan yang diperolehi ditunjukkan melalui jadual bagi 10 soalan dalam soal selidik yang disediakan. Borang soal selidik ini juga menggunakan borang soal selidik skala likert lima pilihan untuk melihat keberkesanan kaedah simulasi perakaunan terhadap pelajar dalam penyediaan penyata kewangan lengkap dengan berpandukan kepada kitaran perakaunan.

Jadual di bawah menunjukkan dapatan yang diperolehi daripada 10 soalan dalam borang soal selidik yang bertajuk Instrumen Penilaian Simulasi Perakaunan Bagi Pelajar Diploma Perakaunan di Kolej Profesional MARA Ayer Molek.

No	Soalan	Ya	Tidak	Mungkin
1	Adakah anda meminati subjek perakaunan berkomputer (Computerised Accounting)?	61 (96.8%)	2 (3.2%)	0 (0%)
2	Adakah anda menghadapi kesukaran untuk memahami/menguasai topik-topik dalam kursus perakaunan berkomputer (Computerised Accounting)?	7 (11.1%)	25 (39.7%)	31 (49.2%)
3	Adakah anda menghadapi kesukaran dalam merekod data menggunakan aplikasi Microsoft Excel?	6 (9.5%)	41 (65.1%)	16 (25.4%)
5	Adakah kaedah Simulasi Perakaunan yang diperkenalkan bersesuaian dengan kaedah pembelajaran masa kini?	63 (100%)	0 (0%)	0 (0%)

No	Soalan	Secara manual (bertulis)	Sistem komputer (Accounting Simulation, SQL, UBS dan lain-lain aplikasi)	Gabungan manual dan berkomputer
4	Pada pendapat anda, apakah kaedah yang sesuai digunakan untuk meningkatkan kemahiran dalam merekod urusniaga sesuatu perniagaan?	0 (0%)	42 (66.7%)	21 (33.3%)

No	Soalan	1 (Tidak Bersetuju)	2 (Kurang Bersetuju)	3 (Sederhana)	4 (Bersetuju)	5 (Sangat Bersetuju)
6	Adakah anda setuju, kaedah Simulasi Perakaunan perlu dipelajari dari semester 1?	0 (0%)	0 (0%)	3 (4.8%)	9 (14.3%)	51 (81%)
7	Pengetahuan, kefahaman dan kefahaman saya meningkat hasil dari penggunaan Simulasi Perakaunan.	0 (0%)	0 (0%)	1 (1.6%)	11 (17.5%)	51 (81%)
8	Setelah menggunakan Simulasi Perakaunan, saya mempunyai keinginan untuk menggunakannya dalam aktiviti di luar kelas. Contohnya,	0 (0%)	0 (0%)	4 (6.3%)	14 (22.2%)	45 (71.4%)

	jualan bazar atau CSR.					
9	Saya seronok mempelajari dan menggunakan Simulasi Perakaunan.	0 (0%)	0 (0%)	3 (4.8%)	13 (20.6%)	47 (74.6%)

Soalan 10

Bil	Cadangan / Ulasan
1	Satu simulasi yang sangat membantu pelajar yang kurang minat akaun serta memudahkan pemahaman mereka dan lebih seronok digunakan
2	Saya mencadangkan kaedah *Accounting Simulation* perlu diterapkan dari semester 1 lagi kerana ia dapat memudahkan kami dalam membuat latihan dan kerja kursus
3	Membuat program *Accounting Simulation* terbuka untuk semua pelajar perakaunan
4	Perbanyakkan pengunaan *Accounting Simulation* di dalam kelas
5	Kaedah ini perlu diperkenalkan dari semester 1
6	*Accounting Simulation* sangat sesuai untuk dipelajari dan digunakan oleh pelajar sem 1
7	Penggunaan yang sesuai untuk masa dan zaman sekarang
8	Bagi saya *Accounting Simulation* sangat perlu dari semester 1 lagi. Hal ini kerana, ianya dapat membantu pelajar memahami dengan lebih mendalam.
9	*Accounting Simulation* perlu digunakan daripada awal semester 1 untuk memudahkan para pelajar membuat kerja kursus
10	*Accounting Simulation* perlu dipelajari sejak awal supaya sesuatu kerja dapat disiapkan dalam masa yang cepat
11	Saya mencadangkan *Accounting Simulation* diperkenalkan seawal semester 1 bagi memudahkan pelajar memahami dan menguasai komputer untuk membuat kerja kursus
12	Saya ingin mencadangkan untuk pelajar *Diploma in Accounting* dapat didedahkan tentang sistem komputer seperti *Accounting Simulation*, sql, excel ini dengan lebih awal contohnya dari seawal semester 1, 2, atau 3

13	Pada pandangan saya *Accounting Simulation* bagus diadakan dari semester 1 sehingga 5 kerana ia memberi manfaat dalam penggunaan komputer dalam *accounting* dan memudahkan kerja pelajar. Walaupun sukar pada awalnya, tetapi ia membantu pelajar dalam melakukan kerja-kerja pada masa akan datang dan di luar kelak
14	Cadangan saya tentang penggunaan *Accounting Simulation* perlu diluaskan kepada semua pelajar dari pelbagai bidang agar memudahkan dalam merekod data.
15	Saya mencadangkan *Accounting Simulation* patut dipelajari dari semester 1 untuk meningkatkan kemahiran *Computerrised Accounting*
16	*Accounting Simulation* sangat membantu pelajar terutamanya pelajar yang tiada asas perakaunan untuk mengukuhkan lagi kefahamannya
17	Saya bercadang agar kemahiran ini dapat diasah oleh pelajar-pelajar KPM Ayer Molek sejak dari semester 1 kerana kebanyakan tugasan (*Financial Accounting* perlu menggunakan excel. penggunaan *Accounting Simulation* memudahkan pelajar untuk menyiapkan tugasan dengan lebih efektif
18	Diharap sistem ini dapat diterapkan pada semester awal agar mereka lebih terbiasa dengan sistem automatik

Borang Penilaian Pengajaran dan Pembelajaran

Berdasarkan penilaian pengajaran dan pengajaran (PdP) yang dibuat ke atas pensyarah yang menggunakan simulasi perakaunan dalam kursus Perakaunan Kewangan 1 menunjukkan pencapaian yang sangat baik iaitu sebanyak 96.67% diberi oleh pemantau. Secara keseluruhannya, ulasan yang diberikan kepada pensyarah menunjukkan simulasi perakaunan yang dilakukan di dalam kelas dapat menarik minat pelajar dalam penyediaan penyata kewangan serta menjadikan proses pengajaran dan pembelajaran yang interaktif. Jadual di bawah menunjukkan pengiraan skor dan pencapaian secara terperinci yang diperoleh daripada borang instrumen penilaian pengajaran dan pembelajaran.

Bahagian	Skor
Bahagian C : Pengurusan dan Pembangunan Pelajar Di Dalam Kelas	15
Bahagian D : Pelaksanaan Pengajaran dan Pembelajaran (PdP) : Pensyarah Pelajar	 29 14

PERBINCANGAN

Respon yang diperoleh daripada 63 orang responden kajian dalam jadual di atas menunjukkan majoriti pelajar memberikan komen yang positif terhadap penguasaan dalam penyediaan penyata kewangan melalui simulasi perakaunan. Berdasarkan cadangan pelajar di atas menunjukkan pelajar dapat meningkatkan kefahaman terhadap kitaran perakaunan dengan menggunakan teknik pengajaran yang berkesan dan menyeronokkan selain memberi gambaran situasi sebenar mengenai dokumen perniagaan dan penyediaan penyata kewangan/pelaporan kewangan. Kajian oleh Ahmad et al. (2020) ini

menyumbangkan perspektif pelajar terhadap amalan pengajaran guru yang dapat dijadikan salah satu daripada penanda aras keberkesanan guru berbanding penanda aras yang lain, di mana ianya harus diambil perhatian kerana pelajar merupakan penerima kepada penyampaian pengajaran guru yang mana maklum balas mereka perlu dititikberatkan dalam proses pengajaran dan pembelajaran.

REFLEKSI

Menerusi pelaksanaan simulasi perakaunan bagi 63 orang pelajar semester 6 dan tajuk *The Recording Process* yang dilaksanakan ketika kelas Perakaunan Berkomputer (*Computerised Accounting*) mengikut modul dan bahan yang disediakan, tindakan ini mencapai objektif yang telah ditetapkan oleh pengkaji. Platform simulasi perakaunan ini didapati mampu memudahkan pelajar mengenal pasti dan memberi gambaran situasi sebenar mengenai dokumen perniagaan dan penyediaan penyata kewangan/pelaporan kewangan. Secara tidak langsung, perkara ini juga membawa kepada usaha memperbaiki amalan pengajaran pensyarah agar proses pengajaran dan pembelajaran dilakukan dengan lebih berkesan dan menyeronokkan.

CADANGAN PENAMBAHBAIKAN

Penggunaan simulasi perakaunan ini sebagai bahan interaktif pengajaran dan pembelajaran diutarakan oleh pengkaji sebagai satu langkah inovasi dalam proses PdP berpusatkan pelajar. Hal ini merujuk kepada perubahan kaedah pengajaran yang bersifat konvensional seperti berpusatkan guru, *lecture-based*, penghafalan fakta, penilaian berasaskan peperiksaan, penggunaan buku teks dan nota serta struktur pembelajaran formal kepada proses PdP yang relevan pada masa kini bagi memupuk kemahiran berfikir kritis, kreativiti dan penyelesaian masalah dengan menggunakan kaedah pengajaran moden yang lebih menarik. Cadangan ini bertujuan untuk meningkatkan pemahaman konsep secara praktikal dan mendalam dengan melibatkan pensyarah perakaunan di Kolej Profesional MARA Ayer Molek, lebih-lebih lagi pensyarah yang mengajar subjek *Financial Accounting* dengan menerapkan kemahiran teknikal dalam pengajaran dan pembelajaran dan bukan sahaja meneruskan penggunaan kaedah tradisional. Proses PdP juga boleh dijalankan di makmal komputer setelah pengajaran secara teori selesai bagi membolehkan pelajar mengaplikasikan apa yang telah di pelajari secara praktikal.

KESIMPULAN & CADANGAN KAJIAN AKAN DATANG

Berdasarkan misi MARA dalam sektor pendidikan, sebagai persiapan ke arah memperkasakan modal insan sejajar dengan keperluan negara terutama dalam bidang perakaunan, setiap pelajar perlu bersedia untuk melengkapkan diri dengan ilmu, kemahiran dan pengalaman dalam merekod urusniaga perakaunan menggunakan sistem perakaunan berkomputer. Hal ini bagi membolehkan pelajar memahami konsep dan prinsip asas perakaunan, sumber dokumen yang digunakan dalam urusniaga, perekodan seterusnya penyediaan penyata kewangan. Justeru itu, simulasi perakaunan perlu dilaksanakan seawal semester 1 dalam subjek Perakaunan Kewangan 1 untuk proses pengajaran dan pembelajaran dapat dilakukan dengan lebih berkesan dan menyeronokkan. Pengkaji mencadangkan agar kajian lanjutan dijalankan penggunaan kaedah simulasi perakaunan terhadap kursus lain.

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UNLOCKING POTENTIAL AND SELF-CONFIDENCE THROUGH LITERATURE: CULTIVATING CRITICAL, ANALYTICAL, AND CREATIVE THINKING TO EMPOWER TESL STUDENTS AT KPTM KOTA BHARU

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ABSTRACT

This study explores the role of literature in enhancing critical, analytical, and creative thinking, as well as building self-confidence among Diploma in English as a Second Language (TESL) students at KPTM Kota Bharu. While TESL curricula often concentrate on memorisation and standardised assessments, literature offers a more dynamic platform for developing higher-order thinking and communication skills. Using a qualitative approach, 11 TESL students from Poly-Tech MARA Kota Bharu College (KPTM KB) were interviewed to investigate the impact of literature on their cognitive and linguistic development. Grounded in constructivist and reader-response theories, the findings reveal that literature significantly strengthens students' critical and analytical thinking skills, creativity, and self-confidence, especially in verbal communication in English. Students developed greater confidence in embracing and expressing themselves and using the language through activities such as drama, poetry recitals, and textual analysis. Collaborative learning and student agency in interpreting texts and finding their deep meaning within a supportive environment further reinforced these outcomes. Additionally, students strongly believed that literature should remain central to TESL programs due to its transformative impact on their personal and academic growth.

Keywords: *literature in ELT, critical thinking, English proficiency, constructivism, reader-response theory*

INTRODUCTION

KPTM Kota Bharu is a well-known and distinguished private educational institution in Malaysia that offers various courses to students. Besides, Kolej Poly-Tech MARA (KPTM) always tries its best to ease the burden of the students through MARA educational loans to those eligible; it is also known for its commitment to providing every aspect of student development. The TESL program at KPTM Kota Bharu is one of the prominent courses offered by KPTM Kota Bharu. It is highly praised for its dedication to improving language proficiency and fostering strong student communication skills. Despite consistently achieving commendable academic outcomes, many students struggle to apply their English language skills in real-life scenarios, particularly in verbal communication and critical thinking. One genuine remark the student gave during the interview was that "…most people believe TESL students are well-versed in English and have high confidence in using the language effectively. In reality, we are facing difficulties" This succinctly captures the common challenges experienced by students, whether they are TESL students or not. This challenge often stems not from a lack of linguistic knowledge but from a lack of self-assurance in effectively utilising the language. (Ismail et al., 2020). Therefore, within the TESL core curriculum, we trust that literature will emerge as an indispensable subject, providing a platform for students to grapple with complex and multi-layered concepts. Literature can help students augment their fluency and significantly cultivate their confidence by engaging with and expressing these concepts through literary discourse; thus, we will find the answers through this paper.

Problem Statement

The most usual and common language teaching methods often focus on rote learning, emphasising memorising grammatical rules, which may only partially prepare students for real life in terms of communication and critical thinking (Fauzi & Yusoff, 2022; Normazidah & Musa, 2012). The exam-oriented classroom, which focuses on standardised tests, prioritises procedural knowledge over practical application. On the other hand, literature provides a more dynamic approach to language learning due to its open-ended nature and diverse interpretations. It encourages students to think critically and analytically, moving beyond the rigid structures of academic learning (Larkin Koushki, 2019; Matmool & Kaowiwattanakul, 2023). Thus, this research aims to investigate the impact of integrating literature into Teaching English as a Second Language (TESL) curricula at KPTM Kota Bharu. The primary goal of this paper is to assess the impact of integrating literary texts on TESL students at KPTM Kota Bharu in terms of critical thinking abilities, creativity, and confidence in using the English language. How might literature subject change how students engage with language, challenging them to go beyond the mechanical aspects of grammar and instead embrace the nuances of expressive language?

Research Objectives:

1. To explore how literature fosters critical, analytical and creative thinking skills in TESL students at KPTM Kota Bharu.
2. To determine how literature helps enhance students' confidence in expressing themselves using English.
3. To investigate students' perception of making literature a forever-core subject in the Diploma of Teaching English as a Second Language program.

Research Questions:

1. How does literature foster critical, analytical and creative thinking skills in TESL students at KPTM Kota Bharu?
2. How does literature subject help enhance students' confidence in expressing themselves using English?
3. How do the students view literature as a forever-core subject in the Diploma of Teaching English as a Second Language program?

LITERATURE REVIEW

Extensive research and international debate have focused on integrating literature into English Language Teaching (ELT), with different perspectives on its effectiveness and function in language acquisition. Knowledge acquisition through literature has been demonstrated to enhance linguistic proficiency, foster analytical reasoning, fuel innovation, and nurture student empathy (Nawawi & Mohd Kamil, 2023). However, although literature has been integrated into the Teaching of English as a Second Language (TESL) core subjects, we believe that most people do not celebrate the subject and do not really see its significant impact on students, especially to the Diploma level students from KPTM Kota Bharu. This literature review seeks to consolidate the worldwide and Malaysian literature on TESL while emphasising the pressing need for further comprehensive study on the Malaysian tertiary TESL realm. Given that literature has the potential to significantly enhance students' self-confidence, analytical reasoning, and speech proficiency, this study is pertinent and highlights the urgent need for further investigation.

Global Perspectives on Literature in ELT

An expanding corpus of international research in English language teaching (ELT) has thoroughly examined and verified the effectiveness of literature as a multifaceted instrument for language acquisition. Integrating literary works into ELT is proven to enhance linguistic competence and cultivate critical thinking, cultural consciousness, and empathy in students (Yadav, 2014). Over the past few decades, the academic discussion on this subject has developed substantially, with recent research offering fresh viewpoints on the educational advantages of literature in many educational settings. Yadav (2014)presents a core perspective on using literature in English Language Teaching (ELT), contending that literary works are a prime agent in stimulating students' imagination, emotional connection, and cognitive participation. It is stated that literature offers a vast terrain for investigating language that surpasses the constraining parameters of formal grammar exercises (Li, 2009). Other research, such as N. Othman (2020), agrees with this perspective by highlighting that literature exposes learners to genuine language in different registers, stylistic forms, and dialects, offering a comprehensive linguistic experience resembling real-life communication. Active involvement with literature fosters the cultivation of empathy and cultural consciousness, both crucial elements of practical communication skills. Moreover, Madkour (2016) contends that literature significantly enhances oral language proficiency by exposing students to diverse language usage and promoting engagement with complex narrative frameworks. This aligns with research conducted by Lim et al. (2019), which asserts that literary readings function as a platform for students to analyse and negotiate meaning, thus fostering critical and methodical thinking. This approach realigns the focus from perceiving language as a simple code to recognising it as a dynamic instrument for communication. The role of literature in presenting moral and ethical dilemmas facilitates the development of reflective thinking and empathy among students as they actively contemplate various viewpoints within the narrative.

Matmool & Kaowiwattanakul (2023) also contribute to this discourse by highlighting the cognitive advantages of literature in language acquisition. Literary works help to facilitate students' engagement in more profound cognitive processing, thus enhancing their written and spoken language proficiency(Parkinson & Thomas, 2001). This level of cognitive involvement becomes particularly evident when students encounter intricate linguistic structures and themes that require advanced cognitive abilities to analyse and interpret. It also stated that literature exposes students to various speech acts, registers, and idiomatic expressions that can be immediately used in practical communication scenarios. Meanwhile, Li (2009) highlights that literature can catalyse innovative language creation, enabling students to explore language in new ways. Although much research supports literature in English Language Teaching (ELT), much of these studies have concentrated on Western or other than Malaysian settings. We hope to see more research conducted in Malaysian settings to discuss this matter, where English is traditionally the primary or dominant second language.

Malaysian Context of TESL and Literature

Literature integration in Malaysia TESL programmes has not been addressed as extensively as in Western settings or other than Malaysian settings. English instruction in the country's education system significantly emphasises exam-oriented learning, particularly grammar, syntax, and reading comprehension. (Muniandy et al., 2010). According to Musa et al. (2012), Malaysian students generally display exceptional proficiency in the technical components of language acquisition due to their methodical and rule-oriented approach to English education. Nevertheless, they also observe that students frequently encounter difficulties in creative expression, critical thinking, and oral communication, which are essential in dynamic, real-life communication. According to Renganathan (2023) the excessive focus on standardised testing in the Malaysian education system has hindered students' chances to engage in reflective and critical language studies. Their research demonstrates that Malaysian TESL students often attain excellent results in English examinations but cannot confidently express themselves in spoken English. This implies that the existing TESL curriculum may give more

importance to linguistic precision rather than communicative efficacy, making the students timid to converse in the target language.

A study by Muthusamy et al. (2010) emphasises the possible advantages of literature in tackling these concerns. The research revealed that Malaysian students exposed to literary works exhibited enhanced critical thinking and creativity, particularly when engaging in activities such as interpreting and discussing literature during class. These students could enhance their ability to articulate their thoughts and participate in critical debates, developing essential skills for their academic and professional prospects. It shows that literature allows students to transcend mere memorisation and mechanical learning, thus fostering their independent and critical thinking capacity. Meanwhile, Lim et al. (2019 and Too (2018) investigated the influence of literature on the communicative competence of students in secondary schools in Malaysia. Research revealed that using literary texts enabled students to participate in more profound cognitive processing, resulting in increased self-assurance during oral presentations and seminars. Studies indicate that literature promotes a feeling of communicative liberty, as students are motivated to interpret texts according to their interpretations and exchange personal viewpoints. This fosters a more vibrant classroom atmosphere in which students feel more at ease articulating their experiences. Although the results are encouraging, the recognition of literature in English or English literature subjects in ELT Malaysia is still subpar.

As we all know, most people tend to glorify and focus more on exam-based approaches in core subjects, and they often overlook how literature could help address these deficiencies. As mentioned before, although the worldwide literature has extensively examined the impact of literature on improving critical thinking and empathy, research in Malaysia has not yet extensively investigated how literature can promote students' self-assurance in spoken English in detail. This statement is supported by Omar (2017), who, in his research paper, stated that literature can improve communicative confidence. Therefore, further investigation is required to comprehend the precise mechanisms by which this improvement takes place. We should look at how the interpretative and analytical abilities cultivated through literature can be transferred to enhance oral performance effectively among students with low English proficiency. What impact do psychological variables, such as self-efficacy and motivation, have on this process? These questions are crucial for future research to enhance our comprehension of the impact of literature on promoting oral fluency and confidence in Malaysian TESL students.

While it is true that TESL programmes in Malaysia have successfully developed students' teaching abilities, they are less successful in promoting communicative competence and critical and creative thinking among students(Hanna Insyirah & Muhammad Hafidzudeen, 2022). However, as stated by Fauziah Hassan and Nita Fauzee Selamat (2017), even though we can see that there are Malaysian students who can speak well in English, they are not confident in communicating publicly. They are lacking in terms of critical and analytical thinking skills. This review indicates the need to do more comprehensive research to investigate the enduring impacts of delivering guidance rooted in the literature on the cognitive and linguistic development of TESL students. Prioritising the development and evaluation of pedagogical models tailored to the Malaysian education environment should be the focus of future research. This would ensure a more thorough and effective incorporation of literature into TESL courses. By addressing these shortcomings, it is hopeful that TESL programs or even English proficient subjects in any courses in Malaysia can improve students' capacity to communicate proficiently in practical scenarios, increasing their competence and confidence as English speakers.

RESEARCH METHODOLOGY

This study uses in-depth interviews to gain personal insights into how literature affects students' self-confidence and analytical thinking. It employs a qualitative approach to explore these impacts with 11 students from the Diploma in Teaching English as a Second Language program at KPTM Kota Bharu. By focusing on these students currently enrolled in an Introduction to Literature course, the study ensures that participants have relevant and first-hand experience with the subject. This targeted approach enhances the reliability and depth of the findings, providing a thorough understanding of how engaging with literature influences students' personal and academic growth.

Theoretical Framework

This research utilises two fundamental theories: constructivism and reader-response theory. These theories provide a strong foundation for understanding the role of literature in developing critical, analytical, and creative thinking skills, as well as boosting self-confidence in communication among the students, especially for the Diploma in Teaching English as a Second Language students at KPTM Kota Bharu. Constructivism emphasises active, student-centred learning where individuals construct meaning through interaction with texts and their peers (Mohammed et al., 2020). This approach aligns with literature's ability to engage students in diverse and meaningful interpretations, allowing them to explore multiple perspectives and think critically. Reader-response theory complements this by valuing personal engagement with texts, encouraging students to connect literature with their own experiences and emotions (Lim, 2020). This deepens their analytical skills and fosters creativity as they interpret and respond to literary works. Together, these theories create a supportive learning environment where students feel empowered to express their thoughts, thus enhancing their confidence in using English and embracing their individuality. These frameworks align with the study's aim to investigate how literature nurtures cognitive and communicative abilities while promoting self-confidence.

i. The Concept of Constructivism

Constructivism, as proposed by Piaget and Vygotsky, provides a strong framework for understanding how literature enhances students' critical, analytical, and creative thinking and self-confidence in utilising English in their daily communication. According to constructivism theory, learning is an active process that requires engagement and interaction with sensory experiences to build understanding (Biggs, 1996). It emphasises that learners must actively participate in their learning journey rather than passively receiving information. To truly learn, students must immerse themselves in discussions, reading, and various activities, as learning occurs through active involvement in their environment and personal experiences (Hickman et al., 2009). Now, let us dwell on Piaget and Vygotsky's standpoints. Piaget's apparent emphasis on active learning and cognitive development is combined with Vygotsky's focus on social interaction and scaffolding.

What is scaffolding, and how can it help students learn literature effectively and enhance their thinking skills? Scaffolding is a concept introduced by Vygotsky, which refers to the supportive structures provided by educators or peers that help learners achieve tasks they cannot complete independently (Coffman et al., 2023; Puntambekar, 2022). In learning literature, scaffolding involves offering guidance, resources, and incremental challenges that align with students' current abilities while pushing their limits (Ketut et al., 2022). For instance, a lecturer might start by explaining literary concepts and providing examples, then gradually shift responsibility to students as they gain confidence and skills. This approach helps students build a deeper understanding of literature by breaking down complex ideas into manageable parts and offering support as they explore and interpret texts. Through scaffolding, students receive the assistance they need to engage with literature more effectively, leading to enhanced critical thinking, creativity, and self-confidence in their literary analysis and communication (Muntasir & Akbar, 2023). Thus, constructivism aligns seamlessly with the objective of this study to explore how literature facilitates deeper cognitive engagement. Literature's open-ended

nature allows students to construct knowledge through personal interpretation and collaborative dialogue, reflecting Piaget's theory of cognitive construction and Vygotsky's concept of the Zone of Proximal Development. This approach promotes critical analysis and creativity by encouraging students to question, debate, and explore diverse perspectives. It fosters self-confidence as they articulate their thoughts and express themselves in English. The collaborative and student-centred learning environments championed by constructivism enable students to collaborate, support one another, and build confidence through shared discovery and peer feedback.

ii. Theory of Reader Response

Louise Rosenblatt's Reader-Response theory plays a pivotal role in helping students engage with English literature by emphasising their active role in interpreting texts. This approach encourages students to bring their experiences, emotions, and ideas into their reading, fostering deeper connections with the material (Sayı et al., 2018). By allowing students to form personal interpretations, the theory nurtures critical and analytical thinking, as they must justify their viewpoints with evidence from the text. This process also enhances creativity as students explore multiple interpretations of a single piece of literature (Carlisle, 2000). In alignment with this study, reader-response theory supports the idea that literature can significantly boost self-confidence in language use. Through open-ended discussions, students practice articulating their thoughts in English, improving their communication skills and embracing their individuality(Khatib, 2011). This approach builds linguistic competence and empowers students to express themselves more confidently, making it an essential framework for examining the transformative impact of literature in the TESL curriculum. This approach leads to a more prosperous and more inclusive literary experience. It supports the goal of this paper, which is to examine and explore students' critical and analytical thinking skills and confidence levels through their involvement in every activity provided in literature subjects offered in TESL at KPTM Kota Bharu.

Findings & Discussion

This study examines the impact of literature on students in the Introduction to Literature subject within the Teaching English as a Second Language (TESL) program at KPTM Kota Bharu. It explores how literature enhances critical and analytical thinking, creativity, and confidence in English communication, contrasting these benefits with other core subjects. Students' feedback shows their deep engagement with literature and underscores its importance for educational and personal development. We will analyse and discuss how literature helps students build self-confidence and develop critical thinking skills.

Critical, Analytical and Creative Thinking Through Literature

Literature undeniably can strengthen students' ways of thinking critically and analytically (Rahman & Manaf, 2017). The answers collected from the students support this statement as we can see significant positive student answers from the interview conducted with 11 KPTM Kota Bharu TESL students. Other than the interview conducted, we can also see the positive results through the observations made in class on both literature subjects they took during their Diploma in TESL at KPTM KB. Several questions were asked of the students, and the student's responses indicate that literature is essential in developing critical and analytical thinking skills. According to the students, various assignments, such as song and short story analyses, poem recitals, posters and drama sketches, enhance students' abilities to dissect and interpret complex texts to a deeper meaning. In the interview, several students mentioned that they loved the song analysis activity, described it as enjoyable, and said it helped them foster creative and critical thinking. This can be seen through the answers given during the interview:

> …I enjoyed the song analysis the most because it combined my love for music with learning. I found it fascinating to break down the lyrics and understand their story or message. It was also interesting to analyse how the music and melody enhance the emotion of the song. This activity helped me appreciate

> the layers of meaning in songs and how they can uniquely express complex ideas and feelings. Plus, sharing my interpretations with my classmates and hearing their perspectives was fun.

This activity is crucial for the students to comprehend various literary elements intensely. One of the students enthusiastically stated, "…I find analysing songs quite enjoyable, especially because many students in my age group listen to songs for diverse reasons. Having taken a literature class, I now feel a stronger connection to the songs than before." Another student said, "…I have a deep passion for music, so learning that there is much more to it than just a song is truly exciting for me." The lecturer, in turn, motivated the students to think critically and analytically by implementing the literary devices they had learned in class and then voicing their opinions. The students were tasked with meticulously dissecting each word and line of a song, delving into the figurative language embedded in the symbols, and uncovering their underlying meanings.

The activity helps the students find the song's meaning through literary devices. It boosts their confidence to speak and share their point of view and ask their lecturers and friends questions. Another student explains:

> …Take song analysis, for example. Every line of the lyrics has its own meaning, whether it is straightforward or contains hidden messages. Figuring it out requires all the skills mentioned above. Then, when you finally understand it all, you are amazed at how deep the song actually is. What is next? Don't you feel excited to spread the word? Confidently tell others how beautiful the song truly is. That is where your communication skills come into play.

Basically, through this activity, students can see things beyond the text. The songs become more meaningful because they finally understand the pure and genuine meaning of the songs through the symbolism, imagery, and choice of words used in the songs. Take Halsey's song *"Colors"*, for example. In that song, students must identify rich figurative language that portrays feelings, situations, and emotions. This can be seen through the lines taken from the lyrics of the song:

…Everything is blue
His pills, his hands, his jeans
And now I'm covered in the colors
Pulled apart at the seams
And it's blue
And it's blue
Everything is grey
His hair, his smoke, his dreams
And now he's so devoid of color
He do not know what it means
And he's blue
And he's blue
You were red and you liked me 'cause I was blue
But you touched me, and suddenly I was a lilac sky
And you decided purple just wasn't for you…
(*Halsey Colour Lyrics - Google Search*, n.d.)

In order to analyse the song, students must think analytically and critically in identifying the figurative language and symbol used and the reasons behind this song. For example, the red colour in that song does not mean just a colour; it indicates toxic behaviour. The same goes for blue, which indicates calmness and a kind soul, and grey, which indicates an emotionless soul. This activity helps them not only with critical thinking but also with engaging with emotions and feelings while having fun. According to one of the students, "…I never thought listening to the songs could be more meaningful after entering literature class. Now, as my mind starts to think after hearing each word in the lyrics, I automatically start picturing the scenario, the feelings and emotions in the song. It is so interesting, and I feel like a genius!". This aligns with the reader-response theory that celebrates the reader's role in

interpreting and making meaning from a text. It encourages analytical and critical thinking among students because they can interpret a text's meaning through their interaction with the text (Church, 1997; Kumar et al., 2022; Wilson, 2021). They feel seen by sharing their opinions and excited to share their POV because different students may interpret the exact songs or text differently based on their personal experiences, emotions, and cultural background (Spirovska, 2019).

During the interview, other than firmly saying that song analysis in literature class helps them to think critically and analytically, students also revealed that analysing short stories and posters helped them stem much meaning from the stories and creating the posters. The students exposed that:

> …I mostly enjoy short story analysis because I can find and identify much meaning from reading stories that thoughts and feelings put into it…I love how I have to work hard and think critically in producing my creative poster. I learned that every colour, image, and word used has meaning, and we can portray our countless emotions and feelings through a creative poster. It is more than just a creative and pretty image, but contains deeper meaning if we look at it closely."

This displays how learning literature promotes a thorough examination of narratives and helps develop students' critical thinking skills. To complete this task, students need to work in groups, discuss their ideas, and present them in a creative, engaging video. The reason for using technology is because the lecturer believes that to encourage critical thinking in analysing the text, it is crucial to incorporate technology to allow students to express themselves, as students nowadays enjoy using technology. This technique aligns with the 21st-century method of learning and teaching. According to the Constructivism Theory, which suggests that knowledge is developed through active engagement with content, this method ensures that learning is no longer passive but an active process, enabling students to construct their understanding and interact with new information (Iskhak et al., 2020).

The analysis of short stories fosters a dynamic learning environment where students are encouraged to collaborate with their peers and engage actively with lecturers. Based on the interview, we can trace those students who enjoyed this activity and believed it enhanced their critical thinking. According to them, this process invites the exchange of ideas, challenges established perspectives and promotes the collective construction of new insights. Rooted in the principles of Constructivism, this approach highlights the vital role of collaboration in the learning process. Students can refine their understanding and merge new concepts into their existing knowledge frameworks by comparing their thoughts, responses, and knowledge with others (Efgivia et al., 2021; Kouicem & Nachoua, 2018). Reader Response Theory also complements these findings by celebrating and spotlighting the reader's role in constructing meaning. (Mart, 2019). The students' interpretations of texts, such as their creative responses to drama sketches, illustrate how literature fosters active engagement and actively encourages students to unleash their creativity without putting the limit. Davis (1992) asserts that this theory places students at the forefront, encouraging them to engage with literature and interpret it creatively and actively.

Literature is more than just a subject; it fosters creativity and individuality. Students noted that literature assignments often encourage collaborative work and allow for creative reinterpretations of stories. For example, in a drama sketch assignment, students were tasked with reimagining classic narratives, which also involved writing the script, designing props, creating teasers, and thinking about costumes and makeup. One student highlighted, "…It lets us transform old stories into new versions and show our creativity through our own revised scripts, props, teasers, and costumes after working closely with friends." This illustrates how literature values and sparks students' creativity, encouraging them to challenge the usual, typical and traditional norms. Additionally, assignments like short story poems and song analysis push students to examine literary elements deeply, enhancing their critical and analytical skills. Students' feedback shows that literature invites them to co-create meaning and cultivates their critical and creative thinking abilities.

Enhancing Self-Confidence and English Proficiency

Literature promotes creative expression and self-expression because students can explore their creative abilities. Another important discovery is that it helps build confidence in expressing themselves and their ability to communicate in English by completing assignments such as drama sketches and poem recitals. One of the students mentioned that taking part in drama sketches allowed them to push their creativity in making the storyline fascinating by using the English language. At the same time, another student highlights how drama sketches help with self-growth, whether it is improving English language skills or developing leadership and teamwork abilities:

> …Of all the assignments and activities I have experienced, poem recitals, posters, drama sketches, short story analysis, and song analysis, the one I enjoyed the most was drama sketches. This activity has significantly impacted me as a form of creative expression and a crucial part of my personal development. Drama sketches have been more than just an assignment; they have been a transformative experience that has shaped me into a leader and taught me invaluable lessons in responsibility and leadership. Participating in drama sketches requires a unique blend of creativity, teamwork, and organisation. Unlike other activities focusing on individual expression or analytical skills, drama sketches demand that you work closely with others to bring a collective vision to life. This collaboration aspect taught me how to manage and coordinate with different personalities, ensuring everyone is aligned toward a common goal. In these moments, I learned the essence of leadership: guiding and motivating my teammates while being open to their ideas and contributions.

The excerpt from the interview clearly shows how literature shapes them in terms of thinking critically and as individuals with a great sense of responsibility. Another student also explained that drama sketches helped them step out of their comfort zone and take on roles that made them more assertive and confident. By directing scenes, making quick decisions, and managing group conflicts, they were constantly challenged to improve their leadership skills (Uzunöz & Demirhan, 2017). These experiences made them more responsible and allowed them to lead in different situations, both in and out of the classroom. This aligns with Constructivist Theory, which strongly emphasises social learning, as reflected in these findings. Self-growth, confidence, and creative and linguistic development are fostered by participating in group activities such as drama sketches and poem recitals, which require collaboration and communication (Mohammed et al., 2020; Zhang, 2023).

One student highlighted that drama sketches played a crucial role in strengthening their friendships while enhancing their ability to express themselves, mainly in English. Engaging in literature-based activities led to a noticeable improvement in their creativity and a significant boost in their confidence when speaking English in public settings (Budiman & Ganap, 2024; López Oterino, 2022). Another student accentuated those assignments, such as poem recitals and drama sketches, were influential in building self-confidence. They noted, "…these tasks helped me become more confident in expressing my ideas creatively in English in front of others. The consistent Q&A sessions and teaching methods in class enabled me to speak English fluently and confidently." The students expressed that the subject compelled them to confront their fear of public speaking, particularly during drama sketches and poem recitals. They stated, "…These activities pushed me to be more expressive and articulate, forcing me to pronounce words clearly and project my voice in front of an audience." This hands-on experience helped them grow not just as English speakers but as confident communicators overall.

The students also shared how literature class and each assignment in the subject helped them build their self-confidence and communicate comfortably using English. According to one of the students:

> …Whether it was reciting a poem in front of the class, discussing the themes of a short story, or performing in a drama sketch, I was constantly required to use English in various forms of communication. This frequent practice helped me become more comfortable and fluent in expressing

> myself in English. Additionally, the positive feedback from peers and lecturers and the satisfaction of completing these tasks contributed to a growing sense of confidence in my language abilities.

The students' experiences in literature class enable them to express themselves in their own unique way. One student, for example, found that analysing songs required them to emotionally connect with the material, which ultimately assisted them in articulating their thoughts more clearly in English. This answer also aligns with the statement given by another student:

> …The discussions and presentations help me improve my English language proficiency and boost my confidence in using English as the primary language in the class. It also helps to enhance my critical thinking, especially when the lecturer gives me the opportunity to write my own poem with my friend and present it in front of the class. We can exchange our thoughts through the writing process and pour our emotions while reciting it. To me, it is the best part of the lesson because I can be myself, reciting my very own crafted words in front of others. I feel important because my voice and ideas are heard. Every feedback and comment the lecturer gives are positive, making us more confident and eager. Over time, this repeated practice with the consistent Q&A session helps build confidence because we can express many ideas and engage with others.

The students' capacity to express themselves creatively and with self-assurance is improved due to their engagement with literary texts, peers, and lecturers. Reader Response Theory further illuminates these findings. The theory emphasises readers' personal and emotional engagement with texts through the positive and collaborative activities they engage in in class (Brooks & Browne, 2012).

The responses clearly distinguish between literature and other structured subjects, such as grammar and writing, in developing cognitive and communicative skills. Students consistently expressed that literature engaged them in deeper and personal safe spaces and more reflective thinking than the rule-based approach to grammar. Literature promotes a higher level of cognitive engagement. Its open-ended nature allows students to explore multiple perspectives and develop unique interpretations, fostering higher-order cognitive skills such as synthesis and evaluation (Baharuddin et al., 2022; N. I. Othman et al., 2015). In contrast, structured subjects like grammar often focus on procedural knowledge and adherence to specific rules, which, while important, do not necessarily promote the same depth of critical thinking. Literature permits students to engage with texts in a personal and interpretive manner, encouraging them to develop their meanings and insights (Gümüşok, 2013; Kovaević & Ejubović, 2023; Mohammed & Jasim, 2024; Zubair, 2022).

Literature as a forever-core subject in the Diploma of TESL

Through the interviews, most students emphasised that literature enhances their critical thinking, self-confidence, cultural understanding, and communication skills. Their reflections suggest that literature adds emotional and intellectual depth that complements the more structured aspects of their education. As one student noted, "…literature teaches people to communicate by expressing themselves in a way that sounds beautiful and meaningful rather than saying it plainly." This underscores how literature helps students articulate their thoughts and feelings more effectively. The findings show that literature provides a holistic approach to language education, supporting cognitive and emotional development. While structured subjects are important for linguistic accuracy, literature is essential for fostering critical thinking, creativity, and cultural awareness. Consequently, literature should be considered a core element of the TESL curriculum, as we believe it significantly contributes to students' overall growth, especially among the Diploma of TESL at KPTM Kota Bharu students, through the approach used and the activities provided in the subjects.

The approach proves KPTM Kota Bharu steadfast commitment to nurturing holistic student development, surpassing conventional linguistic instruction to cultivate strong connections with a diverse range of cultural perspectives among both students and educators. Despite the solid academic support offered at KPTM KB, students frequently struggle to express themselves confidently and

comfortably in English. However, we firmly believe this problem does not only happen to KPTM KB students but also to most of the students in Malaysia, as English is not our primary language. We know that many students struggle with low proficiency in English due to a lack of confidence in using the language in public settings (Arumugam et al., 2021; Kashinathan & Abdul Aziz, 2021). Even those who can speak well may feel uneasy when conversing with others. As stated earlier, this challenge extends beyond just KPTM KB students and affects a larger population due to the widespread use of the Malay language. However, by integrating literature subjects, we discovered that it significantly helps to improve our students in various aspects, and it should be kept as a forever-core subject, not only for the TESL program but also for other courses.

CONCLUSION

The findings of this paper that we have gathered based on the observations and interviews conducted with English as a Second Language (TESL) students at KPTM Kota Bharu shed light on literature's significant role in developing students' critical thinking, creativity, and communicative competence. At KPTM Kota Bharu (KPTM KB), the integration of literature subject as part of the core subjects in the Diploma for Teaching English as a Second Language (TESL) syllabus implies a ground-breaking educational approach. The literature subject at KPTM KB is not approached as just another core subject and does not follow conventional teaching methods. Instead, it offers a supportive environment for students to express themselves using English without focusing primarily on structured and systematic grammar compared to other core subjects. Of course, grammar and sentence structure are essential. However, in the KPTM KB literature class, students aim to be more expressive and active in voicing their ideas and opinions. The lecturer keeps telling the students that their voices matter and always applauds their bravery in participating in the activities. We believe that once the students feel heard and seen, they will feel confident to speak English. The students are encouraged to think critically and creatively, and their ideas and opinions are valued despite being at the diploma level, in their class and doing each of their assignments required in the literature subjects. This challenges the common belief that diploma students, specifically at KPTM Kota Bharu, only scratch the surface of learning literature subjects compared to bachelor's degree students.

Using the constructivist and reader response theories as a foundation for supporting the arguments, the findings indicate that literature encourages students to engage in reflective, critical, and analytical thinking, fosters creative expression, and helps students develop confidence in their ability to communicate in English. The students have had experiences with various literary activities, ranging from drama sketches, posters, and short stories to song analyses. Other than that, the students also had experience writing and constructing their own poetry. As a result, we can see that literature provides a one-of-a-kind and multifaceted approach to learning that is intellectually stimulating and personally enriching. Literature equips students with the critical thinking, creative thinking, and cultural understanding necessary to become well-rounded communicators. While structured subjects such as grammar and writing are essential for developing linguistic accuracy and proficiency, literature also allows students to develop their creative abilities and build self-confidence. Due to this, literature should be acknowledged not merely as a supplementary subject but as an essential component of core subjects of the TESL curriculum. This would contribute to the overall development of students and provide them with the skills necessary for academic achievement and personal development. Other than that, it is very important to remember that the teaching methods, encouragement and positive or constructive feedback from the lecturers are also crucial elements of the student's growth. Thus, to really achieve the objectives of enhancing students' abilities in creative, critical and analytical thinking and to foster self-confidence, educators should also play a significant and vital role in always finding the opportunity to upgrade skills and qualities of teaching that fit well with the needs of the students that keep on changing and evolving.

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EVALUATING THE EFFECTIVENESS OF LECTURER ATTRIBUTES IN PROMOTING EMPLOYABILITY AMONG SPORTS STUDENTS

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ABSTRACT

Lecturer attributes have been shown to significantly impact student learning outcomes and employability prospects. Despite graduate employability becoming a major policy focus in Malaysia, unemployment rates remain alarmingly high. This study investigates the relationship between lecturer attributes and graduate employability among sports students in Malaysian universities. Using a quantitative approach, the research surveyed 384 Malaysian universities, students using a dual-language online questionnaire with a 5-point Likert scale. Data analysis utilizing SPSS 29 included descriptive statistics and multiple linear regression. Lecturer's attributes accounted for 46% of the variance in graduate employability, with interpersonal skills and communication capacity having the strongest impact, followed by industrial experience. The regression equation (Y = 9.835 + 0.543(Industrial Experience) + 0.815(Communication Capacity) + 0.864(Interpersonal)) demonstrates the relative contributions of each attribute. These findings highlight the importance of enhancing lecturer's attributes, particularly in public institutions, to improve graduate employability. The study provides valuable insights for policymakers and educators to refine teaching practices and curriculum design in sports education programs, emphasizing the development of interpersonal and communication skills alongside industry experience to better prepare students for the workforce. By focusing on these key attributes, universities can potentially address the high unemployment rates in the sports sector and improve the overall employability of their graduates.

Keywords: graduate employability, lecturer's attributes, sports education, Malaysian universities, multiple regression

INTRODUCTION

Teaching is a noble profession, and being a good lecturer is challenging. Lecturers aim to educate and guide communities, especially students, contributing their energy for religion, race, and country while monitoring student progress. While many perceive lecturing as easy, lecturers must equip themselves with diverse skills and expertise to meet current educational demands, aligning with technological advancements and varied learning styles (Kutip, M. F., 2023).

This is particularly relevant in the context of graduate employability, which has emerged as a critical concern in Malaysia's higher education landscape, with unemployment rates among university graduates exceeding 35% according to recent national statistics (Department of Statistics Malaysia, 2022). The sports sector faces particular challenges, as only 28% of sports graduates secure full-time employment within six months of graduation (National Sports Council, 2022). This situation

underscores the urgent need for innovative approaches in higher education to better prepare students for the evolving job market, especially in the dynamic field of sports.

While various factors influence graduate employability, the role of university lecturers in shaping students' career readiness has been understudied, particularly in the context of sports education. Lecturers' attributes, including their subject knowledge, teaching methods, and industry experience, may significantly impact students' employability prospects (Yusoff et al., 2021). However, empirical evidence linking these attributes to concrete employment outcomes remains limited, especially when comparing public and private university settings.

This research aims to address this knowledge gap by examining the contribution of sports lecturers' attributes to graduate employability among public and private university sports programs in Malaysia. By focusing on both types of institutions, the study seeks to provide a comprehensive understanding of how faculty characteristics and teaching practices influence students' job-readiness across different educational contexts (Azman et al., 2018). This comparative approach will offer valuable insights into the potential variations in lecturer effectiveness between public and private universities, informing targeted strategies for enhancing graduate outcomes in the sports sector.

Problem Statement and Research Focus

Despite the increasing policy focus on graduate employability in Malaysia, unemployment rates among university graduates remain high, particularly in the sports sector (Ministry of Higher Education, 2023). This persistent issue suggests a misalignment between higher education outcomes and industry needs. Traditional approaches to enhancing employability have often overlooked the crucial role of university faculty in nurturing job-ready graduates, especially in the context of sports education (Nasir et al., 2022).

The problem is compounded by a lack of empirical research on how lecturers' attributes specifically contribute to the employability of sports graduates in Malaysia, particularly when comparing public and private university settings (Kueh & Morris, 2022). Most local studies have focused narrowly on hard skills development, neglecting the potential impact of lecturers' subject knowledge, teaching methods, and industry experience on students' employment prospects. This gap in understanding hinders the development of effective strategies to improve graduate outcomes across different types of higher education institutions.

This research focuses on addressing these gaps by investigating the significance of sports lecturers' attributes on graduate employability among public and private university sports programs in Malaysia. By examining this relationship, the study aims to uncover potential differences in the impact of lecturer attributes between these two types of institutions (Razak et al., 2021). This comparative analysis will provide valuable insights into how different educational settings may influence the effectiveness of lecturers in preparing students for the job market.

The findings of this study will contribute to the broader discourse on graduate employability in Malaysia and inform strategies for aligning higher education more closely with industry needs in the sports sector (Economic Planning Unit, 2021). By identifying the specific lecturer attributes that most significantly influence graduate employability, and how these may vary between public and private universities, the research will offer actionable insights for enhancing teaching practices, curriculum design, and institutional policies. Ultimately, this study aims to provide a foundation for targeted interventions that can better prepare sports graduates for successful careers in an increasingly competitive and globalized job market, regardless of the type of institution they attend.

LITERATURE REVIEW

Lecturer Attributes and Industry Experience

Lecturers' industry experience and connections significantly impact students' job readiness in sports programs. Studies have shown that lecturers with extensive industry networks are better positioned to provide students with valuable insights into workplace needs and facilitate internship opportunities (Azman et al., 2018). The research found that lecturers' industry experience significantly predicted students' perceived job readiness ($\beta = 0.37$, $p < 0.001$) (Chuan et al., 2020). Moreover, lecturers who regularly incorporated real-world case studies and practical applications in their teaching were found to enhance students' critical thinking and decision-making skills, both crucial for employability in the sports industry.

Teaching Methods and Technology Integration

The technological competence of lecturers has emerged as a critical factor in preparing students for the modern workplace. Lecturers' proficiency in using digital tools and platforms was positively associated with students' digital literacy skills ($r = 0.62$, $p < 0.001$) (Nasir et al., 2022). This is particularly relevant in the sports sector, where data analytics and digital marketing have become increasingly important. Their study also highlighted that lecturers who incorporated industry-standard software and tools in their teaching were more likely to produce graduates who were considered "work-ready" by employers.

Mentoring and Career Guidance

The mentoring capabilities of lecturers play a crucial role in shaping students' career aspirations and preparedness. Effective mentoring by lecturers was found to be a significant predictor of students' career self-efficacy ($\beta = 0.48$, $p < 0.001$) and job search behaviors ($\beta = 0.39$, $p < 0.01$) (Ismail et al., 2020). In the context of sports education, this suggests that lecturers who can provide guidance on career paths, internship opportunities, and professional networking can significantly enhance their students' employability prospects.

Comparison of Public and Private Universities

Comparative studies between public and private universities have revealed differences in the impact of lecturer attributes on graduate employability. While specific research on sports programs is limited, general studies suggest that private universities may have an advantage in terms of industry connections and practical training opportunities (Azman et al., 2018). However, public universities often benefit from established research programs and broader academic networks, which can also contribute to graduate employability in unique ways (Razak et al., 2021).

Lecturer Adaptability and Continuous Learning

Lecturers who actively pursued professional development and stayed updated with industry trends were more effective in preparing students for the evolving job market (Razak et al., 2021). This was particularly evident in the sports sector, where rapid changes in technology and industry practices require graduates to be adaptable and open to continuous learning. The study emphasized the importance of lecturers' lifelong learning attitudes in influencing student outcomes and employability.

METHODOLOGY

Research Design

This study employs a quantitative research design to investigate the contribution of sports lecturers' attributes to graduate employability among public and private university sports programs in Malaysia. The quantitative approach allows for numerical data and statistical analysis to model correlations between factors and test the significance of relationships (Rana et al., 2021). This design is particularly suitable to examine the differences in the significance of lecturers' attributes on graduate employability between public and private university sports programs.

Population and Sample

The target population comprises approximately 500,000 university students enrolled in sports-related programs across Malaysia's higher education institutions (Ministry of Higher Education, 2023). Using Krejcie and Morgan's (1970) statistical table, a sample size of 384 respondents was determined to achieve adequate statistical power. These participants were selected through multi-stage cluster sampling, ensuring proportional geographic dispersal and fair representation of both public and private institutions. The sample comprises 222 students from public institutions and 162 from private institutions, reflecting the distribution of sports students across the Malaysian higher education landscape.

Data Collection Procedure and Analysis

Data collection was conducted through an online survey questionnaire distributed via Google Forms over a six-week period from May to June 2024. The questionnaire from industrial experience (Jackson, D 2015), lecturer and industry (Trade, F., & McEwen, C, 2015), communication capacity (Clokie, T.L, Fourie, E., 2016), interpersonal skills (Robles, M.M. 2012), internship opportunity (Gault, J., Leach, E., Duey, M., 2010), career related skills (Bridgstock, R., 2009), and soft skills development (Succi, C. & Canori, M., 2020) are available in both Malay and English, utilizing a 5-point Likert scale to measure lecturers' attributes and graduate employability factors. The collected data will be analyzed using SPSS software (version 29). The primary analytical method for this research question will be multiple linear regression. This technique will allow for the examination of how different lecturers' attributes (e.g., subject knowledge, teaching methods, experience) impact graduate employability in public versus private university sports programs. The analysis will provide insights into any significant differences in the contribution of lecturers' attributes to graduate employability between these two types of institutions.

FINDINGS

4.1: **Demographic Information**

Demographic		**Frequency (n=384)**	**Percentage (%)**
Gender	Male	225	58.6
	Female	159	41.4

4.1: **Demographic Information**

Level of Education	Diploma	81	21.1
	Degree	252	65.6
	Master	37	9.6
	PhD	14	3.6
Employability	Employed	341	88.8
	Unemployed	43	11.2
Institution Type	Public University	222	57.8
	Private University	162	42.2

Gender distribution showed a slight male majority, with 58.6% (n=225) male participants and 41.4% (n=159) female participants. Regarding educational level, the majority of respondents were pursuing or had completed a degree (65.6%, n=252), followed by diploma holders (21.1%, n=81), master's students (9.6%, n=37), and a small proportion of PhD candidates (3.6%, n=14). In terms of employability status, a significant majority (88.8%, n=341) reported being employed, while 11.2% (n=43) were not employed. The sample was drawn from both public and private institutions, with 57.8% (n=222) from public universities and 42.2% (n=162) from private universities. This diverse sample provides a comprehensive representation across gender, education levels, employment status, and institution types in the context of sports education in Malaysia.

Table 2: Multiple Regression of Contribution Between Lecturers' Attributes on Graduate Employability Among Public And Private University Sports Programs In Malaysia

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.678[a]	.460	.455	3.29725

a. Predictors: (Constant), Interpersonal, IndustrialExperience, CommunicationCapacity

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3515.440	3	1171.813	107.784	<.001[b]
	Residual	4131.308	380	10.872		
	Total	7646.747	383			

a. Dependent Variable: StudentsGraduateEmployability

b. Predictors: (Constant), Interpersonal, IndustrialExperience, CommunicationCapacity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.835	1.725		5.701	<.001
	IndustrialExperience	.543	.195	.174	2.784	.006
	CommunicationCapacity	.815	.214	.276	3.807	<.001
	Interpersonal	.864	.206	.282	4.194	<.001

a. Dependent Variable: StudentsGraduateEmployability

The multiple regression analysis reveals that lecturers' attributes significantly contribute to graduate employability in Malaysian sports programs. The analysis yielded a significant equation ($F(3, 380) = 107.784$, $p < .001$), with R^2 of .460. The respondents predicted that Students Graduate Employability was equal to Y = 9.835 + 0.543(Industrial Experience) + 0.815(Communication Capacity) + 0.864(Interpersonal). This implied that 46% ($R^2 = .460$) of the variance in Students Graduate Employability can be explained by the independent variables of lecturers' attributes. Thus, it can be inferred that the remaining 54% was due to other factors that were not taken into consideration in this study. The model suggests that Interpersonal skills have the strongest impact on graduate employability, followed closely by Communication Capacity, while Industrial Experience has a smaller but still significant effect.

DISCUSSION AND CONCLUSION

The findings of this study reveal a significant contribution of lecturers' attributes to graduate employability in Malaysian sports programs across both public and private universities. The multiple regression analysis demonstrated that lecturers' attributes account for 46% of the variance in students' graduate employability ($F(3, 380) = 107.784$, $p < .001$, $R^2 = .460$). This substantial influence underscores the critical role that faculty members play in shaping students' career readiness, regardless of institutional type.

Among the lecturers' attributes examined, interpersonal skills emerged as the strongest predictor of graduate employability ($\beta = 0.282$), followed closely by communication capacity ($\beta = 0.276$), and industrial experience ($\beta = 0.174$). This hierarchy of influence aligns with the growing emphasis on soft skills in the Malaysian job market, particularly in the sports industry. The results suggest that lecturers who can effectively model and develop these skills in their students are more likely to enhance their employability prospects.

The significant impact of lecturers' attributes across both public and private universities challenges the notion of inherent differences between these institution types in terms of employability preparation. Instead, it points to the universal importance of faculty quality in preparing students for the workforce. This finding has important implications for higher education policy and practice in Malaysia, suggesting that initiatives to enhance graduate employability should focus on developing lecturers' attributes across all institution types.

The strong contribution of industrial experience to graduate employability highlights the importance of maintaining strong links between academia and the sports industry. Lecturers with relevant industry experience are better positioned to provide students with insights into real-world applications of their studies, potentially addressing the need for more industry-relevant skills in sports education. This finding supports the argument for increased industry engagement in faculty development programs.

In conclusion, this study emphasizes the crucial role of lecturers' attributes in enhancing graduate employability in Malaysian sports programs. The results call for a holistic approach to faculty development that goes beyond research output to include teaching effectiveness, industry engagement, and the cultivation of soft skills. By investing in these areas, both public and private universities can significantly improve their graduates' employability prospects in the competitive sports industry job market.

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PENGGUNAAN INTERNET TANPA WAYAR DI KALANGAN PELAJAR KOLEJ POLY-TECH MARA BATU PAHAT: KPTM WIFI VS. HOTSPOT PERIBADI

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ABSTRAK

Teknologi rangkaian tanpa wayar, seperti WiFi dan selular, telah menjadi semakin meluas dalam pembelajaran mudah alih pada abad ke-21 ini. Penggunaan internet ini sangat penting bagi pelajar untuk mendapatkan maklumat, menyelesaikan tugasan, dan berkomunikasi semasa proses pembelajaran. Oleh itu, Kajian ini dijalankan bagi mengenalpasti pilihan penggunaan internet di kalangan pelajar Kolej Poly-Tech MARA Batu Pahat, sama ada menggunakan liputan KPTM WIFI atau Hotspot peribadi. Kajian ini menggunakan soalan kaji selidik yang diedarkan kepada 319 orang pelajar KPTM Batu Pahat yang terdiri daripada program "Diploma in Computer System & Networking", "Diploma in Information Technology", "Diploma in Graphic Design", dan "Diploma in Human Resource". Data-data yang diperoleh telah dianalisis dengan menggunakan perisian Microsoft Excel bagi mendapatkan statistik deksriptif untuk mengetahui pilihan pelajar sama ada menggunakan liputan KPTM WiFi atau Hotspot peribadi. Hasil kajian mendapati bahawa pelajar KPTM Batu Pahat memilih liputan KPTM WiFi. Secara puratanya, 55 peratus memililih KPTM WiFi berbanding hotspot peribadi. Faktor yang paling dominan yang mempengaruhi pemilihan KPTM WiFi disebabkan oleh akses diberikan secara percuma berbanding hotspot peribadi yang memerlukan pelajar membayar yuran langganan secara bulanan. Rangkaian hotspot adalah daripada data selular yang diberikan oleh penyedia perkhidmatan.

***Kata Kunci**: Wifi, selular, hotspot, pembelajaran mudah alih, pelajar KPTM*

PENGENALAN

Penggunaan Internet Tanpa Wayar di kalangan pelajar Kolej Poly-Tech MARA Batu Pahat adalah satu fenomena yang semakin meningkat, terutamanya dengan kemudahan akses kepada WiFi dan hotspot peribadi. Dalam konteks pendidikan tinggi, akses kepada internet yang stabil dan cepat adalah penting untuk menyokong proses pembelajaran dan pengajaran. Penyelidikan menunjukkan bahawa pelajar yang mempunyai akses kepada WiFi di kampus cenderung untuk mengalami penggunaan internet yang lebih baik, tetapi juga berisiko mengalami masalah penggunaan internet yang berlebihan, yang boleh memberi kesan negatif kepada kesejahteraan subjektif mereka (Nurafifah, 2023). Di samping itu, pelajar sering kali menggunakan hotspot peribadi sebagai alternatif apabila WiFi tidak tersedia, yang menimbulkan persoalan tentang keberkesanan dan kos penggunaan kedua-dua sumber ini (Chaudhary et al., 2022).

Dalam kajian yang dilakukan oleh Ismail et al., penggunaan Massive Open Online Courses (MOOC) menunjukkan bahawa pelajar vokasional memanfaatkan teknologi dalam pendidikan untuk meningkatkan pembelajaran mereka (Ismail et al., 2018). Ini menunjukkan bahawa pelajar di Kolej Poly-Tech MARA Batu Pahat juga mungkin menggunakan internet tanpa wayar untuk mengakses kursus dalam talian dan sumber pembelajaran lain. Namun, terdapat juga cabaran yang dihadapi oleh

pelajar, seperti kos data yang tinggi dan masalah sambungan internet yang tidak stabil, yang boleh mempengaruhi pengalaman pembelajaran mereka (Chaudhary et al., 2022; Deviana et al., 2022). Oleh itu, penting untuk memahami bagaimana pelajar menggunakan kedua-dua sumber ini dan kesan yang ditimbulkan terhadap pencapaian akademik mereka.

Dalam konteks ini, kajian yang dilakukan oleh Razali dan Azman menunjukkan bahawa akses internet yang baik adalah faktor penting yang mempengaruhi motivasi pelajar dalam pembelajaran. Mereka mendapati bahawa pelajar yang mempunyai akses kepada internet yang cepat dan stabil menunjukkan tahap motivasi yang lebih tinggi dalam pembelajaran dalam talian (Razali & Azman, 2021). Ini menunjukkan bahawa pemilihan sistem rangkaian internet yang tepat adalah kritikal untuk kejayaan akademik pelajar. Tambahan pula, kajian oleh Hamid et al. menggariskan bahawa penyalahgunaan internet di kalangan pelajar boleh memberi kesan negatif kepada proses pembelajaran, yang mana ini mungkin lebih ketara dalam penggunaan hotspot peribadi yang tidak terkawal (Hamid et al., 2019).

Oleh itu, pemilihan antara KPTM WiFi dan hotspot peribadi bukan sahaja melibatkan pertimbangan tentang kelajuan internet tetapi juga tentang bagaimana setiap sistem dapat menyokong keperluan pembelajaran pelajar. Secara keseluruhannya, kajian ini bertujuan untuk menyelidik penggunaan internet tanpa wayar di kalangan pelajar Kolej Poly-Tech MARA Batu Pahat, dengan memberi tumpuan kepada perbandingan antara KPTM WiFi dan hotspot peribadi. Penekanan akan diberikan kepada analisis kelajuan internet dan pengalaman pengguna dalam kedua-dua sistem.

KAJIAN LITERATUR

Dalam era digital yang semakin berkembang, penggunaan internet tanpa wayar (WiFi) di kalangan pelajar kolej menjadi satu keperluan penting dalam proses pembelajaran. Di Kolej Poly-Tech MARA Batu Pahat, pelajar mempunyai akses kepada dua sumber utama internet tanpa wayar: KPTM WiFi dan hotspot peribadi. Kajian ini bertujuan untuk menilai penggunaan kedua-dua sumber ini dan impaknya terhadap pengalaman pembelajaran pelajar.

Pertama, KPTM WiFi menawarkan kemudahan akses internet yang stabil dan percuma kepada pelajar di kampus. Menurut kajian oleh Ismail et al., pelajar sering menggunakan WiFi percuma di kampus untuk mengakses sumber pembelajaran dalam talian, seperti video pembelajaran di YouTube, yang memudahkan mereka mengulangi pelajaran yang telah ditinggalkan (Deviana et al., 2022). Selain itu, penggunaan platform pembelajaran dalam talian seperti Massive Open Online Courses (MOOC) juga semakin popular di kalangan pelajar vokasional, memberikan mereka peluang untuk belajar secara fleksibel (Ismail et al., 2018). Namun, terdapat kebimbangan mengenai keselamatan dan privasi ketika menggunakan WiFi awam, di mana kajian oleh Ali et al. menunjukkan bahawa ramai pengguna tidak menyedari risiko yang terlibat (Ali et al., 2019).

Sebaliknya, hotspot peribadi menjadi pilihan alternatif bagi pelajar yang memerlukan akses internet di luar kampus atau ketika KPTM WiFi tidak dapat diakses. Hotspot peribadi membolehkan pelajar untuk mengakses internet dengan lebih mudah, tetapi ia juga datang dengan kos yang lebih tinggi berbanding dengan KPTM WiFi. Kajian oleh Fong dan Wong menunjukkan bahawa sambungan WiFi yang tidak selamat boleh mendedahkan pengguna kepada risiko kehilangan data dan maklumat peribadi (Fong & Wong, 2015). Oleh itu, pelajar perlu membuat keputusan yang bijak dalam memilih sumber internet yang sesuai dengan keperluan mereka.

Dalam konteks penggunaan, kajian oleh Redondi et al. menunjukkan bahawa pelajar universiti cenderung untuk menggunakan WiFi secara aktif, dengan corak penggunaan yang berbeza-beza bergantung kepada lokasi dan waktu (Redondi et al., 2016). Ini menunjukkan bahawa pelajar di KPTM Batu Pahat mungkin mempunyai corak penggunaan yang serupa, di mana mereka lebih cenderung untuk menggunakan KPTM WiFi ketika berada di kampus dan beralih kepada hotspot peribadi ketika berada

di luar. Penyelidikan ini juga mencadangkan bahawa penggunaan WiFi yang berkesan dapat meningkatkan pengalaman pembelajaran pelajar secara keseluruhan.

Kesimpulannya, penggunaan internet tanpa wayar di kalangan pelajar Kolej Poly-Tech MARA Batu Pahat melibatkan pertimbangan antara kemudahan dan keselamatan. KPTM WiFi menyediakan akses yang lebih selamat dan percuma, sementara hotspot peribadi menawarkan fleksibiliti tetapi dengan risiko dan kos yang lebih tinggi. Oleh itu, pelajar perlu menilai keperluan mereka dan membuat pilihan yang tepat dalam penggunaan sumber internet yang ada.

METODOLOGI

Penggunaan internet tanpa wayar (WiFi) dan hotspot peribadi di kalangan pelajar telah menjadi isu penting dalam konteks pendidikan tinggi. Kajian ini bertujuan untuk membandingkan kedua-dua sistem rangkaian internet dari segi pemilihan sistem dan kelajuan. Dengan peningkatan penggunaan internet dalam kalangan pelajar, adalah penting untuk memahami bagaimana kedua-dua pilihan ini mempengaruhi pengalaman pembelajaran mereka (Razali & Azman, 2021).

Kajian ini akan menggunakan pendekatan kuantitatif dengan reka bentuk tinjauan. Borang soal selidik dibangunkan untuk mengumpul data mengenai penggunaan internet, kelajuan sambungan, dan kepuasan pelajar terhadap kedua-dua sistem. Soal selidik ini diedarkan kepada pelajar Kolej Poly-Tech MARA Batu Pahat untuk mendapatkan pandangan mereka mengenai KPTM WiFi dan hotspot peribadi (Razali & Azman, 2021).

Populasi kajian ini terdiri daripada pelajar Kolej Poly-Tech MARA Batu Pahat. Sampel dipilih secara rawak mudah, melibatkan pelajar dari pelbagai program pengajian yang terdiri daripada program "Diploma in Computer System & Networking", "Diploma in Information Technology", "Diploma in Graphic Design", dan "Diploma in Human Resource" untuk memastikan representasi yang seimbang. Mengikut jadual Krejcie & Morgan (1970), seramai 319 orang pelajar dari 1818 pelajar yang aktif di Kolej Poly-Tech MARA Batu Pahat telah memberikan data yang mencukupi untuk analisis kajian ini.

Instrumen yang digunakan dalam kajian ini adalah soal selidik yang mengandungi 15 item soalan meliputi kepada empat bahagian iaitu bahagian A, B, dan C. Bahagian A berkenaan demografi iaitu melibatkan maklumat pelajar seperti nama, umur, jantina, program pengajian dan semester pengajian. Bahagian B berkaitan dengan penggunaan internet iaitu frekeunsi penggunaan KPTM WiFi dan hotspot peribadi dan kepuasan pelajar terhadap kedua-dua sistem. Manakala bahagian C berkaitan dengan penilaian kelajuan internet. Untuk soalan pada bahagian C, pelajar perlu menggunakan aplikasi "speed test" untuk mendapat kelajuan proses muatnaik dan muat turun.

Data dikumpulkan melalui pengedaran soal selidik secara dalam talian menggunakan platform Google Forms. Responden diberikan masa selama dua minggu untuk mengisi soal selidik ini. Pengumpulan data secara dalam talian ini memudahkan proses analisis dan pengolahan data yang lebih cepat. Data yang diperoleh akan dianalisis menggunakan perisian Microsoft Excel bagi mendapatkan statistik deksriptif untuk mengetahui pilihan pelajar sama ada menggunakan liputan KPTM WiFi atau Hotspot peribadi.

Analisis Faktor Demografi Terpilih Responden

Bahagian ini melaporkan analisis latar belakang responden yang terdiri daripada umur, jantina, program pengajian dan semester pengajian yang diikuti. Kaedah kekerapan dan peratusan digunakan untuk menganalisis latar belakang responden. Analisis data latar belakang responden adalah seperti yang ditunjukkan dalam Jadual 1.

Jadual 1: Analisa taburan bilangan dan peratusan responden mengikut Umur

Umur	Bilangan	Peratus
17	6	1.9%
18	123	38.6%
19	122	38.2%
20	53	16.6%
21	8	2.5%
22	4	1.3%
23	2	0.6%
24	1	0.3%
Jumlah	**319**	**100.0%**

Jadual 1 menunjukkan taburan bilangan dan peratusan responden mengikut umur. Jumlah bilangan responden adalah 319 orang. Dari jumlah ini seramai 6 orang (1.9%) berumur 17 tahun, 123 orang (38.6%) berumur 18 tahun, 122 orang (38.2%) berumur 19 tahun, 53 orang (16.6%) berumur 20 tahun, 8 orang (2.5%) berumur 21 tahun, 4 orang (1.3%) berumur 22 tahun, 2 orang (0.6%) berumur 23 dan 1 orang (0.3%) berumur 24 tahun Oleh itu, jumlah umur responden yang menjawab kaji selidik ini berumur di antara 18 dan 19 tahun.

Jadual 2: Analisa taburan bilangan dan peratusan responden mengikut Jantina

Jantina	Bilangan	Peratus
Lelaki	149	46.7%
Perempuan	170	53.3%
Jumlah	**319**	**100%**

Jadual 2 menunjukkan taburan bilangan dan peratusan responden mengikut jantina. Daripada kaji selidik yang dijalankan, responden perempuan paling ramai 170 orang (53.3%) diikuti dengan responden lelaki 149 orang (46.7%). Jumlah responden yang menjawab kaji selidik ini seramai 319 orang pelajar.

Jadual 3: Analisa taburan bilangan dan peratusan responden mengikut Program

Program	Bilangan	Peratus
AB107	97	30.4%
CC103	45	14.1%
CT103	109	34.2%
CT108	68	21.3%
Jumlah	**319**	**100.0%**

Jadual 3 menunjukkan taburan bilangan dan peratusan responden mengikut program di Kolej Poly-Tech MARA Batu Pahat. Seramai 319 orang pelajar menjawab kaji selidik yang terdiri daripada pelajar program CT103 paling ramai iaitu 109 pelajar (34.2%) diikuti program AB107 97 orang pelajar (30.4%), CT108 68 orang pelajar (21.3%) dan paling rendah daripada program CC103 iaitu 45 orang pelajar.

Jadual 4: Analisa taburan bilangan dan peratusan responden mengikut Semester

Semester	Bilangan	Peratus
1	142	44.5%
3	2	0.6%
4	142	44.5%
6	33	10.3%
Jumlah	**319**	**100%**

Jadual 4 menunjukkan taburan bilangan dan peratusan responden mengikut program di Kolej Poly-Tech MARA Batu Pahat. Seramai 319 orang pelajar menjawab kaji selidik yang terdiri daripada pelajar semester 1,3, 4 dan 6. Bilangan responden paling ramai iaitu 142 pelajar (44.5%) dalam semester 1 dan 4, diikuti semester 6 33 orang (10.3%) dan paling sedikit dikuti oleh pelajar semester 3 iaitu 2 orang (0.6%).

OBJEKTIF KAJIAN

Secara umum, kajian ini bertujuan untuk mencapai beberapa objektif tentang penggunaan Internet Tanpa Wayar di kalangan pelajar Kolej Poly-Tech MARA Batu Pahat, dengan fokus khusus kepada perbandingan antara perkhidmatan WiFi KPTM dan hotspot peribadi. Objektif-objektif tersebut adalah seperti berikut:

1. Membandingkan nilai kelajuan muat turun (download) dan muat naik (upload) di antara KPTM WiFi dan hotspot peribadi.

2. Mengkaji faktor-faktor yang mempengaruhi keputusan pelajar dalam memilih kedua-dua jenis sambungan.

3. Menyediakan cadangan berdasarkan hasil analisis yang dilakukan.

DAPATAN KAJIAN

Aspek perbandingan kelajuan muat turun (download) dan muat naik (upload) di antara KPTM WiFi dan hotspot peribadi telah dinilai. Dapatan dan analisis kajian kelajuan muat naik (upload) dan muat turun (download) KPTM Wi-Fi ditunjukkan seperti dalam Jadual 5 dan Jadual 6 di bawah:

Jadual 5: Analisa taburan bilangan dan peratusan kelajuan Muat Naik *(Upload)* KPTM Wi-Fi

Kelajuan Muat Naik KPTM Wi-Fi	Bilangan	Peratus
0 Mbps - 1 Mbps	15	8%
1 Mbps - 5 Mbps	67	38%
5 Mbps - 20 Mbps	85	48%
50++ Mbps	9	5%
6 Mbps - 20 Mbps	1	1%
Jumlah	**177**	**100%**
Minimum	**1**	**1%**
Maksimim	**85**	**48%**
Sisihan piawai	**38**	**21%**

Jadual 5 menunjukkan analisa taburan bilangan dan peratusan kelajuan muat naik (upload) KPTM Wi-Fi di Kolej Poly-Tech MARA Batu Pahat. Seramai 177 orang pelajar telah menggunakan aplikasi speed test bagi mengukur kelajuan sambungan internet dengan menggunakan Wi-FI KPTMBP. Didapati kebanyakan responden 85 (48%) mempunyai kelajuan muat naik dalam julat 5 Mbps - 20 Mbps, menunjukkan bahawa ini adalah kategori yang paling umum. 67 (38%) responden berada dalam julat 1 Mbps - 5 Mbps, yang menunjukkan bahawa hampir satu pertiga pengguna mempunyai kelajuan yang lebih rendah. Selain itu, 15 (8%) responden mempunyai kelajuan muat naik yang sangat rendah (0 Mbps - 1 Mbps) dan 9 (5%) responden melaporkan kelajuan yang sangat tinggi (50++ Mbps). Ini menunjukkan bahawa terdapat segelintir pengguna yang mempunyai sambungan yang sangat baik. Minimum kelajuan muat naik 1(1%) adalah 6 Mbps - 20 Mbps, menunjukkan bahawa tiada pengguna yang lain yang mempunyai kelajuan seperti yang dinyatakan. Maksimum kelajuan muat naik di KPTMBP adalah 5 Mbps - 20 Mbps di mana 85 (48%), dengan kelajuan ini, pengguna boleh memuat naik data dengan kelajuan minimum sehingga 5 Mbps dan kelajuan maksimum sehingga 20 Mbps. Dengan ini pengguna boleh melakukan aktiviti yang intensif seperti streaming video dan boleh memuat naik video dalam definasi tinggi dan memuat naik fail yang besar dengan lebih cepat. Sisihan piawai adalah 38 (21%), yang menunjukkan variasi yang besar dalam kelajuan muat naik di kalangan pengguna. Nilai ini menunjukkan bahawa terdapat perbezaan yang ketara dalam kelajuan yang dialami oleh pengguna yang berbeza. Variasi yang besar dalam sisihan piawai ini menunjukkan perlunya penyelesaian untuk meningkatkan kelajuan bagi pengguna yang mengalami masalah. Ini mungkin melibatkan peningkatan infrastruktur atau penambahbaikan dalam pengurusan rangkaian

Jadual 6: Analisa taburan bilangan dan peratusan kelajuan Muat Turun *(Download)* KPTM Wi-Fi

Kelajuan Muat Turun KPTM Wi-Fi	Bilangan	Peratus
1 Mbps - 3 Mbps	88	50%
10 Mbps - 25 Mbps	59	33%
25++ Mbps	17	10%
di bawah 1 Mbps	13	7%
Jumlah	**177**	**100%**
Minimum	**13**	**7%**
Maksimim	**88**	**50%**
Sisihan Piawai	**36**	**20%**

Berdasarkan jadual 13 terdapat 177 orang responden yang mengambil bahagian dalam kajian ini. Hasil daripada penggunaan aplikasi speed test, didapati maksimum kelajuan bagi muat turun melalui KPTM Wi-Fi adalah sekitar 1 Mbps – 3 Mbps iaitu 88 (50%) pengguna mengalami kelajuan yang agak rendah. Ini diikuti dengan 59 (33%) pengguna berada dalam julat 10 Mbps - 25 Mbps, yang menunjukkan bahawa satu pertiga pengguna mempunyai sambungan yang lebih baik dan mampu melakukan aktiviti dalam talian yang lebih intensif.Selain itu, 17 (10%) pengguna mempunyai kelajuan muat turun yang sangat tinggi (25++ Mbps), ini menunjukkan bahawa segelintir pengguna menikmati sambungan yang sangat baik. Sebaliknya 13 (7%) pengguna mempunyai kelajuan muat turun yang rendah iaitu dalam julat dibawah 1Mbps. Sisihan piawai menunjukkan terdapat variasi yang besar 36 (20%) dalam kelajuan muat turun di kalangan pengguna. Nilai ini menunjukkan terdapat perbezaan yang ketara dalam kelajuan muat turun yang dialami oleh pengguna yang berbeza. Oleh itu, data menunjukkan bahawa kebanyakan pengguna KPTM Wi-Fi mengalami kelajuan muat turun yang rendah hingga sederhana (1 Mbps - 3 Mbps). Walaupun terdapat segmen pengguna yang mempunyai kelajuan lebih baik (10 Mbps - 25 Mbps), masih ada pengguna yang mengalami sambungan yang sangat rendah. Variasi yang tinggi dalam kelajuan muat turun, seperti yang ditunjukkan oleh sisihan piawai yang besar, menunjukkan perlunya perhatian terhadap peningkatan infrastruktur atau pengurusan rangkaian untuk meningkatkan pengalaman pengguna secara keseluruhan

Dapatan dan analisis kajian kelajuan muat naik (upload) dan muat turun (download) hotspot peribadi ditunjukkan seperti dalam Jadual 7 dan Jadual 8 di bawah:

Jadual 7: Analisa taburan bilangan dan peratusan kelajuan muat naik (Upload) data mudah alih (hotspot peribadi)

Kelajuan Muat Naik Data Mudah Alih (hotspot peribadi)	Bilangan	Peratus
1 Mbps - 3 Mbps	32	23%
10 Mbps - 25 Mbps	78	55%
25++ Mbps	12	8%
di bawah 1 Mbps	20	14%
Jumlah	**142**	**100%**
Minimum	**12**	**8%**
Maksimim	**78**	**55%**
Sisihan Piawai	**30**	**21%**

Berdasarkan jadual 7 terdapat 142 orang responden yang mengambil bahagian dalam kajian ini. Hasil daripada penggunaan aplikasi speed test, didapati maksimum kelajuan bagi muat naik melalui data mudah alih (personal hotspot) adalah sekitar 10 Mbps – 25 Mbps iaitu 78 (55%) pengguna mengalami kelajuan yang agak baik sesuai dengan aktiviti dalam talian seperti video panggilan dan memuat naik fail yang besar . Ini diikuti dengan 32 (23%) pengguna berada dalam julat 1 Mbps - 3 Mbps, yang menunjukkan bahawa satu perempat pengguna mempunyai sambungan yang lebih baik dan mampu melakukan aktiviti dalam talian yang lebih intensif. Selain itu, 20 (14%) pengguna mempunyai kelajuan muat turun yang sangat rendah iaitu dibawah 1 Mbps, ini menunjukkan bahawa segelintir pengguna yang memunyai masalah sambungan internet yang sangat serius. Sebaliknya 12 (8%) pengguna mempunyai kelajuan muat turun yang sangat tinggi iaitu dalam julat dibawah 25++Mbps, ini menujukkan terdapat segelintir pengguna yang mempunyai sambungan internet yang sangat baik. Sisihan piawai menunjukkan terdapat variasi yang besar 30 (21%) dalam kelajuan muat naik di kalangan pengguna. Nilai ini menunjukkan terdapat perbezaan yang ketara dalam kelajuan muat naik yang dialami oleh pengguna yang berbeza. Oleh itu, bagi memastikan kesemua pengguna dapat menikmati kelajuan muat naik yang laju, infrastruktur perlu di naik taraf.

Jadual 8: Analisa taburan bilangan dan peratusan kelajuan muat turun *(Download)* data mudah alih (personal hotspot)

Kelajuan Muat Turun Data Mudah Alih (Personal Hotspot)	Bilangan	Peratus
1 Mbps - 3 Mbps	31	25%
10 Mbps - 25 Mbps	72	45%
25++ Mbps	33	26%
di bawah 1 Mbps	6	3%
Jumlah	**142**	**100%**
Minimum	**6**	**3%**
Maksimim	**72**	**45%**
Sisihan Piawai	**27**	**17%**

Jadual 8 menunjukkan taburan bilangan dan peratusan kelajuan muat turun (download) data mudah alih. Seramai 142 orang pengguna yang menggunakan aplikasi speed test bagi mengetahui kelajuan muat naik bagi data mudah alih (hotspot). 72 (45%) pengguna mempunyai kelajuan muat turun dalam julat 10 Mbps - 25 Mbps, menjadikannya kategori yang paling banyak dipilih. Ini menunjukkan bahawa hampir separuh pengguna menikmati sambungan yang baik untuk aktiviti dalam talian seperti streaming video, audio dan memuat turun fail. 31 (25%) pengguna berada dalam julat 1 Mbps - 3 Mbps, yang menunjukkan satu perempat pengguna mengalami kelajuan yang rendah, berkemungkinan

menghadapi kesukaran dalam aktiviti memuat turun fail dan streaming video dan audio. Terdapat 33 (26%) pengguna mempunyai kelajuan muat turun yang sangat tinggi (25++ Mbps), ini menunjukkan bahawa terdapat segmen pengguna yang menikmati sambungan yang sangat baik dalam capaian internet menggunakan data mudah alih. Sebailknya terdapat 6 (3%) pengguna mempunyai kelajuan di bawah 1 Mbps, analisa ini menunjukkan bahawa terdapat pengguna yang mungkin mengalami masalah serius dengan capaian internet mereka. Sisihan piawai 27 (17%) menunjukkan variasi yang besar dalam kelajuan muat turun dikalangan pengguna. Nilai ini menunjukkan terdapat perbezan yang ketara dalam kelajuan muat turun yang dialami oleh pengguna. Kelajuan muat turun dan muat naik hotspot peribadi bergantung kepada penyedia perkhidmatan telekomunikasi.

Pelajar KPTM Batu Pahat cenderung memilih sambungan KPTM WiFi semasa sesi pembelajaran dan ketika berada di kolej. Analisa ini ditunjukkan pada Jadual 9.

Jadual 9: Analisa taburan bilangan dan peratusan responden mengikut jenis sambungan telefon pintar menggunakan data mudah alih atau Wi-Fi KPTM

Jenis Sambungan ke Internet	Bilangan	Peratus
Sambungan data mudah alih peribadi (personal hotspot)	142	45%
Sambungan Wi-Fi KPTM	177	55%
Jumlah	**319**	**100%**

Jadual 9 menunjukkan analisa data bagi taburan bilangan dan peratusan responden mengikut jenis sambungan ke Internet yang digunakan oleh pelajar Kolej Poly-Tech MARA Batu Pahat. Berdasarkan kajiselidik yang dijalankan terhadap 319 pelajar didapati pelajar memilih untuk menggunakan sambungan Wi-FI KPTM iaitu 177 pelajar (55%) berbanding sambungan data mudah alih peribadi (personal hotspot) iaitu 142 (45%).

Objektif yang seterusnya adalah faktor-faktor yang mempengaruhi keputusan pelajar dalam memilih kedua-dua jenis sambungan. Jadual 10 dan Jadual 11 menunjukkan alasan pelajar memilih untuk menggunakan WiFi KPTM berbanding hotspot peribadi.

Jadual 10: Analisa taburan bilangan dan peratusan responden memilih menggunakan KPTM WiFi

Alasan memilih Wi-Fi KPTM	Bilangan	Peratus
Kelajuan tinggi	16	5%
Kos efektif (percuma)	121	38%
Kelajuan tinggi	8	3%
Sambungan stabil	20	6%
Kualiti Penstriman	12	4%
Tidak berkaitan	142	45%
Jumlah	**319**	**100%**
Minimum	**8**	**3%**
Maksimum	**142**	**45%**
Sisihan Piawai	**48**	**15%**

Jadual 10 menunjukkan analisa sebab pelajar KPTMBP menggunakan Wi-Fi KPTM. Seramai 142 pelajar memilih tidak berkaitan kerana mereka memilih menggunakan sambungan menggunakan sambungan mudah alih. Jumlah pelajar yang memilih WiFi KPTM adalah 177 pelajar. Kos efektif (percuma) merupakan sebab mereka menggunakan Wi-Fi KPTM 121 orang (38%) diikuti dengan kos sambungan stabil iaitu 20 orang (6%). Selain itu, kelajuan tinggi juga merupakan sebab mereka memilih menggunkan Wi-Fi KPTM iaitu 16 orang (5%) dan diikuti oleh kelajuan tinggi 8 orang (3%). Sisihan

piawai menunjukkan responden mempunyai pelbagai sebab dalam menggunakan Wi-Fi KPTMBP untuk capaian Internet 48 iaitu 15%.

Jadual 11: Analisa taburan bilangan dan peratusan responden memilih data mudah alih (hotspot peribadi)

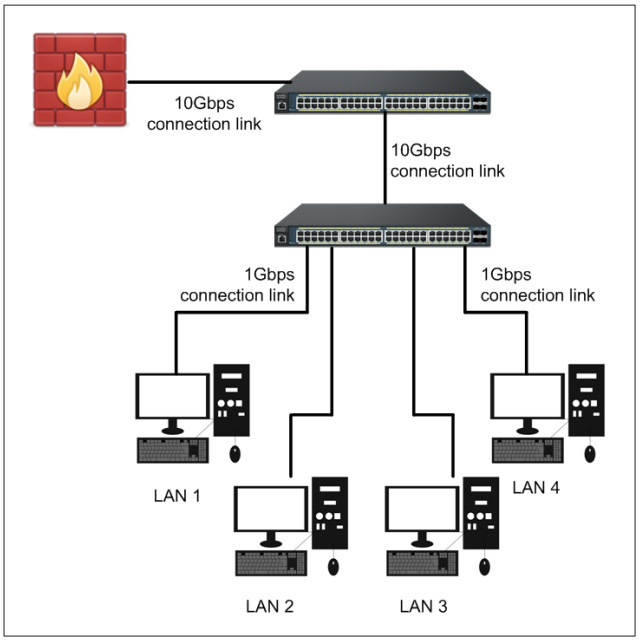
Alasan memilih data mudah alih (Personal Hotspot)	Bilangan	Peratus
Akses segera	25	18%
Kelajuan tinggi	52	37%
Mobiliti, Akses segera, Kelajuan tinggi, sambungan stabil	29	20%
Mobiliti, Akses segera, Kelajuan tinggi, sambungan stabil, Kualiti penstriman	36	25%
Jumlah	**142**	**100%**
Minimum	**25**	**18%**
Maksimum	**52**	**37%**
Sisihan Piawai	**12**	**8%**

Jadual 11 menunjukkan analisa responden memilih data mudah alih untuk capaian Internet. Analisa menunjukkan, alasan yang paling banyak dipilih oleh pelajar kerana menggunakan data mudah alih ialah data mudah alih berkelajuan tinggi iaitu 52 orang pelajar 37%, diikuti oleh mobiliti, akses segera, kelajuan tinggi, sambungan stabil dan kualiti penstriman 36 orang pelajar (25%). Selain itu, pilihan mobility, akses segera, kelajuan tinggi dan sambungan stabil telah dipilih oleh 29 orang pelajar (20%) and akses segera telah dipilih oleh 25 orang pelajar (18%). Nilai sisihan piawai bagi analisa penggunaan responden memilih data mudah alih 12 (8%) menunjukkan tiada fluktuasi yang besar terhadap variasa pemilihan capaian data melalui data mudah alih.

Analisa ini menunjukkan bahawa pelajar KPTM Batu Pahat lebih menggunakan KPTM WiFi berbanding hotspot peribadi kerana KPTM menyediakan perkhidmatan internet WiFi secara percuma kepada pelajar sebagai salah satu kemudahan untuk menyokong aktiviti pembelajaran dan kehidupan seharian di kampus. Dengan adanya WiFi percuma ini, pelajar boleh mengakses internet tanpa perlu membayar sebarang kos tambahan, menjadikannya pilihan yang praktikal dan ekonomikal. WiFi percuma di KPTM memudahkan pelajar untuk melakukan tugas-tugas akademik, penyelidikan, serta aktiviti berkaitan pembelajaran dalam talian.

Sebaliknya, penggunaan hotspot peribadi melalui data mudah alih (mobile data) memerlukan pelajar untuk melanggan perkhidmatan internet daripada penyedia perkhidmatan telekomunikasi. Ini bermakna pelajar perlu membayar yuran langganan secara bulanan atau berdasarkan pelan data yang dipilih. Kos yang dikenakan bergantung kepada kuota data yang ditawarkan oleh penyedia perkhidmatan, kelajuan internet, serta liputan rangkaian. Walaupun data mudah alih memberikan kebebasan dan fleksibiliti untuk mengakses internet di mana-mana sahaja, ia datang dengan kos yang perlu ditanggung oleh pelajar.

Antara isu yang dikenalpasti menyumbang kepada tahap kelajuan muat turun yang rendah bagi sambungan Wi-Fi KPTM adalah infrastruktur peranti tanpa wayar di kampus. Penggunaan peranti titik akses (AP) Wi-Fi dalaman, AP Ruckus R310, titik akses (AP) yang berketumpatan rendah hanya boleh menyokong sehingga 100 pengguna dan penjalaran kepada Wi-Fi generasi ke-5. Disebabkan oleh kawasan liputan Titik Akses (AP) adalah terhad, sambungan Wi-Fi KPTM akan terganggu sekiranya pelajar berada jauh dari kawasan liputan isyarat yang kuat. Selain itu juga, pelaksanaan sediada infrastruktur rangkaian utama juga memberi impak kepada kelajuan muat turun yang rendah.



Rajah 1: Sambungan fizikal perkakasan rangkaian komputer sediada

Rajah 1 menunjukkan kelajuan kabel berwayar (uplink) dari peranti keselamatan ke peranti rangkaian utama adalah sebanyak 10Gbps dan kelajuan yang sama untuk sambungan kabel berwayar (uplink) dari peranti rangkaian utama ke peranti rangakaian agihan. Manakala, 1 Gbps sahaja diperuntukan untuk kelajuan sambungan kabel berwayar (uplink) dari peranti rangakaian agihan kepada semua rangkaian komputer kecil (LAN). Penggunaaan kabel berwayar (uplink) berkelajuan rendah juga mempengaruhi tahap kelajuan muat turun sambungan wifi

Secara keseluruhannya tahap kelajuan muat turun Wi-Fi KPTM yang rendah ini boleh diatasi dengan cadangan yang relevan dengan isu. Cadangan penggantian AP Ruckus R310 kepada peranti titik akses (AP) Wi-Fi dalaman berprestasi tinggi, AP Ruckus R650. Dengan penjalaran kepada Wi-Fi generasi ke-6, ia dapat memberikan peningkatan kapasiti, peningkatan liputan termasuk liputan titik buta dan prestasi dalam persekitaran yang padat. Kelajuan sambungan kabel berwayar (uplink) dari peranti rangakaian agihan kepada semua rangkaian komputer kecil (LAN) perlu dipertingkatkan dari 1 Gbps kepada 10 Gbps untuk memanjangkan jangkauan rangkaian komputer melebihi kapasiti peranti.

PERBINCANGAN

Berdasarkan data yang diperolehi, didapati seramai 319 orang pelajar terlibat didalam kajian ini dengan peratusan jantina hampir seimbang iaitu 53.3% perempuan dan 46.7% lelaki, berumur 18 hingga 19 tahun.

Dari segi sambungan internet, 55% pelajar memilih untuk menggunakan Wi-Fi KPTM berbanding sambungan data mudah alih (personal hotspot) iaitu 45%. Antara sebab utama pemilihan Wi-Fi Kolej Poly-Tech MARA Batu Pahat adalah berkelajuan tinggi dan kos yang efektif. Namun begitu, 50% pengguna Wi-Fi KPTM mengalami kelajuan muat turun dalam julat 1 Mbps - 3 Mbps, yang menunjukkan sambungan yang rendah bagi separuh daripada pengguna. Sebaliknya, dalam penggunaan data mudah alih, 45% pengguna menikmati kelajuan muat turun yang baik dalam julat 10 Mbps - 25 Mbps.

Dari aspek kelajuan Internet, terdapat variasi yang besar dalam kelajuan Internet di Kolej Poly-Tech MARA Batu Pahat dengan sisihan piawai yang menunjukkan perbezaan ketara dalam pengalaman

pengguna. Pelajar yang menggunakan sambungan Wi-Fi KPTM dan personal hotspot mengalami masalah kelajuan yang berbeza, yang menunjukkan perlunya penambahbaikan dalam infrastruktur dan pengurusan rangkaian dengan lebih baik. Oleh itu, melalui kajian ini dapat memberikan pandangan yang jelas tentang penggunaan dan kebolehcapaian sambungan internet di kalangan pelajar Kolej Poly-Tech MARA Batu Pahat, serta menekankan keperluan untuk meningkatkan perkhidmatan yang disediakan agar semua pelajar dapat menikmati kelajuan internet yang memuaskan.

Dapatan kajian ini menunjukkan bahawa pelajar KPTM Batu Pahat lebih memilih penggunaan Internet tanpa wayar KPTM WiFi secara percuma berbanding kelajuan tinggi hotspot peribadi. Perbezaan ketara antara kedua-dua pilihan ini ialah kos dan kebebasan akses. Kelajuan KPTM WiFi lebih lambat dan terhad dari segi liputan dan kelajuan berbanding hotspot peribadi, tetapi ia adalah percuma dan tersedia di kawasan kampus. Sebaliknya, data mudah alih memberi kelebihan dari segi kebolehcapaian di mana sahaja, tetapi pelajar perlu mengurus kos langganan yang berterusan. Pilihan di antara kedua-duanya bergantung kepada keperluan pelajar, sama ada mereka memerlukan sambungan internet yang konsisten di luar kampus atau lebih selesa menggunakan kemudahan percuma di dalam kawasan kampus.

Cadangan untuk mengatasi kelajuan KPTM WiFi yang lambat, Infrastruktur sistem internet tanpa wayar perlu dinaik taraf kepada WiFi 6. Ciri utama WiFi 6 adalah penggunaan teknologi OFDMA (Orthogonal Frequency Division Multiple Access), yang membolehkan pembahagian jalur lebar kepada sub-jalur yang lebih kecil, membolehkan lebih banyak peranti untuk berhubung secara serentak tanpa mengorbankan kelajuan (Saputro & Raharjo, 2022). WiFi 6 juga beroperasi pada frekuensi 2.4 GHz dan 5 GHz, serta menambah sokongan untuk frekuensi 6 GHz, yang memberikan lebih banyak saluran dan mengurangkan kesesakan dalam jaringan (Paul, 2023). Ini menjadikan WiFi 6 lebih sesuai untuk persekitaran yang padat seperti di KPTM Batu Pahat.

Dalam konteks aplikasi praktikal, WiFi 6 membolehkan pengalaman pengguna yang lebih baik dalam aplikasi yang memerlukan jalur lebar tinggi, seperti streaming video 4K dan permainan dalam talian. Dengan keupayaan untuk menyokong lebih banyak peranti secara serentak tanpa penurunan prestasi, WiFi 6 menjadi pilihan yang lebih baik untuk rumah dan perniagaan yang menggunakan banyak peranti (Paul, 2023).

RUMUSAN

Secara keseluruhannya, kajian ini membuktikan bahawa walaupun kelajuan muat naik dan muat turun WiFi KPTM di kampus KPTM Batu Pahat lebih rendah berbanding hotspot peribadi, pelajar tetap cenderung memilih menggunakan WiFi KPTM kerana perkhidmatannya yang disediakan secara percuma. Ini menunjukkan bahawa faktor kos memainkan peranan penting dalam keputusan pelajar untuk memilih sumber internet. Ia juga menjadikan pilihan yang lebih praktikal, terutamanya bagi mereka yang ingin mengurangkan perbelanjaan untuk langganan data mudah alih.

Sebaliknya, hotspot peribadi, yang menawarkan kelajuan internet yang lebih pantas dan stabil, memerlukan pelajar untuk membayar yuran langganan bulanan, yang mungkin membebankan bagi sesetengah pelajar.

Walaupun WiFi KPTM menawarkan akses percuma, kekurangan dari segi kelajuan mungkin menjejaskan tahap kepuasan pelajar, terutamanya apabila mereka memerlukan sambungan internet yang lebih pantas untuk tugasan akademik. Oleh itu, peningkatan infrastruktur WiFi di kampus adalah penting untuk memastikan bahawa pelajar mendapat kemudahan internet yang cekap dan berkualiti tinggi, setara atau hampir setara dengan yang ditawarkan oleh hotspot peribadi. Dengan menaik taraf sistem WiFi, pihak pengurusan KPTM dapat meningkatkan pengalaman pelajar dalam menggunakan perkhidmatan internet, sekali gus menyokong pembelajaran dan penyelidikan yang lebih baik di kalangan pelajar.

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COMPARATIVE STUDY OF ACADEMIC PERFORMANCE BETWEEN SMARTPHONE ADDICTED LEVEL AMONG NURSING STUDENTS IN THE METAVERSE ERA

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ABSTRAK

Smartphone addiction among students raises concerns about its impact on academic performance. This study identifies the level of smartphone addiction among nursing students and its difference between with academic outcomes and smartphone addicted level. A quantitative, cross-sectional study was conducted at a nursing institution in Kelantan, Malaysia, from September 2024. The study involved 300 nursing students selected through universal sampling. Data were collected using a structured, self-administered questionnaire, including the Smartphone Addiction Scale Malay version (SAS-M) for measuring addiction levels. Participants were predominantly female (75%), aged 19-23 years (60%), and in their second or third semester (70%). Most students reported using smartphones for less than 2 hours daily (55%). The study found 68% were not addicted to smartphones. A significant difference in CGPA between the two groups, with non-addicted students (M = 3.78, SD = 0.18) scoring higher than addicted students (M = 3.73, SD = 0.23), t (299) = 2.00, p = 0.047. Although smartphone addiction rates among nursing students were lower than global averages, it negatively impacted academic performance. There is a need for interventions to manage smartphone use and enhance academic outcomes. Institutions should develop digital well-being programs and time management strategies to address smartphone addiction. Further research is needed to explore long-term effects on academic performance.

Keywords: *Smartphone Addiction; Academic Performance; Nursing Students*

INTRODUCTION

In the digital age, smartphones have become indispensable tools that shape various aspects of human life, influencing communication, social interaction, and academic activities. Among students, smartphones serve not only as communication devices but also as tools for accessing educational resources, managing schedules, and staying connected to peers. However, while smartphones offer numerous advantages, their overuse has raised concerns about potential negative effects, including smartphone addiction, which can hinder academic performance.

Research suggests that smartphone addiction is a growing issue among students. Excessive use of smartphones has been linked to disruptions in learning, diminished concentration, and poor academic outcomes. For instance, Lazarus, (2020) and Sana Mairaj Bugti et al. (2023) reported that students who are addicted to smartphones often experience challenges focusing on their studies, which leads to a decline in academic performance. These findings highlight the dual-edged nature of smartphone use, with the potential for both enhancing and disrupting learning.
Nursing students face unique challenges related to smartphone addiction. The nursing profession demands the mastery of both theoretical knowledge and practical skills to provide quality patient care. Hence, effective learning is essential for nursing students to build a strong foundation in their studies.

However, smartphone addiction may interfere with this process. Tárrega-Piquer et al. (2023) found that 19.5% of nursing students are at high risk of developing nomophobia, a condition characterized by the fear of being separated from one's smartphone. Another study reported that 68.7% of nursing students had high smartphone addiction levels, while 63.9% experienced moderate stress levels (Hashim et al., 2023). This condition is strongly associated with social anxiety and excessive smartphone use, particularly during learning sessions. Uncontrolled smartphone use among nursing students can thus become a barrier to effective learning and impact their academic success.

International studies have highlighted the correlation between smartphone addiction and academic performance. For example, Fiorinelli et al. (2021) demonstrated a significant negative relationship between excessive smartphone use and academic achievement, where addicted students exhibited lower performance compared to their peers. Similar findings were observed by Lazarus (2020) in studies conducted across different regions, though a study in Oman found no significant relationship between nomophobia and academic performance, indicating that contextual factors may influence these outcomes.

In Malaysia, smartphone addiction among students has not been extensively studied, particularly within the nursing student population. A study by Siti Khuzaimah et al. (2020) revealed a negative correlation between smartphone addiction and academic performance, measured by the Cumulative Grade Point Average (CGPA). This suggests that higher levels of addiction are associated with lower academic outcomes. Despite this, research specifically focused on nursing students and their unique learning environment is limited. Given that nursing students require high levels of concentration and engagement in both academic and clinical settings, understanding the impact of smartphone addiction on their academic performance is crucial.

This study aims to investigate the level of smartphone addiction among nursing students and its correlation with their academic performance. By considering sociodemographic factors such as age, gender, and semester of study, this research seeks to provide a comprehensive understanding of how smartphone addiction affects academic performance in nursing students.

RESEARCH METHODOLOGY

Design and Sample

This cross-sectional quantitative study was conducted from September 2024 among nursing students enrolled in the Diploma in Nursing program at a selected institution under the Ministry of Health in Kelantan, Malaysia. The sample comprised students from Semester 2 to Semester 6, with Semester 1 students excluded due to their recent enrolment and lack of a cumulative grade point average (CGPA), which could affect their adjustment to the program. The study aimed to provide a comprehensive overview of smartphone addiction and its correlation with academic performance among students actively participating in the program.

To ensure the study's relevance to the current student population, students who were on leave, had transferred out, or had ceased attendance during the data collection period were excluded. A total of 311 nursing students were eligible for inclusion in the study. Participation was voluntary, and all participants were assured that their decision to participate or withdraw would not impact their academic performance or access to institutional services. Participants had the right to withdraw at any stage of the study, and data from those who withdrew were excluded from the final analysis. Ultimately, data were collected from 301 respondents, resulting in a high response rate of 97% of the eligible sample. Incomplete responses were removed from the analysis to maintain the accuracy and reliability of the results.

Research Tool, Data Collection, and Data Analysis

Data collection involved two primary components: (1) the Smartphone Addiction Scale - Malay Version (SAS-M), and (2) academic performance records (CGPA). The SAS-M, a validated instrument consisting of 10 items, measures smartphone addiction on a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree). The academic performance data, specifically the students' CGPA for the most recent semester, were obtained with institutional permission. The SAS-M was adapted from Ching et al. (2015) and underwent descriptive and factor analyses, intra-class coefficient evaluations, t-tests, and correlation analyses to confirm its reliability and validity. Bartlett's test of sphericity yielded a significant result ($p < 0.01$), and the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.92, indicating that factor analysis was appropriate. The internal consistency of the SAS-M was confirmed with a Cronbach's alpha of 0.94. All subscales of the SAS-M, except for positive anticipation, showed significant correlations with the Malay version of the Internet Addiction Test (IAT). Permission to use the SAS-M was granted via email on June 16, 2024.

Data collection occurred from September 2024. After obtaining informed consent, students from Semester 2 to Semester 6 were administered the SAS-M questionnaire during scheduled class sessions. CGPA data were acquired from the institution to accurately reflect academic performance. The research team ensured confidentiality and privacy by removing all identifying information. The data were analysed using IBM SPSS Statistics Version 28.0. Descriptive statistics, including means, standard deviations, frequencies, and percentages, summarized the levels of smartphone addiction and academic performance. Pearson's correlation coefficient was used to examine the relationship between smartphone addiction and academic performance, given that both variables—smartphone addiction and CGPA—are continuous. A p-value of less than 0.05 was deemed statistically significant. The strength and direction of the correlation were assessed to determine whether higher levels of smartphone addiction were associated with lower academic performance, in line with the study's objectives.

Ethical Considerations

Ethical approvals for this study were obtained from the Medical Research and Ethics Committee (MREC) with NMRR ID-24-02468-ZIJ and the head of the institution under the Ministry of Health in Kelantan, Malaysia. Informed consent was obtained from all participants before they engaged in the study. Participants were provided with comprehensive information about the study's purpose, procedures, potential risks, and benefits. They were informed of their right to withdraw from the study at any time without any impact on their academic performance or institutional services. To ensure confidentiality, all data were anonymized, and personal identifiers were removed from the dataset. Data were stored securely, with access restricted to the research team only. The study adhered to strict protocols to protect participants' privacy and the integrity of their information.

OBJECTIVES

The primary objective of this study is to examine the differences in academic performance among nursing students based on their levels of smartphone addiction. Specifically, the study aims to:

1. Determine the extent of smartphone addiction among nursing students using the Smartphone Addiction Scale - Malay Version (SAS-M).
2. Identify the academic performance of nursing students based on their Cumulative Grade Point Average (CGPA) for the most recent semester.
3. Assess the differences in academic performance between students with varying levels of smartphone addiction to understand whether higher levels of smartphone addiction correspond to lower academic performance.
4. Evaluate the relationship between socio-demographic factors and the level of smartphone addiction.

FINDINGS

Respondent's Demographic Characteristics

Table 1 shows the demographic characteristics for 301 respondents. Most respondents are aged between 19 and 24 years (n= 241, 80.1%), and the majority are female (n= 264, 87.7%). Regarding the number of dependent siblings relying on family income, the largest group reported having 1-2 siblings (n= 138, 45.8%). The highest representation was from students in Year 2, Semester 1 (n= 135, 44.9%). Most respondents come from families with a monthly income below RM 2,000 (n= 197, 65.4%). The average number of hours spent using a smartphone per week is mean (SD)= 34.19 hours (30.47), and the average age at first smartphone use is mean (SD) = 13.88 years (2.20) with an average CGPA of mean (SD)= 3.76 (0.20).

Table 1: Respondent's Demographic Characteristics (n=301)

Socio-demographic data	Frequency	Percentage
Age	241	80.1
19-24 years	60	19.9
25-29 years		
Gender		
Male	37	12.3
Female	264	87.7
Dependent siblings count on family income		
No sibling	91	30.2
1-2 siblings	138	45.8
>3 siblings	72	23.9
Current semester		
Semester 2	135	44.9
Semester 3	30	10.0
Semester 4	33	11.0
Semester 5	31	10.3
Semester 6	72	23.9
Family income per month:		
Below RM 2,000	197	65.4
RM 2,001 to RM 5,000	77	25.6
RM 5,001 to RM 10,000	24	8.0
RM 10,001 to RM 15,000	3	1.0
Average weekly smartphone usage (hours):	*2-200	**34.19 (30.47)
Age when first using a smartphone (years):	4-19	**13.88 (2.20)
Cumulative Grade Point Score (CGPS)	*2.48-4.00	**3.76 (0.20)

*Min-max
**Mean (SD)

Analysis of Smartphone Use and Its Effects Among Diploma Nursing Students

Table 2 shows the distribution of responses regarding the impact of smartphone use among nursing students. A significant number of students frequently reported difficulties such as concentrating in class or on assignments (n= 84, 27.9%) and challenges in stopping smartphone use despite its disruption to daily life (n= 82, 27.2%). Many also felt happy (n= 96, 31.9%) and confident (n= 102, 33.9%) while using their smartphones. A notable portion experienced a sense of loss when unable to use their smartphones (n= 98, 32.6%) and believed that their smartphone friends understood them better than real-life friends (n= 112, 37.2%). Additionally, issues such as a fully charged battery not lasting a day (n= 68, 22.6%) and using smartphones longer than intended (n= 63, 20.9%) were common. The results indicate a substantial impact of smartphone use on students' academic focus, daily routines, and overall well-being.

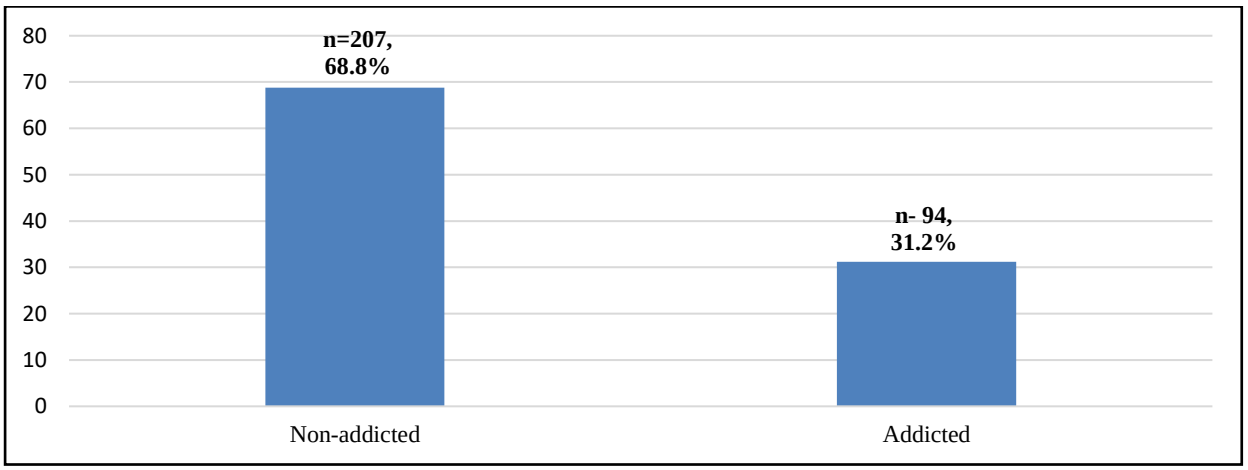
Table 2: Analysis of Smartphone Use and Its Effects Among Diploma Nursing Students (n=301)

Items	n (%)					
	1	**2**	**3**	**4**	**5**	**6**
Planned work cannot be done due to smartphone use	81 (26.9)	78 (25.9)	37 (12.3)	41 (13.6)	35 (11.6)	29 (9.6)
Difficult to concentrate in class, while doing assignments, or at work due to smartphone use	84 (27.9)	87 (28.9)	38 (12.6)	38 (12.6)	32 (10.6)	22 (7.3)
Feel happy and excited while using a smartphone	20 (6.6)	22 (7.3)	23 (7.6)	69 (22.9)	96 (31.9)	71 (23.6)
Feel confident while using a smartphone	22 (7.3)	13 (4.3)	24 (8.0)	65 (21.6)	102 (33.9)	75 (24.9)
Always thinking about my smartphone even when I am not using it	81 (26.9)	73 (24.3)	61 (20.3)	50 (16.6)	25 (8.3)	11 (3.7)
I won't stop using my smartphone even though it greatly disrupts my daily life	77 (25.6)	82 (27.2)	60 (19.9)	37 (12.3)	28 (9.3)	17 (5.6)
Feel a sense of loss, like losing a friend, when unable to use a smartphone	98 (32.6)	80 (26.6)	49 (16.3)	29 (9.6)	28 (9.3)	17 (5.6)
Feel that friends on the smartphone understand me better than real-life friends	112 (37.2)	76 (25.2)	51 (16.9)	25 (8.3)	20 (6.6)	17 (5.6)
A fully charged smartphone battery doesn't last a day	68 (22.6)	54 (17.9)	43 (14.3)	39 (13.0)	56 (18.6)	41 (13.6)
Use a smartphone longer than I intended	63 (20.9)	57 (18.9)	57 (18.9)	50 (16.6)	42 (14.0)	32 (10.6)

Notes: 1= Strongly Disagree; 2= Disagree; 3= Somewhat Disagree; 4= Somewhat Agree; 5= Agree and 6; Strongly Agree

Level of Smartphone Addiction

Carta bar 1 indicates that 68.8% of respondents (n= 207 individuals) are classified as not addicted to smartphones, whereas 31.2% (n= 94 individuals) are identified as addicted. This suggests that most of the respondents do not display signs of smartphone addiction, while a notable minority does.



Carta bar 1: Level of Smartphone Addiction (n=301)

Difference between levels of smartphone addiction and CGPS Scores

Table 3 presents the difference between levels of smartphone addiction and CGPS scores. The results indicate that individuals classified as not addicted to smartphones (n = 207, 68.8%) have a mean CGPS score of 3.78 (SD = 0.18), while those classified as addicted (n = 94, 31.2%) have a mean CGPS score of 3.73 (SD = 0.23). The t-test analysis yields a t-value of 2.00 with 299 degrees of freedom, and the p-value is 0.047, which is less than the significance level of 0.05. This result indicates a statistically significant difference in CGPS scores between the two groups, suggesting that the level of smartphone addiction is associated with a difference in CGPS scores.

Table 3: Differences Between Levels of Smartphone Addiction and CGPS Scores (n=301)

Level Addiction	n (%)	CGPS					Decision
		Mean	SD	t	df	*p-value*	
Non-addicted	207 (68.8)	3.78	0.18	2.00	299	***0.047***	**Accepted**
Addicted	94 (31.2)	3.73	0.23				

Significant (p-value <0.05)

Relationship between demographic and smartphone addiction

Table 4 examines the relationship between socio-demographic factors and smartphone addiction levels. The analysis reveals that no significant associations were found between addiction levels and age (p = 0.818), gender (p = 0.866), number of dependent siblings (p = 0.445), current semester (p = 0.131), family income (p = 0.867), or age at first use (p = 0.258). Additionally, there is no significant difference in average weekly smartphone use between non-addicted (34.19 hours) and addicted individuals (35.40 hours) (p = 0.643). These findings suggest that socio-demographic factors and usage patterns do not significantly influence the level of smartphone addiction among the respondents.

Table 4: Relationship Between Socio-Demographic and Levels of Smartphone Addiction (n=301)

Socio-demographic data	n (%)	Level of Addicted		*p-value*
		Non-addicted	Addicted	
Age				*0.818*[a]
19-24 years	241 (80.1)	165 (68.5)	76 (31.5)	
25-29 years	60 (19.9)	42 (70.0)	18 (30.0)	
Gender				*0.866*[a]
Male	37 (12.3)	25 (67.6)	12 (32.4)	
Female	264 (87.7)	182 (68.9)	82 (31.1)	
Dependent siblings count on family income				*0.445*[a]
No sibling	91 (30.2)	58 (63.7)	33 (36.3)	
1-2 siblings	138 (45.8)	97 (70.3)	41 (29.7)	
>3 siblings	72 (23.9)	52 (72.2)	20 (27.8)	
Current semester				*0.131*[a]
Semester 2	135 (44.9)	93 (68.9)	42 (31.1)	
Semester 3	30 (10.0)	19 (63.3)	11 (36.7)	
Semester 4	33 (11.0)	29 (87.9)	4 (12.1)	
Semester 5	31 (10.3)	20 (64.5)	11 (35.5)	
Semester 6	72 (23.9)	46 (63.9)	26 (36.1)	
Family income per month:				*0.867*[a]
Below RM 2,000	197 (65.4)	135 (68.5)	62 (31.5)	
RM 2,001 to RM 5,000	77 (25.6)	55 (71.4)	22 (28.6)	
RM 5,001 to RM 10,000	24 (8.0)	15 (62.5)	9 (37.5)	
RM 10,001 to RM 15,000	3 (1.0)	2 (66.7)	1 (33.3)	
Weekly smartphone use (hours)	*34.19 (30.47)	*33.64 (30.92)	*35.40 (29.58)	*0.643*[b]
Age at first use (years)	**13.88 (2.20)	*13.98 (2.16)	*13.67 (2.29)	*0.258*[b]

Notes:

- One-way ANOVA[a]; t=Independent T-test[b]
- *Statistically significant (p value<0.05)*
- *Min-max
- **Mean (SD)

DISCUSSIONS

This study reveals that 68% of nursing students do not experience smartphone addiction, a finding that diverges from global trends, which often indicate high levels of smartphone addiction among young people. This contrast may be due to regional or cultural differences that influence smartphone use patterns. For example, Mohebi et al. (2018) reported moderate levels of smartphone addiction among nursing students, while Ahmad Sharoni et al, (2020) and Hashim et al., (2023) found high levels of addiction among students in Malaysia and the University of Mosul, respectively. In contrast, Norbaidurah Ithnain et al. (2018) and Uzunçakmak et al. (2022) found lower levels of addiction, reporting only 47.7% and 42.4% of students with high addiction levels.

The findings of this study also highlight that the average age at which respondents first used a smartphone was 13.88 years, with a range from 4 to 19 years. This reflects a growing trend of early smartphone usage among nursing students. Previous research has indicated that early exposure to smartphones can contribute to the development of technology addiction, particularly when use is not moderated from a young age (Schmidt et al., 2020; Schulz van Endert, 2021). Early exposure may condition students to use smartphones in ways that prioritize short-term rewards, making them more susceptible to addiction later in life.

Moreover, the study found that nursing students spend an average of 34.19 hours per week using their smartphones, with usage ranging from 2 to 200 hours per week. Such prolonged usage can disrupt focus and study time, ultimately affecting academic performance. Excessive smartphone use has been linked to lower attention spans and decreased academic productivity, aligning with studies that highlight a negative correlation between smartphone addiction and academic achievement. Tárrega-Piquer et al. (2023) showed that smartphone addiction can reduce study time and focus, thereby negatively impacting academic performance. Similarly, Fiorinelli et al. (2021) emphasized that uncontrolled smartphone use drains cognitive resources necessary for academic and professional success.

In relation to academic performance, this study found a significant relationship between smartphone addiction and lower Cumulative Grade Point Average (CGPA) among nursing students. This aligns with research by Shekhar Das, (2023), which found that excessive smartphone use detrimentally impacts not only academic performance but also mental health and daily functioning. Furthermore, findings by Bugti et al. (2023) demonstrated that while social relationships and excessive smartphone use positively influence addiction, the craving for smartphone use was not a significant factor. These studies collectively highlight the nuanced effects of smartphone addiction on academic outcomes.

In the context of the emerging Metaverse era, the issue of smartphone addiction becomes increasingly complex. The immersive nature of virtual environments in the Metaverse has the potential to exacerbate distractions, further aggravating addiction-related challenges. Studies by Awodiji & Baluka, (2023) and Rodriguez-Florido & Maynar, (2024) suggest that over-involvement in Metaverse activities could disrupt students' academic focus. The increasing appeal of virtual interactions and the merging of social and educational spaces in the Metaverse may complicate efforts to manage smartphone use. Consequently, strategies to mitigate the effects of smartphone addiction must evolve to address these new challenges in digital environments.

Approaches to managing smartphone use, such as creating structured digital environments and implementing usage limits, are critical in addressing the challenges posed by both current and future digital platforms. Liu, (2021) suggests that tailored interventions should be designed to tackle the issue in increasingly digitalized learning environments like the Metaverse. Furthermore, Razavi, et al, (2024) stresses the importance of fostering self-control among students, emphasizing that students need to learn how to balance the benefits of technology with their academic responsibilities.

Specific findings from this study further underscore the impact of excessive smartphone use. Students who spent over 40 hours per week using their smartphones exhibited lower CGPAs than those who maintained more moderate smartphone use. This is consistent with research by Lazarus, (2020), which

attributes lower academic performance to the distraction caused by excessive smartphone use, as time meant for studying or resting is interrupted. However, there is also research highlighting the positive aspects of mobile technology. Haleem et al. (2022) found that mobile technology could enhance educational engagement by facilitating easier access to learning resources, promoting collaborative learning, and increasing student motivation. Similarly, Criollo-C et al. (2021) pointed out that using smartphones for educational purposes helps develop crucial digital skills that are essential for future employment, suggesting a dual role for smartphones in both academic and professional growth.

In analysing the sociodemographic variables, this study found that factors such as age, gender, number of siblings, current semester, family income, and the age at which students began using smartphones did not significantly affect the levels of smartphone addiction among nursing students. These results suggest that demographic factors may not play a substantial role in influencing smartphone addiction within this specific group. This is consistent with findings by Sam, (2022), who reported no significant relationship between learning styles and demographic variables among nursing students. However, Tárrega-Piquer et al. (2023) and Ahmad Sharoni et al, (2020) noted that demographic factors such as age may influence smartphone addiction in other contexts. Furthermore, Nayak, (2018) found that both male and female students experienced smartphone addiction, with females showing higher addiction levels, which subsequently affected their academic performance. These findings are further supported by Bugti et al. (2023), who found that social relationships and excessive smartphone use significantly contributed to smartphone addiction, while the mere desire to use smartphones was not a key factor in fostering addiction.

In conclusion, while this study highlights the relatively lower prevalence of smartphone addiction among nursing students compared to global trends, it also emphasizes the impact of excessive smartphone use on academic performance. Given the complexities introduced by new digital platforms like the Metaverse, it is essential for educators and policymakers to implement strategies that help students balance smartphone use with academic demands. By creating structured digital environments and fostering self-discipline, it is possible to mitigate the negative effects of smartphone addiction and harness the positive potential of digital technology for academic and professional success.

SIGNIFICANCE TO NURSING EDUCATION

The findings of this study hold significant implications for nursing education as they provide valuable insights into the relationship between smartphone addiction and academic performance among nursing students. The study reveals that 68% of the students did not exhibit signs of smartphone addiction, contrasting with global trends that often report high levels of addiction among young adults. This suggests that cultural and regional factors may influence patterns of smartphone addiction. The study also highlights those higher levels of smartphone addiction are associated with lower academic achievement, consistent with previous research on the negative impact of excessive smartphone use on academic performance. In the context of the Metaverse era, these challenges may become even more complex, making it essential for nursing education administrators and policymakers to develop effective strategies to manage smartphone use and optimize students' learning outcomes.

CONCLUSION AND RECOMMENDATION

This study reveals that the level of smartphone addiction among nursing students varies, with the majority exhibiting low to moderate levels of addiction. Specifically, 68% of students do not demonstrate significant smartphone addiction, while the remaining 32% exhibit higher levels of addiction. A significant negative correlation was found between smartphone addiction and academic performance, as measured by CGPA, indicating that higher levels of smartphone addiction are

associated with lower academic performance. However, this study did not find significant relationships between smartphone addiction and demographic factors such as age, gender, and number of siblings. The study has several limitations, including a sample size confined to students from a single institution in Kelantan, reliance on self-reported data which may introduce bias, and the exclusion of other influencing factors such as emotional stress and social support. Additionally, the cross-sectional design of the study limits the ability to analyse changes over time. Recommendations for institutions include implementing digital literacy programs on responsible smartphone use, providing psychosocial support through counselling, and monitoring technology use in classrooms. Future research should involve a broader population, conduct longitudinal studies to track changes over time, and evaluate interventions and strategies to prevent smartphone addiction among nursing students.

CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest in this study. All authors and researchers involved have no financial, personal, or professional relationships with any third parties that could influence the design, conduct, or reporting of this study. Any financial support or contributions received for this study have been disclosed and do not affect the study's outcomes or data analysis. The integrity and objectivity of this study have been maintained rigorously to ensure valid and reliable results.

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PELAKSANAAN KURIKULUM AWAL KEUSAHAWANAN BAGI KANAK-KANAK PRASEKOLAH

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ABSTRAK

Kurang pengetahuan berkaitan kepentingan pelaksanaan kurikulum awal keusahawanan bagi kanak-kanak prasekolah. Tidak banyak kajian lepas yang dilakukan di Malaysia berkenaan kepentingan pelaksanaan kurikulum awal keusahawanan bagi kanak-kanak prasekolah. Hal ini menyebabkan sesetengah pihak hanya memandang ringan berkaitan pelaksanaan kurikulum awal keusahawanan bagi kanak-kanak prasekolah. Kajian ini akan membincangkan berkaitan pelaksanaan awal kurikulum bagi kanak-kanak prasekolah. Walhal benda ini bukan perkara baru dalam sistem Pendidikan. Pendekatan Awal keusahawanan telah lama dilaksanakan di Negara-barat. Kajian ini dijalankan bertujuan untuk meneroka pelaksanaan kurikulum awal keusahawanan bagi kanak-kanak prasekolah. Kajian ini dilaksanakan dengan menggunakan kaedah kualitatif melalui temu bual, dan analisis dokumen. Dapatan kajian mendapati bahawa pengetahuan dan kesediaan masyarakat untuk menjalankan atau melaksanakan kurikulum awal keusahawanan bagi kanak-kanak prasekolah diberi peluang di masa akan datang.

***Kata kunci**: Kurikulum, Awal keusahawanan, Pendidikan Awal Kanak-kanak*

PENGENALAN

Pelaksanaan Kurikulum Awal Keusahawanan bagi Kanak-Kanak Prasekolah ada satu inisiatif baharu untuk menerap nilai keusahawan sejak muda kepada kanak-kanak. Pendidikan berkaitan asas keusahawanan awal kanak-kanak haruslah lebih khusus, bersifat penglibatan secara langsung di rumah dan dikembangkan dengan lebih realistik. Contohnya, permainan popular papan Monopoly yang bercirikan perniagaan perumahan dan hartanah, seharusnya boleh dirancang bersama anak-anak di rumah bagi memberi pengalaman dan kemahiran dalam hal ehwal pengurusan kewangan yang dimainkan.

Pelaksanaan Kurikulum Awal Keusahawanan memberikan satu alternatif baru kepada kurikulum pendidikan awal kanak-kanak. Di masa hadapan Awal Keusahawanan adalah satu keperluan asas kepada setiap individu. Perancangan dan penggubalan Kurikulum Prasekolah Kebangsaan berlandaskan prinsip Rukun Negara dan Falsafah Pendidikan Kebangsaan sebagai pendukung matlamat dan wawasan negara. Perancangan dan penggubalan Kurikulum Prasekolah Kebangsaan juga mengambil kira pandangan dan falsafah serta teori pendidikan awal kanak-kanak, psikologi dan perkembangan kanak-kanak serta trend pembelajaran terkini seperti teori pelbagai kecerdasan, teori kecerdasan emosi dan konsep e-pembelajaran. Kurikulum Standard Prasekolah Kebangsaan, terutamanya pada abad ke-21, memberi penekanan yang kuat kepada STEM (Sains, Teknologi, Kejuruteraan, dan Matematik), kemahiran berfikir aras tinggi (KBAT), dan aspek kreatif dan inovatif. Walau bagaimanapun, kebolehan keusahawanan dan kewangan adalah sama pentingnya untuk persediaan pendidikan dan kemahiran pekerjaan anak-anak untuk menghadapi halangan kehidupan masa depan. Pendidikan keusahawanan kanak-kanak seharusnya menjadi amalan yang berguna dalam mengaplikasikan kehidupan berdasarkan pengalaman sebenar bagi menyokong kesediaan generasi awal menghadapi masalah pekerjaan pada masa hadapan.

Generasi awal merupakan antara pengamal utama yang akan bersedia menghadapi alam pekerjaan yang semakin mencabar dalam usaha Kementerian Pendidikan Malaysia (KPM) melalui Dasar Pelan Pembangunan Pendidikan 2020-2023 yang menekankan aspek kesinambungan persediaan menuju kemakmuran. kehidupan di masa hadapan. Pendidikan kewangan, keusahawanan, kesediaan untuk kejadian yang tidak dijangka pengenalan kepada wang, dan keperluan serta kehendak simpanan bersama adalah sebahagian daripada komponen penting keusahawanan asas untuk kanak-kanak yang boleh dipupuk di rumah, menurut Prof Dr Mohamad Fazli Sabri , Pakar Pendidikan Kewangan Pengguna di Universiti Putra Malaysia (UPM). Keupayaan kanak-kanak mengendalikan kewangan mereka secara bertanggungjawab dan bijak pada masa hadapan dalam beberapa cara dipengaruhi oleh pendedahan mereka kepada pendidikan dan pengajaran kewangan yang menarik dan bersesuaian dengan umur. Golongan muda yang terdedah kepada budaya perniagaan mungkin membesar menjadi usahawan masa depan yang mungkin mengalami kesukaran dalam kerjaya mereka. Oleh itu, mengajar Kanak-kanak di prasekolah asas-asas keusahawanan adalah strategi yang boleh merapatkan jurang ekonomi dalam masyarakat dengan membolehkan kejayaan generasi semasa, yang mengendalikan wang dengan menggunakan teknologi digital moden.

Melaksanakan pendidikan keusahawanan khususnya pada peringkat awal kanak-kanak bertujuan untuk membangunkan minda dan sahsiah kanak-kanak serta pendidik mereka menjalankan perniagaan dan menjadi ahli perniagaan atau usahawan. Kajian Do Paço dan Joo Palinhas (2011), yang cuba menyemai dan mengembangkan sifat peribadi dalam kalangan anak muda, menyokong perkara ini dengan menunjukkan betapa pentingnya untuk menerapkan pendidikan keusahawanan dalam diri mereka. Malangnya, sistem pendidikan Malaysia, khususnya di peringkat awal, dianggap tidak mencukupi untuk memberi perhatian kepada kepentingan pembelajaran keusahawanan. Di institusi pendidikan malaysia, pembelajaran perbandaran hanya tertumpu kepada peringkat teori. Proses pendidikan masih kurang untuk membangunkan watak ahli perniagaan yang tegar (El Khuluqo, 2016). Bagi melaksanakan atau menerapkan satu kurikulum di prasekolah bukan perkara yang mudah kerana ia akan memberi impak dalam pelbagai sektor dan melibatkan banyak pihak serta tenaga mahir lain.

Bagi Kurikulum Awal Keusahawanan, kesediaan guru, pendidikan atau pihak berwajib bagi menyediakan rancangan mengajar atau pendekatan untuk menjalankan pengajaran dan pembelajaran (PdP) di prasekolah. Akan tetapi seperti sedia maklum sesetengah pendidik atau guru tidak bersedia atau tidak mahir dalam pendidikan Awal Keusahawanan. Senario sebegini menunjukkan bahawa para pendidik masih tidak melakukan kerja yang baik untuk membina sahsiah anak-anak muda. Pendidikan keusahawanan merupakan salah satu perkhidmatan pendidikan untuk membentuk watak (Wasty Soemanto, 2008). Kanak-kanak diajar bagaimana untuk melihat potensi mereka sendiri, mengurus masa mereka, berkomunikasi dengan berkesan, mengawal emosi mereka, dan menyesuaikan diri dalam pilihan dan membuat keputusan mereka. Semasa kanak-kanak masih kecil, ibu bapa dan pengajar boleh memupuk semangat keusahawanan dalam diri mereka.

KAJIAN LITERATUR

Kementerian Pendidikan Malaysia (KPM) mendefinisikan kurikulum sebagai rancangan pengajaran yang diselia oleh sekolah atau institusi pendidikan lain untuk mencapai objektif pendidikan. Ia melibatkan pengendalian maklumat, kebolehan, piawaian tingkah laku, komponen budaya, dan keyakinan bersama yang perlu disampaikan kepada ahli kumpulan. Menurut Neagley dan Evans (1992), kurikulum merangkumi semua pengalaman yang dianjurkan dan disediakan oleh sekolah. Terdapat juga pandangan dari Dr. Norhashimah Hashim dan Yahya Che Lah (2003) yang menyatakan bahawa kurikulum adalah rancangan pengajaran dan pembelajaran yang disusun untuk mencapai matlamat pendidikan. Feldman (1991) mencadangkan bahawa terdapat lima komponen utama yang membentuk kurikulum: falsafah, matlamat dan objektif, isi kandungan, aktiviti pembelajaran, dan penilaian.

Keusahawanan merujuk kepada kemampuan berfikir secara kreatif dan inovatif, serta menggunakan kemahiran tersebut untuk mencapai kejayaan. Mempelajari asas keusahawanan dari usia awal adalah penting, kerana kanak-kanak prasekolah dianggap sebagai tempoh terbaik untuk memupuk sikap dan amalan keusahawanan. Menurut Axelsson et al. (2015), prasekolah berfungsi sebagai titik permulaan untuk pembangunan diri keusahawanan. Melalui program pendidikan yang berkesan, kanak-kanak dapat mempelajari kemahiran kewangan dan pengurusan yang akan berguna dalam kehidupan mereka di masa hadapan (Halim & Ann, 2016). Pengetahuan awal tentang pengurusan kewangan mungkin memberi kesan yang signifikan terhadap aktiviti keusahawanan mereka di masa hadapan. Model Reggio Emilia menekankan penglibatan kanak-kanak, guru, dan keluarga dalam pendidikan. Guru berperanan sebagai rakan kepada kanak-kanak dan bertindak sebagai fasilitator dalam proses pengajaran. Penglibatan ibu bapa dalam pengajaran dan pembelajaran adalah penting untuk meningkatkan keberkesanan pendidikan.

Kajian oleh Cheng et al. (2020) menunjukkan bahawa penglibatan perniagaan keluarga yang kukuh menyumbang kepada kejayaan usahawan dalam kalangan anak-anak. Pengajaran asas keusahawanan sejak kecil, terutamanya kepada kanak-kanak dari keluarga B40, adalah penting untuk membantu mereka menguruskan kewangan dan perbelanjaan mereka dengan baik. Aktiviti pembelajaran yang melibatkan permainan dan interaksi sosial dapat memperkaya pengalaman pendidikan mereka (Inanna et al., 2020). Kanak-kanak prasekolah, yang berumur antara 4 hingga 6 tahun, berada dalam fasa perkembangan penting di mana pertumbuhan otak mereka mencapai 80% daripada kemampuan mereka di masa dewasa (Suyadi, 2014). Pendidikan awal kanak-kanak adalah langkah pertama dan terpenting dalam perkembangan karakter, kognitif, linguistik, dan emosi mereka. Kementerian Pendidikan Malaysia menyediakan pendidikan prasekolah melalui pelbagai program yang direka untuk memastikan setiap kanak-kanak mendapat akses kepada pendidikan berkualiti.

METODOLOGI

Kajian ini menggunakan reka bentuk kajian kes dengan pendekatan deskriptif kualitatif. Suharsimi Arikunto (2002) mendefinisikan kajian kes sebagai penyiasatan mendalam yang dijalankan terhadap satu perniagaan atau institusi tertentu. Dalam konteks ini, kajian akan meneliti pelaksanaan pembelajaran keusahawanan awal bagi kanak-kanak secara menyeluruh. Reka bentuk pengumpulan data bertujuan untuk memastikan pengumpulan data yang bermakna, seperti yang dinyatakan oleh Diekmann (1995). Meskipun kajian kualitatif kurang menekankan kawalan pengkaji terhadap situasi, Miles dan Huberman (1994) menekankan bahawa reka bentuk penyelidikan kualitatif tetap wujud. Sampel kajian terdiri daripada dua pensyarah dari sebuah universiti awam yang pakar dalam bidang keusahawanan dan seorang pengusaha tadika swasta. Melalui kaedah temu bual, pengkaji berhasrat mendapatkan data mengenai pelaksanaan kurikulum awal keusahawanan, kesediaan untuk melaksanakannya kepada kanak-kanak prasekolah, serta kebaikan dan cabaran yang mungkin dihadapi.

Populasi sasaran perlu dikenalpasti sebelum memulakan proses persampelan. Dalam penyelidikan kualitatif, persampelan bukan kebarangkalian sering digunakan. Kaedah persampelan sengaja dipilih berdasarkan pengetahuan peserta tentang topik kajian. Kriteria tertentu ditetapkan untuk memilih sampel, termasuk kanak-kanak prasekolah yang terlibat dalam pelaksanaan kurikulum ini. Melalui kajian rintis ini, instrumen akan diuji kepada peserta yang mempunyai latar belakang yang sama, dan pengkaji dapat mengasah kemahiran dalam menjalankan temu bual serta menganalisis data.

Dalam kajian ini, pengkaji menggunakan temu bual sebagai instrumen utama. Temu bual yang dilakukan adalah berstruktur, di mana peserta dikehendaki menjawab soalan yang telah disediakan. Pendekatan ini memastikan kesesuaian dengan objektif kajian. Soalan temu bual dibahagikan kepada

tiga bahagian yang berkaitan dengan pelaksanaan kurikulum awal keusahawanan, persediaan ibu bapa, dan potensi kelebihan serta kelemahan. Data kualitatif dikumpulkan melalui teknik seperti temu bual dan dokumentasi. Temu bual dilakukan untuk mendapatkan maklumat tentang pelaksanaan kurikulum awal keusahawanan, sementara dokumentasi digunakan untuk menyokong data yang diperoleh. Sesi temu bual akan dirakam untuk memastikan ketepatan data.

Faktor Demografi Pakar

Demografi pakar temubual bagi kajian kurikulum awal keusahawanan bagi kanak-kanak prasekolah adalah dalam kalangan pakar pendidikan awal kanak-kanak, pakar kurikulum dan pengusaha tadi swasta yang mempunyai pengalaman melebihi 10 hingga 30 tahun. Bagi kajian seramai tidak orang pakar telah di temubual yang berusia 30 tahun hingga 60 tahun. Selain itu, pakar-pakar mempunyai kelayakan akademik daripada diploma hingga peringkat ijazah kedoktoran. Kesemua pakar telah mempunyai pengalaman yang cukup lama dalam bidang pendidikan awal kanak-kanak, pengalaman kesemua pakar melebihi 15 tahun dan ada yang melebihi 25 tahun. Mereka terdiri daripada dua orang pensyarah di institut pengajian tinggi awam di malaysia, dan seorang daripada pensyarah tersebut mempunyai pengalaman melebihi 20 tahun dalam pengusaha tadika swasta serta seorang lagi pakar yang dipilih merupakan seorang pengusaha tadika swasta yang mempunyai lebih dari dua tadika dibawah kelolaan syarikatnya. Mereka mempunyai kepakaran dalam membina modul di tadika atau pernah menjadi tenaga kerja dalam bidang pendidikan awal kanak-kanak. Pakar ini dipilih berdasarkan kepakaran mereka dalam bidang pendidikan awal kanak-kanak yang cukup berpengalaman. Kesemua pakar telah dihubungi melalui atas talian untuk menjadikan mereka sebahagian daripada responden bagi kajian ini dan sesi temubual telah dijalankan di atas talian.

OBJEKTIF KAJIAN

Secara umum, kajian ini melihat pelaksanaan dan kesediaan guru serta cabaran yang bakal dihadapi bagi melaksanakan Kurikulum Awal Keusahawanan bagi Kanak-Kanak Prasekolah:

1. Meneroka pelaksanaan Kurikulum Awal Keusahawanan bagi Kanak-Kanak Prasekolah.
2. Meneroka kesediaan guru melaksanakan Kurikulum Awal Keusahawanan bagi Kanak-Kanak Prasekolah.
3. Meneroka cabaran pelaksanaan Kurikulum Awal Keusahawanan bagi Kanak-Kanak Prasekolah.

DAPATAN KAJIAN

Dapatan kajian bagi soalan kajian satu : "Bagaimana pelaksanaan Kurikulum Awal Keusahawanan bagi Kanak-Kanak Prasekolah". Hasil dapatan temubual yang dijalankan oleh pengkaji terhadap dua orang pensyarah dan seorang pengusaha tadika swasta mendapati terdapat pelbagai pandangan yang menarik dalam cara pelaksanaan kurikulum awal Keusahawanan bagi Kanak-Kanak Prasekolah. Terdapat pandangan responden terhadap pelaksanaan kurikulum ini dijalankan di peringkat sekolah. Pandangan ini juga dikaitkan dengan kurikulum yang telah diguna pakai di prasekolah sekarang iaitu Kurikulum Standard Prasekolah Kebangsaan (KSPK). Bagi soalan berkaitan dengan bentuk pelaksanaan terdapat pelbagai bentuk yang digunakan untuk pelaksanaan Kurikulum Awal Keusahawanan bagi Kanak-Kanak Prasekolah. Dapatan hasil temu bual boleh dilihat dibawah. Jika dilihat berdasarkan temu bual ini, boleh dilihat ketiga-tiga responden bersetuju bahasa kurikulum boleh dilaksanakan dalam bentuk pembelajaran yang berasaskan projek.

" Bagi saya bentuk pelaksanaan yang sesuai dijalankan adalah dengan membuat projek. Guru boleh rancang satu projek yang menarik untuk menerapkan nilai keusahawanan dalam pembelajaran.

Penggunaan projek based learning ni lagi menarik dan dapat menarik minat kanak-kanak lakukan aktiviti berkaitan ini."

(R1,TT1: 26-29)

" bentuk pelaksaan yang sesuai untuk jalankan aktiviti yang melibatkan ini adalah dengan mengadakan projek seperti hari open day, hari kantin dan sebagainya. Bentuk ni dalam libatkan kanak-kanak secara terus. Sekolah boleh jalankan projek ini pada hujung minggu dan dapat libatkan ibu bapa."

(R2,TT1: 21-24)

" saya rasa kurikulum ini boleh dijalankan dalam bentuk projek dan jadikan dia satu batu loncatan untuk meneroka bakat kanak-kanak dalam bidang keusahawanan. Selain itu, hal bukan sahaja membantu melatih kanak-kanak memahami tentang realiti jual beli yang sebenar dan membantu kanak-kanak menjana wang mereka sendiri."

(R3,TT1: 35-39)

Pendekatan bersepadu dalam pengajaran dan pembelajaran merupakan kaedah yang berkesan dalam membantu kanak-kanak memahami hakikat kehidupan sebenar. Dalam kehidupan seharian, pelbagai aspek saling berkaitan dan tidak dapat dipisahkan. Oleh itu, pendekatan bersepadu memfokuskan kepada kesepaduan antara komponen, kemahiran, serta nilai-nilai murni yang diperlukan dalam kehidupan.

" bagi saya pelaksanaan ini wajar dilakukan kerana ini boleh dikaitkan tidak hanya pada nilai keusahawanan semata-mata ia juga merupakan satu aktiviti bersepadu keran tanpa mengira gender dia atau perkara lain. Selain itu dalam melaksanakan kurikulum ini juga melibatkan kognitif kanak-kanak, tidak hanya itu sahaja tetapi ia juga dapat menerapkan pelbagai komponen penting dalam hidup kanak-kanak sekolah seperti nilai murni, belajar kemahiran jual beli dan soft-skill mereka serta tidak ketinggalan juga kemahiran bertutur mereka."

(R3,TT1: 37-43)

Menurut responden ketiga, pelaksanaan Kurikulum Awal Keusahawanan dapat memberikan sokongan kepada perkembangan kanak-kanak secara menyeluruh. Pendekatan ini tidak hanya tertumpu pada satu komponen sahaja, tetapi memberi ruang untuk kanak-kanak meneroka pelbagai aspek dalam kehidupan mereka. Pendekatan bersepadu dalam pengajaran dan pembelajaran menawarkan satu kaedah yang holistik dan berkesan untuk perkembangan kanak-kanak. Dengan memberikan penekanan kepada kesepaduan pelbagai komponen, ia bukan sahaja meningkatkan pemahaman kanak-kanak tentang kehidupan sebenar tetapi juga membentuk mereka menjadi individu yang lebih berdaya saing dan berkeupayaan untuk berinteraksi dengan masyarakat secara positif.

Pembelajaran kontekstual adalah satu strategi pembelajaran yang mengintegrasikan bahan pelajaran dengan kehidupan seharian, masyarakat, dan tempat kerja. Pendekatan ini memberikan tugasan yang melibatkan penglibatan fizikal dan mental, yang pada akhirnya menghasilkan pembelajaran yang lebih bermakna. Apabila kanak-kanak dapat mencerna maklumat atau pengetahuan baru dengan cara yang relevan dan signifikan, proses pembelajaran dapat berlaku dengan lebih efektif.

Para pakar yang ditemubual dalam kajian ini telah menegaskan bahawa pembelajaran kontekstual boleh menjadi pendekatan yang berkesan dalam pelaksanaan kurikulum awal keusahawanan bagi kanak-kanak prasekolah. Salah satu responden menyatakan,

"Jika kita hilang di perkampungan orang asli, ramai boleh buat kraftangan dan hasilnya cantik. Guru di kawasan ini boleh menggunakan hal ini sebagai satu bentuk pengajaran yang menarik. Kanak-kanak orang asli boleh menggunakan persekitaran mereka untuk menjual hasil kerja mereka. Sekurang-kurangnya, jika mereka tidak menyelesaikan persekolahan, mereka memiliki pengetahuan tentang cara mencari duit menggunakan persekitaran mereka."

(R3, TT1: 51-56)

Responden kedua juga berkongsi tentang pelaksanaan aktiviti keusahawanan yang melibatkan ibu bapa.

"Di pusat saya, kami juga mengadakan aktiviti keusahawanan yang melibatkan ibu bapa kanak-kanak datang dan menjual bersama kanak-kanak di sekolah."

(R2, TT1: 40-41)

Ini menunjukkan betapa pentingnya kolaborasi antara ibu bapa dan pendidik dalam memperkayakan pengalaman pembelajaran kanak-kanak.Responden pertama pula menceritakan tentang inisiatif yang dijalankan sebelum pandemik Covid-19.

"Sebelum Covid-19 dan sistem e-learning diperkenalkan, kami telah melakukan aktiviti bersama kanak-kanak di mana mereka perlu menabung duit setiap hari. Duit tersebut dijadikan modal untuk mereka menjual nanti. Ada juga kanak-kanak yang melakukan jualan amal selepas majlis graduasi atau majlis lain. Mereka tidak menjual barang mahal, tetapi hasil kerja mereka sendiri, dan ibu bapa akan membelinya untuk menyokong anak-anak."

(R1, TT1: 10-15)

Dari analisis temubual yang dijalankan, jelas bahawa pendekatan pembelajaran kontekstual bukan sahaja relevan tetapi juga bermanfaat dalam pelaksanaan kurikulum awal keusahawanan bagi kanak-kanak prasekolah. Dengan mengintegrasikan pengalaman kehidupan sebenar dan melibatkan ibu bapa dalam proses pembelajaran, kanak-kanak dapat memperoleh kemahiran yang berguna dan relevan yang akan mempersiapkan mereka untuk masa depan.

Dalam Kurikulum Standard Prasekolah Kebangsaan (KSPK) 2017, salah satu elemen yang diketengahkan adalah keusahawanan. Keusahawanan dianggap sebagai elemen penting yang boleh disepadukan secara inovatif dalam proses PdP kanak-kanak prasekolah.

Seorang responden dalam kajian ini menyatakan bahawa penerapan elemen merentas kurikulum, termasuk keusahawanan, tidak memerlukan pengenalan kurikulum baharu. Sebaliknya, ia boleh dijalankan melalui improvisasi terhadap kurikulum sedia ada. Beliau mencadangkan bahawa pendekatan projek bukan satu-satunya cara untuk memperkenalkan konsep keusahawanan kepada kanak-kanak. Sebaliknya, aktiviti seperti main peranan yang melibatkan situasi sehari-hari, seperti membeli barang di pasar, boleh dimanfaatkan untuk menyepadukan unsur keusahawanan. Menurut responden:

"Bagi saya, selain pendekatan secara projek, penerapan elemen merentas kurikulum juga boleh digunakan untuk kurikulum awal kanak-kanak. Seperti mana guru menjalankan aktiviti bahasa tetapi melakukan main peranan yang berkisar situasi di pasar ke, beli barang ke. Daripada ini telah dimasukkan juga unsur keusahawanan secara kesepaduan dan elemen merentas kurikulum. Dan saya tak rasa perlu terapkan kurikulum baru berkaitan ini tapi hanya improvasi kurikulum yang sedia ada."

(R1, TT1: 20-25).

Pendekatan sebegini menunjukkan bahawa konsep keusahawanan boleh diajar dalam mana-mana tunjang yang sudah wujud dalam KSPK. Ia tidak memerlukan pembaharuan besar dalam struktur kurikulum tetapi memerlukan kreativiti dan inovasi dalam pendekatan PdP oleh guru. Ini menunjukkan bahawa EMK boleh memberi fleksibiliti kepada guru untuk mengajar pelbagai kemahiran hidup yang relevan dengan cara yang menarik dan bersepadu.

Berdasarkan kajian melalui temu bual, ketiga-tiga responden menunjukkan pengetahuan yang baik mengenai konsep awal keusahawanan dalam pendidikan awal kanak-kanak. Setiap responden memberikan pandangan yang serupa tentang pentingnya penerapan awal keusahawanan, yang merangkumi aktiviti yang berkaitan dengan urusan jual beli, penggunaan mata wang, dan interaksi sosial dalam perniagaan kecil.

Seperti yang dinyatakan oleh salah seorang responden:

"Berkenaan awal keusahawanan ye? Saya rasa basically awal keusahawanan ni berkaitan matematik awal yang melibatkan kanak-kanak menggunakan mata wang atau jual beli."

(R1, TT1: 15-18)

Seorang lagi responden menegaskan bahawa awal keusahawanan boleh digabungkan dalam aktiviti di sekolah dengan tujuan mendidik kanak-kanak tentang jual beli dan interaksi dengan orang lain:

"Bagi saya awal keusahawanan ni merupakan satu pendekatan yang boleh digabung jalinkan dengan aktiviti di sekolah. Selain itu, untuk awal keusahawanan ni untuk mendidik kanak-kanak tentang urusan jual beli, penggunaan mata wang dan cara berinteraksi dengan orang."

(R2, TT1: 25-28)

Manakala responden ketiga melihat awal keusahawanan sebagai satu cara untuk mencungkil bakat kanak-kanak dalam bidang perniagaan, sekaligus membentuk kualiti baharu dalam hidup mereka:

"Hmm awal keusahawanan.. Untuk saya awal keusahawanan membentuk kanak-kanak kualiti baru dalam hidup mereka. Kenapa saya cakap begitu? Kerana awal keusahawanan ni membantu kanak-kanak untuk mencungkil bakat baru dalam dunia perniagaan. Ini adalah pendedahan awal berkaitan perniagaan kepada kanak-kanak secara tidak langsung, hal ini mungkin dapat mereka gunakan jika perlu."

(R3, TT1: 20-24)

Berdasarkan cadangan responden, terdapat pelbagai aktiviti yang boleh dilaksanakan untuk memperkayakan pengalaman pembelajaran kanak-kanak dalam bidang keusahawanan. Antaranya termasuk menabung, jual beli semasa hari terbuka sekolah, dan aktiviti luar yang melibatkan komuniti.

Salah seorang responden mencadangkan:

"Untuk sekolah saya dulu, kami adakan sistem menabung seperti yang saya cakap sebelum ini. Kanak-kanak perlu menabung duit setiap hari dan duit yang ditabung akan digunakan sedikit untuk dijadikan modal perniagaan mereka. Mereka akan menjual pada hari terbuka atau hari kantin. Mereka jual benda-benda mudah macam roti sandwich atau hasil kerja mereka. Selain itu, kami juga bawa mereka ke pasar raya untuk belajar tentang pelbagai perkara."

(R1, TT1: 31-37)

Seorang lagi responden menekankan aktiviti projek, termasuk melibatkan ibu bapa dalam jualan seperti "car boot sale":

"Untuk tadika-tadika saya, kami lakukan banyak aktiviti berdasarkan projek. Kami ada hari 'open day' di mana kanak-kanak jual hasil kerja mereka. Selain itu, di tempat kami, kami juga libatkan ibu bapa seperti baru-baru ini kami jalankan 'car boot sale'. Mereka akan jual barang-barang yang tidak digunakan lagi."

(R2, TT1: 50-55)

Responden ketiga pula mencadangkan simulasi pasar malam dan penggunaan wang mainan sebagai cara interaktif untuk kanak-kanak memahami konsep jual beli:

"Sebelum saya menjadi pensyarah, saya merupakan pembantu guru prasekolah. Kami jalankan hari kantin atau simulasi pasar, dan membawa kanak-kanak ke pasar raya. Simulasi pasar malam ini sangat menarik kerana saya dan guru menyediakan wang mainan, dan kanak-kanak perlu membeli barang dengan duit yang disediakan."

(R3, TT1: 45-49)

Aktiviti seperti hari kantin dan lawatan ke pasar raya adalah usaha untuk memberikan pendedahan awal kepada kanak-kanak terhadap persekitaran dan situasi jual beli yang sebenar, sekaligus memperkenalkan mereka kepada dunia keusahawanan secara kreatif dan menyeronokkan.

Dapatan kajian yang dihasilkan daripada soalan kedua iaitu berkaitan dengan Kesediaan untuk melaksanakan kurikulum awal Keusahawanan bagi Kanak-Kanak Prasekolah. Kesediaan ini tidak hanya pada guru atau tenaga kerja tetapi juga melibatkan kesediaan kanak-kanak dan ibu bapa bagi melaksanakan kurikulum ini.

Dapatan hasil kajian berkaitan kesediaan guru dalam melaksanakan kurikulum ini terdapat pandangan yang menarik daripada responden. Menurut responden pertama dan kedua kurikulum ini boleh digunakan bersama kurikulum yang sedia ada maka guru akan bersedia kerana guru telah mahir dan tak bebankan guru dalam penyediaan bentuk mengajar. *" tenaga kerja yang ada kurang bersedia jika ini dijadikan kurikulum bagi pelaksanaan dalam PdP. sebab cikgu-cikgu kat sekolah ni banyak kerja lain lagi untuk mereka settle kan that why mereka kurang sedia. Satu lagi untuk pengetahuan mereka berkaitan kurikulum ini kurang."*

(R1,TT1:98-101)

"Inilah kita bercakap tentang pendidikan awal kanak-kanak ni saya tak nampak lagi kesediaan itu. Kerana biasanya untuk membuat aktiviti keusahawanan ni dia boleh dimasukkan secara bersepadu sahaja Kalau untuk dijadikan salah satu kurikulum baru agak sukar dan kita terikat dengan pelaksanaan KSPK. Pelaksanaan boleh Jadikan tu sekiranya kita mendidik guru-guru ini dulu."

(R2,TT1:57-61)

Manakala bagi responden ketiga guru perlu ada perancangan dalam pelbagai segi untuk melaksanakan kurikulum dan ada ilmu serta pengetahuan tentang perniagaan atau keusahawanan.

"Pandangan saya adalah kalau guru tiada modal, ada perancangan dan bersedia fizikalnya maka bersedialah guru tersebut. Sebab kita tahu nak jalankan aktiviti yang melibatkan perniagaan akan menggunakan wang ringgit untuk persediaan dan semua bentuk. Selain itu, guru juga perlu ada pelan tak boleh main laksanakan je nanti perkara tu tiada hasil dan membebankan semua pihak."

(R3,TT1:101-105)

Pengetahuan, kebolehan, dan sikap adalah penting untuk menjalankan aktiviti pendidikan dengan cekap. Guru memainkan peranan besar dalam sistem pendidikan kerana mereka memastikan pembelajaran yang berkesan dan relevan. Kualiti pengajaran bergantung pada kecekapan guru, dan Kementerian Pendidikan Malaysia (2006) menegaskan bahawa guru yang kompeten mesti memiliki kualiti, kelayakan, dan semangat yang diperlukan.

" seperti kita tahu dekat prasekolah kerajaan ada dua orang iaitu guru dan pembantu, manakala di tadika swasta biasa guru perlu kelas seorang. Dan tiada guru yang mahir dalam bidang ini."

(R1,TT1: 105-107)

" of course tak cukup seorang guru perlu ajar semua mata pelajaran 5 jam sehari. Agak membebankan jika ditambah perkara baru."

(R2,TT2: 65-66)

"Ya kita kurang tenaga mahir dalam bidang tertentu. Seperti keusahawan tak semua guru tadika atau prasekolah masih dan faham konsep keusahawanan."

(R3,TT3:115-116)

Kajian ini memberi tumpuan kepada tahap kesediaan pelaksanaan Kurikulum Awal Keusahawanan di peringkat prasekolah dengan fokus kepada beberapa pihak utama, termasuk guru, ibu bapa, dan juga kanak-kanak itu sendiri. Berikut adalah ulasan berdasarkan tema-tema penting yang timbul daripada temubual. Dapatan kajian menunjukkan bahawa kebanyakan guru di prasekolah kurang bersedia untuk melaksanakan kurikulum ini secara menyeluruh. Antara sebab yang diberikan adalah kekurangan pengetahuan dan bebanan kerja yang sedia ada.

"guru mampu sediakan pembelajaran jika diberinguide berkaitan atau menggunakan pembelajaran yang sedia ada."

(R1,TT1:120-121)

"Boleh, guru akan mampu sediakan pembelajaran jika digabung jalinkan dengan tunjang yang berada dalam KSPK."

(R2,TT2:80-81)

"Guru boleh jalankan pembelajaran kurikulum ini jika kurikulum dikira salah satu perkara wajib dijalankan. Tapi jika dia tidak diwajibkan mungkin ia akan menjadikan satu beban kerja kepada guru-guru."

(R3,TT3:130-132)

Hasil dapatan kajian soalan ini adalah guru-guru yang sedia ada mampu untuk sediakan pembelajaran berdasarkan kurikulum ini jika diberi pendedahan atau penerangan yang sesuai berdasarkan perkara ini. Selain itu, pembelajaran ini juga boleh diguna pakai seperti aktiviti pembelajaran yang sedia ada. Guru yang mahir adalah guru yang baik. Pandangan ini dikongsi oleh Kementerian Pendidikan Malaysia (2006), yang menambah bahawa seseorang itu kompeten untuk menjadi seorang guru jika mereka memiliki kualiti, kebolehan, kelayakan dan semangat yang diperlukan dalam mendidik orang lain.

Kesediaan tenaga kerja bagi pelaksanaan Kurikulum Awal Keusahawanan

- **R1**: *"Tenaga kerja yang ada kurang bersedia jika ini dijadikan kurikulum bagi pelaksanaan dalam PdP. Sebab cikgu-cikgu kat sekolah ni banyak kerja lain lagi untuk mereka settle kan, that's why mereka kurang sedia. Satu lagi untuk pengetahuan mereka berkaitan kurikulum ini kurang."*

(TT1:98-101)

- **R2**: "Inilah kita bercakap tentang pendidikan awal kanak-kanak ni saya tak nampak lagi kesediaan itu. Kerana biasanya untuk membuat aktiviti keusahawanan ni dia boleh dimasukkan secara bersepadu sahaja. Kalau untuk dijadikan salah satu kurikulum baru agak sukar dan kita terikat dengan pelaksanaan KSPK. Pelaksanaan boleh jadikan tu sekiranya kita mendidik guru-guru ini dulu."

(TT1:57-61)

- **R3**: *"Pandangan saya adalah kalau guru tiada modal, ada perancangan dan bersedia fizikalnya maka bersedialah guru tersebut. Sebab kita tahu nak jalankan aktiviti yang melibatkan perniagaan akan menggunakan wang ringgit untuk persediaan dan semua bentuk. Selain itu, guru juga perlu ada pelan tak boleh main laksanakan je nanti perkara tu tiada hasil dan membebankan semua pihak."*

(TT1:101-105)

Kekurangan tenaga mahir atau tenaga kerja

- **R1**: *"Seperti kita tahu dekat prasekolah kerajaan ada dua orang iaitu guru dan pembantu, manakala di tadika swasta biasa guru perlu kelas seorang. Dan tiada guru yang mahir dalam bidang ini."*

(TT1: 105-107)

- **R2**: *"Of course tak cukup seorang guru perlu ajar semua mata pelajaran 5 jam sehari. Agak membebankan jika ditambah perkara baru."*

(TT2: 65-66)

- **R3***: "Ya kita kurang tenaga mahir dalam bidang tertentu. Seperti keusahawan tak semua guru tadika atau prasekolah masih dan faham konsep keusahawanan."*

(TT3:115-116)

Kemampuan guru sediakan pembelajaran berkaitan kurikulum awal keusahawanan

- **R1**: *"Guru mampu sediakan pembelajaran jika diberi guide berkaitan atau menggunakan pembelajaran yang sedia ada."*

(TT1:120-121)

- **R2**: *"Boleh, guru akan mampu sediakan pembelajaran jika digabung jalinkan dengan tunjang yang berada dalam KSPK."*

(TT2:80-81)

- **R3**: *"Guru boleh jalankan pembelajaran kurikulum ini jika kurikulum dikira salah satu perkara wajib dijalankan. Tapi jika dia tidak diwajibkan mungkin ia akan menjadikan satu beban kerja kepada guru-guru."*

(TT3:130-132)

Penerimaan ibu bapa

- **R1**: *"Jika berkaitan ibu bapa ini satu perkara yang tak boleh kita jangka kan. Contohnya kalau di tadika swasta kita buat aktiviti yang lain daripada tadika dia mencari market value, parents yang hantar sebab nak anak mereka belajar benda baru. Hal ini bermakna parents terima lah apa yang kita nak terapkan."*

(TT1:140-143)

- **R2**: *"Parents zaman sekarang suka jika pembelajaran more belajar sambil bermain sebab dia rasa aktiviti sebegini bawak kebaikan kepada anak mereka."*

(TT2: 100-102)

- **R3**: *"Penerimaan yang positif adalah ibu rasakan yang kurikulum ini dapat membangunkan anak-anak mereka dalam pelbagai perkembangan. Namun, penerimaan negatif mereka akan merasakan anak mereka terlalu guna duit, sebab anak sudah mula faham tentang penggunaan duit."*

(TT3:151-158)

Hal ini menggambarkan dengan jelas pandangan pelbagai pihak mengenai pelaksanaan Kurikulum Awal Keusahawanan di prasekolah, menekankan kesediaan tenaga kerja, penerimaan ibu bapa, dan kepentingan latihan bagi guru.

Menurut seorang responden (R1), penglibatan ibu bapa dapat ditingkatkan dengan memberi maklumat awal mengenai aktiviti yang bakal dijalankan. Guru dan pengusaha prasekolah bertanggungjawab untuk memaklumkan ibu bapa mengenai aktiviti-aktiviti, seperti hari kantin, di mana anak-anak berpeluang berniaga. Dengan memaklumkan ibu bapa lebih awal, mereka akan lebih berminat untuk turut serta, sekali gus memberi peluang untuk terlibat aktif dalam aktiviti tersebut.

"Untuk penglibatan ibu bapa, guru atau pengusaha bertanggungjawab memaklumkan tentang aktiviti yang bakal dijalankan. Contoh, guru perlu maklumkan lebih awal tentang aktiviti berniaga pada hari kantin, mungkin dengan ini ibu bapa turut berminat untuk libatkan diri bagi aktiviti tersebut."

(TT1:160-164)

Seperti yang dinyatakan oleh responden kedua (R2), aktiviti seperti jualan "car boot sale" di tadika mereka dilaksanakan pada hujung minggu, di mana ibu bapa bersama-sama anak-anak mereka turut serta menjual barang. Aktiviti ini bukan sahaja memberi pengalaman praktikal kepada anak-anak, tetapi juga mengeratkan hubungan kekeluargaan.

"Jika di tadika saya, kami akan libatkan ibu bapa dalam aktiviti jika dilakukan pada hujung minggu. Contohnya baru-baru ini kami buat jualan car boot sale, ibu bapa datang sekali untuk berniaga bersama anak-anak. Hal ini dapat mengeratkan hubungan ibu bapa dan kanak-kanak."

(TT2:111-114)

Responden ketiga (R3) menekankan bahawa penglibatan ibu bapa bukan sahaja penting untuk memperkukuhkan hubungan anak dan ibu bapa, tetapi juga menjadikan aktiviti lebih realistik dan bermakna. Aktiviti yang melibatkan ibu bapa serta komuniti akan memberi kesan yang lebih mendalam terhadap pengalaman pembelajaran kanak-kanak, berbanding jika hanya melibatkan guru dan murid sahaja.

"Penglibatan ibu bapa penting untuk melihat perkembangan anak-anak mereka dengan sendiri. Selain itu, ia menjadikan aktiviti itu lebih real sebab libatkan komuniti, bukan guru dan kanak-kanak sahaja. Pengajaran ini lebih efektif dengan sokongan ibu bapa."

(TT3:165-168)

Responden (R1) berpendapat bahawa, walaupun mereka bersedia menghadiri kursus, terdapat beberapa kekangan yang menghalang mereka seperti kos, masa, dan tanggungjawab di sekolah. Ini sejajar dengan pandangan umum bahawa guru sering kali terpaksa mengimbangi tuntutan antara tugas harian dan keperluan untuk meningkatkan kemahiran mereka melalui latihan. Guru perlu mencari keseimbangan di antara keperluan profesional dan tanggungjawab pengajaran.

"*Bagi saya lah guru sanggup tapi hal ini terdapat pelbagai kekangan seperti kos, masa, kelas di sekolah dan sebagainya."*

(R1, TT1: 180-181)

Bagi tadika swasta, kekangan kewangan sering menjadi faktor utama yang perlu dipertimbangkan sebelum menghantar guru ke kursus atau bengkel. Responden R2 menyatakan bahawa di institusi swasta, walaupun mereka boleh menghadiri bengkel, keputusan untuk menghantar guru sering dipengaruhi oleh bajet dan keperluan sekolah. Dalam situasi sedemikian, kadangkala hanya seorang guru sahaja dihantar untuk mengikuti kursus bagi menjimatkan kos.

"Bagi kami padi pihak tadika swasta ini kami boleh pergi bengkel tetapi kami perlu tengok keperluan dan bajet kami juga. Mungkin hanya seorang guru yang dihantar untuk jalani kursus atau bengkel tersebut."

(R2, TT2: 121-123)

Responden R3 pula menekankan kekangan masa sebagai cabaran utama. Walaupun guru sanggup menghadiri kursus, mereka perlu menyesuaikan jadual pengajaran mereka agar tidak mengganggu kelas. Kursus yang diadakan semasa waktu sekolah berpotensi memberi kesan kepada pengajaran harian, tetapi pada masa yang sama, penting untuk guru mengetahui perubahan terkini dalam kurikulum bagi memastikan pengajaran di prasekolah relevan dengan keperluan semasa.

"Saya rasa guru mungkin boleh hadir ke kursus ini tetapi kursus ini mungkin akan mengganggu waktu kelas mereka. Tetapi guru perlu jalani kursus ini bagi mengetahui berkaitan perkara baru yang nak diajar di prasekolah."

(R3, TT3: 180-182)

Salah satu cadangan yang dikemukakan adalah melalui penyediaan dana oleh kerajaan. Responden R3 mencadangkan bahawa kerajaan boleh memperkenalkan dana ROI (Return on Investment) untuk membantu sekolah menjana pendapatan melalui projek-projek yang inovatif. Dengan mengadakan

pertandingan yang memberi peluang kepada sekolah untuk memenangi dana, ini bukan sahaja menggalakkan kreativiti tetapi juga menyediakan sokongan kewangan kepada sekolah yang ingin menjalankan projek yang membawa impak positif kepada kurikulum.

"Pihak kerajaan bagi dana ROI untuk menjana pendapatan berdasarkan projek yang bagus yang dikemukakan oleh sekolah. Sebagai contoh, adakan pertandingan; jika terdapat sekolah yang membawa projek yang menarik dan menang, boleh bagi dana untuk teruskan projek."

(R3, TT3: 200-203)

Pendekatan seperti ini memberi ruang kepada sekolah untuk lebih proaktif dalam mencari cara yang inovatif untuk melaksanakan kurikulum, dan secara tidak langsung membantu meringankan beban kewangan guru serta pihak sekolah.

Satu lagi cadangan yang menarik adalah daripada R1, yang mencadangkan agar kursus pemantapan kurikulum dijalankan secara dalam talian. Pelaksanaan kursus secara dalam talian, terutama dalam era digital kini, adalah satu inisiatif yang boleh memudahkan guru-guru. Namun, R1 menekankan bahawa kursus dalam talian ini perlu dijalankan secara berperingkat untuk memastikan semua guru memperoleh input yang sama dan dapat mengikuti dengan baik tanpa tergesa-gesa. Ini boleh mengatasi masalah masa dan komitmen pengajaran yang sering menjadi cabaran utama.

"Pihak berwajib boleh juga fikirkan inisiatif yang lebih memudahkan semua pihak seperti lakukannya online tapi berperingkat supaya semua guru dapat input yang sama."

(R1, TT1: 183-185)

Kedua-dua cadangan yang dikemukakan mencerminkan keperluan agar pihak berwajib dan pembuat dasar lebih teliti dalam merancang strategi untuk memastikan semua guru dapat menguasai kurikulum yang diperkenalkan. Ini termasuk menyediakan sokongan kewangan, infrastruktur yang sesuai, serta kaedah pembelajaran yang mudah diakses oleh semua guru tanpa mengira lokasi atau kekangan masa. Tanpa perancangan yang rapi, sebarang kursus atau latihan yang dijalankan mungkin tidak dapat mencapai matlamatnya.

Menurut R1, kanak-kanak secara tidak langsung belajar tentang cara menggunakan wang dan memahami proses jual beli. Ini adalah satu kemahiran hidup yang sangat penting yang jarang diberikan penekanan pada peringkat prasekolah.

"Pelaksanaan ada banyak kebaikannya salah satunya secara tak langsung kanak-kanak dapat belajar cara menggunakan duit atau tahu tentang berkaitan jual beli."

(R1, TT1: 200-201)

Dengan pengenalan awal kepada konsep kewangan ini, kanak-kanak dapat membina asas yang kuat tentang pengurusan kewangan yang berguna pada masa hadapan. Ini memberikan mereka satu kelebihan dalam memahami ekonomi dan kewangan pada usia muda.

Selain itu, R2 menekankan bahawa kurikulum keusahawanan ini dapat dipelajari dalam suasana yang menyeronokkan, iaitu melalui pendekatan "fun learning". Ini penting kerana kanak-kanak belajar dengan lebih baik apabila mereka menikmati apa yang diajar. Melalui aktiviti seperti simulasi jual beli, kanak-kanak bukan sahaja memahami konsep tetapi juga mengasah kemahiran sosial dan komunikasi.

"Of course pelaksanaan kurikulum banyak memberi kebaikan kepada kanak-kanak. Kanak-kanak dapat belajar dalam keadaan fun learning dan mereka tahu berkaitan kegunaan wang, sistem jual beli dan cara mencari wang. Hal ini meningkatkan perkembangan kanak-kanak dari segi pelbagai aspek."

(R2, TT2: 141-144)

Pendekatan ini membantu kanak-kanak mengaitkan pembelajaran dengan pengalaman harian mereka, yang seterusnya memudahkan mereka memahami konsep-konsep abstrak seperti kewangan dan jual beli.

R3 menyatakan bahawa Kurikulum Awal Keusahawanan juga mempunyai nilai praktikal yang boleh digunakan dalam jangka masa panjang. Kurikulum ini membantu kanak-kanak memahami cara menjana pendapatan, yang sangat berguna jika mereka terlibat dalam perniagaan keluarga. Selain itu, kurikulum ini juga memberi peluang kepada kanak-kanak dari komuniti tertentu, seperti kanak-kanak orang asli, untuk memperoleh kemahiran baru yang dapat digunakan untuk menyokong kehidupan mereka.

"Bagi saya lah kurikulum ini terdapat pelbagai kebaikan. Macam saya cakap sebelum ini kurikulum ini satu pembelajaran yang boleh diguna pakai sampai bila-bila. Contohnya dia juga dapat menjana income untuk kanak-kanak yang ingin membantu keluarga mereka berniaga atau contoh lain kanak-kanak orang asli dapat satu kemahiran baru yang boleh mereka guna untuk teruskan kehidupan."

(R3, TT3: 220-224)

Melalui kurikulum ini, kanak-kanak berpeluang mempelajari kemahiran praktikal yang relevan dengan dunia sebenar. Ini membantu mereka menjadi lebih berdikari dan memahami kepentingan usaha dan keusahawanan dalam kehidupan.

Responden pertama (R1) menyatakan bahawa *Kurikulum Awal Keusahawanan* memberikan impak positif dalam pelbagai aspek seperti peningkatan kemahiran insaniah, kemahiran bertutur, dan keyakinan diri kanak-kanak. Menurut beliau:

"Bagi saya Kurikulum Awal Keusahawanan ini akan meninggalkan impak yang positif dari pelbagai segi seperti meningkatkan kemahiran insaniah, kemahiran bertutur, yakin diri dan pelbagai perkembangan lagi."

(R1, TT1: 210-212)

Kenyataan ini menunjukkan bahawa *Kurikulum Awal Keusahawanan* dapat membantu kanak-kanak dalam memperbaiki kemahiran sosial dan komunikasi, yang merupakan asas penting dalam kehidupan mereka. Keyakinan diri juga merupakan hasil positif yang dapat meningkatkan kebolehan kanak-kanak untuk berinteraksi dan mengambil inisiatif dalam pelbagai situasi.

Responden kedua (R2) turut menekankan impak positif kurikulum ini. Beliau percaya bahawa *Kurikulum Awal Keusahawanan* memberikan asas pembelajaran sepanjang hayat kepada kanak-kanak, yang dapat digunakan dalam pelbagai situasi:

"Semestinya, bagi saya Kurikulum Awal Keusahawanan ini akan meninggal impak yang berpanjangan kepada kanak-kanak. Kerana pengetahuan asas yang diberi kepada kanak-kanak berkaitan perniagaan ini merupakan sebuah pembelajaran sepanjang hayat. Ia boleh digunakan bila-bila dan dimana-mana sahaja. Ini merupakan impak positif Kurikulum Awal Keusahawanan ini kepada kanak-kanak prasekolah."

(R2, TT2:160-162)

Pendapat ini menggariskan potensi besar *Kurikulum Awal Keusahawanan* dalam membekalkan pengetahuan asas keusahawanan yang boleh dimanfaatkan oleh kanak-kanak pada masa hadapan. Ia menekankan bahawa kurikulum ini tidak hanya memberi impak jangka pendek, tetapi juga menyumbang kepada pembangunan kemahiran jangka panjang yang relevan.

Walau bagaimanapun, responden ketiga (R3) memberikan pandangan yang seimbang dengan menyatakan bahawa walaupun *Kurikulum Awal Keusahawanan* mempunyai banyak impak positif, terdapat juga potensi impak negatif jika kurikulum ini tidak diteruskan dengan baik:

"Selain daripada impak positif terdapat juga impak yang membawa kepada negatif. Impak negatif ini boleh berlaku jika aktiviti dijalankan kepada kanak-kanak ini sekadar aktiviti yang one off dan tidak diteruskan."

(R3, TT3: 230-234)

Beliau menekankan bahawa aktiviti yang dijalankan hanya sekali-sekala atau secara berasingan mungkin tidak memberikan kesan yang mendalam. Impak negatif boleh timbul jika *Kurikulum Awal Keusahawanan* tidak diberikan secara konsisten, yang akhirnya boleh menyebabkan kanak-kanak tidak mendapat manfaat jangka panjang daripada kurikulum ini.

Menurut responden pertama (R1):

"Cabaran untuk ibu bapa jika kurikulum ini dilaksanakan adalah ibu bapa perlu memberi komitmen untuk melakukan aktiviti ini bersama kanak-kanak."

(R1, TT1: 220-221)

Ini menunjukkan bahawa salah satu cabaran utama adalah memastikan ibu bapa terlibat aktif dalam aktiviti-aktiviti keusahawanan yang dilaksanakan bersama anak-anak mereka. Tuntutan masa dan komitmen mungkin menjadi halangan besar, terutamanya bagi ibu bapa yang sibuk.

Responden kedua (R2) menekankan keperluan untuk ibu bapa bersikap kreatif dalam mengadaptasikan kurikulum ini ke dalam kehidupan harian:

"Ibu bapa perlu kreatif untuk adaptasikan kurikulum ini dalam kehidupan seharian."

(R2, TT2:166-167)

Responden ketiga (R3) pula menyatakan bahawa salah satu cabaran utama adalah memahami konsep kurikulum itu sendiri:

"Cabaran untuk ibu bapa ye.. Bagi ibu bapa tidak terlalu banyak cabaran bagi melaksanakan sesuatu kurikulum baru tapi mungkin menjadi cabaran adalah ibu bapa perlu tahu cara untuk fahami konsep kurikulum ini."

(R3, TT3: 244-246)

Kesimpulannya, cabaran utama bagi ibu bapa adalah bagaimana mereka memahami konsep kurikulum ini dan mengadaptasikannya dalam kehidupan seharian untuk memastikan anak-anak dapat memanfaatkan *Kurikulum Awal Keusahawanan* secara optimum.

Responden pertama (R1) menyatakan bahawa cabaran utama bagi guru adalah dalam mempelajari dan menyesuaikan bentuk pengajaran yang baru:

"Cabaran untuk guru adalah mereka perlu belajar bentuk baru, bukan itu sahaja mereka perlu memikirkan bentuk pengajaran yang sesuai dengan kurikulum baru."

(R1, TT1: 225-226)

Selain itu, bebanan kerja tambahan turut menjadi isu, seperti yang dinyatakan oleh responden kedua (R2):

"Antara cabaran untuk guru adalah bebanan kerja akan bertambah. Guru sediakan rancangan mengajar yang lengkap untuk menerapkan konsep kurikulum yang baru."

(R2, TT2:170-172)

Responden ketiga (R3) menekankan bahawa guru perlu memahami konsep *Kurikulum Awal Keusahawanan* sebelum mereka boleh melaksanakannya dengan berkesan di dalam kelas:

"Guru mungkinlah antara individu yang paling menghadapi cabaran jika kurikulum ini dilaksanakan. Hal ini kerana guru-guru ini perlu memahami konsep awal keusahawanan terlebih dahulu baru boleh implementasikan dalam kelas."

(R3, TT3: 250-252)

Oleh itu, cabaran utama bagi guru adalah untuk memahami dan mengadaptasi konsep *Kurikulum Awal Keusahawanan* ke dalam perancangan pengajaran, di samping menangani bebanan kerja tambahan.

Responden pertama (R1) percaya bahawa kanak-kanak tidak akan merasa tertekan jika pembelajaran disampaikan secara menarik:

"Kanak-kanak tak akan rasa sangat cabaranya sebab mereka ni enjoy je jika pengajaran itu menarik."

(R1, TT1: 228-229)

Namun, responden kedua (R2) memberi pandangan bahawa kurikulum ini mungkin terlalu kompleks untuk difahami oleh kanak-kanak pada usia prasekolah:

"Untuk kanak-kanak cabarannya mungkin kurikulum ini terlalu berat untuk mereka fahami dan belajar pada usia awal. Tetapi jika kurikulum digabung dengan subjek atau mata pelajaran yang sedia ada ia mungkin lebih mudah."

(R2, TT2:175-177)

Responden ketiga (R3) menyatakan bahawa cabaran bagi kanak-kanak adalah dalam mempelajari perkara baru, walaupun konsep-konsep ini mungkin sudah sebahagian daripada kehidupan seharian mereka:

"Cabaran untuk kanak-kanak adalah mereka perlu belajar benda baharu tetapi benda baharu ini biasanya telah terjadi dalam kehidupan seharian mereka. Mungkin menjadi cabaran pada mereka adalah cara pendekatan yang susah diimplementasikan."

(R3, TT3: 260-263)

Dengan itu, cabaran utama bagi kanak-kanak adalah kebolehan mereka untuk memahami dan menyesuaikan diri dengan konsep-konsep baru, terutamanya jika ia tidak disampaikan dengan cara yang mudah difahami.

Semua responden yang ditemu bual secara konsisten menyokong pendapat bahawa *Kurikulum Awal Keusahawanan* perlu dilaksanakan di prasekolah. Menurut responden pertama (R1), kurikulum ini penting kerana ia melibatkan pembelajaran yang berkaitan dengan kehidupan seharian kanak-kanak:

"Bagi saya sangat perlu. Kerana ia merupakan life learning yang melibatkan hidupan harian mereka."

(R1, TT1: 235-236)

Responden ini menegaskan bahawa keusahawanan bukan hanya tentang teori atau perniagaan, tetapi juga tentang mengajar kanak-kanak kemahiran hidup yang akan mereka gunakan sepanjang hayat. Pelajaran ini berakar pada situasi kehidupan sebenar yang mereka hadapi, seperti berkongsi, bekerja dalam kumpulan, dan menyelesaikan masalah.

Responden kedua (R2) juga bersetuju bahawa kurikulum ini perlu dilaksanakan di prasekolah, namun dengan penyesuaian dalam silibus yang sedia ada. Beliau menyarankan agar *Kurikulum Awal Keusahawanan* digabungkan dengan mata pelajaran yang sudah ada, bukan sebagai silibus yang berasingan:

"Kurikulum ini perlu dijalankan di prasekolah kerana ia akan banyak membantu meningkatkan perkembangan kanak-kanak. Tetapi kurikulum diimplementasikan dalam silibus yang sedia ada bukannya dijadikan silibus baharu."

(R2, TT2:180-182)

Pandangan ini mencerminkan keperluan untuk mengintegrasikan *Kurikulum Awal Keusahawanan* dengan pembelajaran prasekolah yang sudah ada, supaya ia menjadi lebih relevan dan tidak membebankan kanak-kanak dengan silibus baharu yang asing. Penggabungan ini membolehkan kanak-kanak belajar kemahiran keusahawanan dalam konteks yang lebih mudah difahami.

Responden ketiga (R3) pula menekankan bahawa pelaksanaan *Kurikulum Awal Keusahawanan* di prasekolah akan memberi impak positif terhadap pembentukan modal insan kanak-kanak. Beliau juga mencadangkan agar kurikulum ini diperhalusi jika dijadikan silibus baharu:

"Untuk saya pelaksanaan Kurikulum Awal Keusahawanan bagi kanak-kanak prasekolah ini sangat perlu dijalankan kerana ini boleh membentuk modal insan kanak-kanak dari usia muda. Ia dapat membantu kanak-kanak mempelajari pelbagai elemen-elemen yang bukan sahaja dalam dunia akademik tetapi tentang cara survive di luar bidang akademik. Jika ini jadikan kurikulum Awal Keusahawanan satu silibus baharu pihak tertentu perlu mengkaji dan memantapkan lagi kurikulum ini."

(R3, TT3: 268-273)

Pandangan ini menunjukkan bahawa *Kurikulum Awal Keusahawanan* tidak hanya relevan dalam konteks akademik, tetapi juga dalam membantu kanak-kanak membina kemahiran hidup yang penting untuk menghadapi dunia luar.

Responden pertama (R1) menekankan bahawa perancangan yang teliti adalah langkah utama untuk memastikan keberkesanan pelaksanaan *Kurikulum Awal Keusahawanan*. Beliau menyarankan agar guru atau pengusaha yang terlibat perlu mempunyai perancangan yang jelas dan melihat kepada keperluan serta situasi semasa dalam melaksanakan kurikulum ini:

"Guru atau pengusaha perlu ada planning untuk jalankan kurikulum ini. Tidak hanya itu sahaja guru perlu tengok situasi, keadaan serta keperluan. Seperti contoh guru perlu tahu tentang pedagogi yang terbaik untuk digunakan."

(R1, TT1: 250-252)

Menurut R1, selain mempunyai perancangan yang baik, guru juga perlu memastikan bahawa pedagogi yang digunakan sesuai dengan perkembangan kanak-kanak dan keadaan di sekeliling mereka. Ini akan memastikan pendekatan yang lebih efektif dan relevan dalam pengajaran.

Responden kedua (R2) mencadangkan agar pihak yang berwajib menyediakan satu Standard Operating Procedure (SOP) untuk menyelaraskan pelaksanaan *Kurikulum Awal Keusahawanan*. Dengan adanya SOP yang jelas, semua pihak yang terlibat akan lebih memahami prosedur yang perlu diikuti dalam pelaksanaan kurikulum ini:

"Pihak yang berwajib perlu sediakan satu SOP untuk selaraskan cara pelaksanaan kurikulum awal keusahawanan ini. Perlu flow chart berkaitan itu."

(R2, TT2: 190-192)

Responden ketiga (R3) memberi cadangan yang sangat penting untuk memperbaiki kurikulum itu sendiri. Beliau mencadangkan agar pihak yang menyusun kurikulum menilai semula dan memperkukuh kurikulum ini untuk memastikan ia lebih efektif dan relevan dengan keperluan semasa:

"Untuk pihak yang sediakan kurikulum itu perlu timbang tara balik kurikulum tersebut dan mantapkan kurikulum itu. Tidak hanya itu guru perlu memainkan peranan yang sewajarnya dalam pelaksanaan dan tidak buat ala kadar asal ada, guru perlu jadikan dia satu amalan yang menarik serta guru perlu ada target untuk dicapai."

(R3, TT3: 285-289)

Bagi R3, selain penambahbaikan kurikulum, penglibatan aktif guru dalam pelaksanaan juga penting. Guru tidak seharusnya sekadar melaksanakan kurikulum secara sambil lewa, tetapi perlu menjadikan pengajaran itu sesuatu yang menarik dan mempunyai matlamat yang jelas untuk dicapai. Ini akan memastikan anak-anak mendapat manfaat yang maksimum daripada kurikulum tersebut.

PERBINCANGAN

Dapatan kajian ini, Pelaksanaan Kurikulum Awal Keusahawanan adalah komponen penting dalam pendidikan awal kanak-kanak yang boleh diterapkan melalui beberapa pendekatan. Antaranya ialah pendekatan pembelajaran berasaskan projek, pendekatan bersepadu, serta pembelajaran kontekstual. Pembelajaran berasaskan projek melibatkan aktiviti di mana kanak-kanak terlibat secara langsung dalam projek-projek yang membolehkan mereka memahami konsep jual beli dan pengurusan kewangan. Contohnya, kanak-kanak boleh dilatih untuk terlibat dalam aktiviti hari kantin atau hari terbuka di mana mereka berperanan sebagai penjual. Melalui pendekatan ini, mereka bukan sahaja belajar tentang perniagaan, tetapi juga membina kemahiran sosial dan kerjasama.

Pendekatan bersepadu pula merujuk kepada penyatuan pelbagai komponen pembelajaran seperti kemahiran komunikasi, nilai-nilai murni, dan keusahawanan dalam satu aktiviti. Aktiviti seperti simulasi pasar atau permainan berasaskan jual beli memberikan kanak-kanak pendedahan awal kepada dunia perniagaan, selain membantu mereka memahami konsep keusahawanan secara lebih mendalam. Pembelajaran kontekstual juga diperkenalkan sebagai kaedah di mana kanak-kanak belajar melalui pengalaman langsung yang relevan dengan persekitaran mereka. Sebagai contoh, kanak-kanak di kawasan luar bandar boleh belajar cara menghasilkan kraftangan dan menjualnya dalam suasana permainan atau simulasi perniagaan.

Dalam kajian ini, pengetahuan mengenai awal keusahawanan turut dikaji. Responden kajian mempunyai pandangan bahawa keusahawanan awal melibatkan aktiviti yang membantu kanak-kanak mengenal konsep pengurusan kewangan, interaksi jual beli, dan penglibatan dalam aktiviti perniagaan kecil-kecilan. Selain itu, terdapat cadangan aktiviti menarik yang boleh dijalankan seperti menabung di sekolah untuk dijadikan modal perniagaan mini, mengadakan jualan hasil kerja kanak-kanak, atau simulasi jual beli menggunakan wang mainan.

Kesediaan pelaksanaan kurikulum awal keusahawanan turut dibincangkan dalam kajian ini. Berdasarkan hasil temubual, terdapat cabaran dalam memastikan kesediaan guru dan tenaga pengajar yang terlibat. Kebanyakan guru kurang bersedia dan tidak mempunyai kemahiran khusus dalam mengajar topik berkaitan keusahawanan. Selain itu, ibu bapa juga perlu diberi pendedahan dan bimbingan untuk menyokong aktiviti keusahawanan anak-anak mereka. Namun begitu, kajian ini mendapati bahawa dengan adanya sokongan daripada pihak sekolah dan komuniti, kurikulum ini boleh dilaksanakan dengan lebih baik pada masa akan datang.

Antara cabaran pelaksanaan kurikulum awal keusahawanan ialah kekurangan tenaga pengajar yang berkemahiran dalam bidang ini, selain kesukaran untuk menyediakan modul pembelajaran yang sesuai dengan peringkat usia kanak-kanak prasekolah. Guru juga memerlukan latihan tambahan agar mereka dapat melaksanakan kurikulum ini dengan berkesan. Walau bagaimanapun, kajian ini juga mengenalpasti beberapa kebaikan yang dapat diperolehi melalui pelaksanaan kurikulum awal keusahawanan. Antaranya ialah ia dapat membantu kanak-kanak membina kemahiran sosial, mengembangkan pemikiran kritis, serta mengajar mereka tentang pengurusan kewangan dari usia muda.

Kesimpulannya, pelaksanaan kurikulum awal keusahawanan di prasekolah adalah satu usaha yang baik untuk memupuk nilai-nilai keusahawanan dalam diri kanak-kanak sejak usia muda. Walaupun terdapat beberapa cabaran, seperti kekurangan tenaga pengajar yang berkemahiran dan kesediaan ibu bapa, kajian ini menunjukkan bahawa kurikulum ini mempunyai potensi besar untuk diterapkan dengan lebih meluas. Jika dilaksanakan dengan betul, ia dapat membantu generasi muda membina kemahiran yang berguna untuk masa hadapan, termasuk kebolehan menguruskan kewangan dan memahami konsep keusahawanan.

RUMUSAN

Kajian ini meneliti pelaksanaan kurikulum awal keusahawanan bagi kanak-kanak prasekolah, bertujuan untuk memberi pendedahan awal kepada kanak-kanak mengenai asas-asas keusahawanan. Pelaksanaan kurikulum ini memberi peluang kepada kanak-kanak untuk belajar melalui pengalaman langsung, seperti aktiviti jual beli dan pengurusan kewangan, dalam suasana pembelajaran yang menyeronokkan dan bersesuaian dengan tahap perkembangan mereka. Kurikulum ini berasaskan beberapa pendekatan pembelajaran seperti pembelajaran berasaskan projek, pendekatan bersepadu, dan pembelajaran kontekstual, yang semuanya memberi penekanan kepada interaksi dan pengalaman dunia sebenar.

Kajian ini juga membincangkan cabaran yang dihadapi dalam pelaksanaan kurikulum ini, antaranya adalah kesediaan guru dan institusi prasekolah untuk mengendalikan modul keusahawanan. Selain itu, penerimaan ibu bapa terhadap kurikulum ini turut menjadi aspek penting yang dibincangkan, kerana ia memerlukan penglibatan aktif ibu bapa dalam membantu anak-anak mereka memahami dan mengaplikasikan konsep-konsep keusahawanan. Walaupun terdapat cabaran, dapatan kajian menunjukkan potensi besar dalam memperkenalkan elemen keusahawanan kepada kanak-kanak, yang dapat membantu membina asas kemahiran penting seperti berfikir kritis, pengurusan kewangan, dan penyelesaian masalah sejak usia muda.

Melalui pendekatan yang kreatif dan praktikal, kanak-kanak prasekolah dapat dididik untuk memahami konsep keusahawanan dengan lebih mendalam, sekaligus memupuk minat dan semangat untuk terus belajar dalam bidang ini. Ini juga akan menyediakan generasi muda dengan pengetahuan dan kemahiran asas yang akan berguna dalam kehidupan seharian mereka serta membantu mereka bersedia menghadapi cabaran ekonomi pada masa hadapan.

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COVID-19: KESAN TERHADAP PENDIDIKAN DI DAERAH KOTA BHARU, KELANTAN

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ABSTRAK

Kajian ini bertujuan membincangkan kesan covid-19 terhadap sistem pendidikan negara melalui satu kajian berkaitan dengan isu-isu kesihatan dan bencana yang lepas. Kajian ini dilaksanakan di daerah Kota Bharu yang melibatkan 67 orang responsden menggunakan kaedah kualitatif iaitu soal selidik. Hasil soal selidik ini kemudian disusun mengikut keperluan yang dikehendaki terhadap kesan covid-19 terhadap pendidikan negara yang memberi kesan kepada pelajar, guru- guru dan ibu bapa. Dua kesan utama yang di tunjukkan dalam hasil dapatan iaitu guru dan pelajar. Manakala peperiksaan awam merupakan kesan sampingan keatas sistem pendidikan negara semasa wabak covid-19 ini berlaku. Wabak ini akan mengambil masa yang panjang untuk tempoh pemulihan kesihatan terhadap para pendidik dan pelajar. Hasil daripada dapatan kajian ini, sebanyak 62.7% adalah dalam kalangan pelajar yang menjawab respondens ini. Manakala, 37.3% adalah dalam kalangan yang berkerja, daripada jumlah tersebut sebanyak 89.6% mengatakan bersetuju sekolah ditutup dalam tempoh Perintah Kawalan Pergerakan (PKP) sejak 18 Mac sehingga akan dimaklumkan oleh pihak Kerajaan. Terdapat 58.2% daripada 67 respondens mengatakan ada kesan psikologi kepada pelajar dan sebanyak 55.2% kesan psikologi terhadap guru-guru. Kesimpulannya, para guru dan pelajar perlu mendepani cabaran semasa dalam apa jua situasi supaya pembelajaran dapat diteruskan dan dilaksanakan secara teratur dan sistematik.

***Kata kunci**: Covid-19, Kesan, Pendidikan, Kota Bharu.*

PENGENALAN

Pandemik Covid-19 bukan sahaja menyebabkan kesukaran kepada sektor kesihatan awam negara, malah kepada pendidikan negara keseluruhannya. Perkembangan semasa Covid-19 telah menambah beban dan cabaran kepada pelajar, guru, keluarga, Persatuan Ibu Bapa dan Guru Malaysia (PIBG) dan pihak Kementerian. Tambahan pula dengan arahan ke atas penjarakan sosial (*social distancing*) dan arahan Perintah Kawalan Pergerakan (PKP) sejak 18 Mac yang lalu, sistem pengajaran dan pembelajaran (Pdp) berubah wajah baharu dengan menggunakan Teknologi Maklumat (ICT) atau pembelajaran atas talian secara 360˚ darjah. Ramai guru atau tenaga pengajar menggunakan kaedah terkini mengikut peredaran zaman kini iaitu Pembelajaran Abad ke-21 dan penggunaan Revolusi Industri 4.0 (IR4.0) terhadap sistem pengajaran daripada secara tradisional sehingga atas talian.

Mengikut statistik semasa sehingga jam 3.15 petang pada 16 April 2020, guru-guru di Malaysia dikesan kedua teraktif di dunia dalam memberi tugasan kepada pelajar dalam penggunaan medium *google classroom* (GC).

Antara SOP kerajaan yang pada peringkat permulaan ialah duduk di rumah, penjarakan sosial dan penjagaan kebersihan adalah pesanan paling penting yang sentiasa diberitahu sejak PKP dilaksanakan bermula 18 Mac 2020. Pertubuhan Kesihatan Dunia (WHO) mengeluarkan kenyataan berkaitan dengan SOP iaitu penjarakan dari segu fizikal dan sosial bagi mengekang penyebaran virus ini kerana pendamik ini tidak akan berakhir dalam tempoh satu bulan, tetapi mengambil masa beberapa bulan, malah mungkin hingga ke setahun.

Dunia pendidikan juga tidak terkecuali dalam suasana luar biasa ini. Kebiasaannya anak-anak pergi ke sekolah dan institusi pendidikan pergi ke kuliah. Maka, hari ini mereka tidak dibenarkan keluar dari rumah bagi memastikan kesihatan dan keselamatan mereka dan keluarga mereka tidak terancam.

Menurut Falsafah Pendidikan Kebangsaan bagi menentukan pembangunan murid secara holistik dan mengikut Pelan Pembangunan Pendidikan Malaysia (PPPM) 2013-2025 untuk Pendidikan Prasekolah dan Lepas Menengah dibangunkan, matlamatnya adalah untuk meletakkan Pendidikan di Malaysia dalam kalangan teratas dalam kalangan negara yang mempunyai sistem pendidikan terbaik dunia. Laporan Tahunan PPPM yang diterbitkan saban tahun sejak tahun 2013 menunjukkan bahawa pelbagai inisiatif telah dilaksanakan bagi mencapai matlamat ini, terutamanya dalam aspek latihan guru pra. Kementerian Pendidikan Malaysia (KPM) juga telah meletakkan keperluan teknologi maklumat dan komunikasi dalam pendidikan sebagai Anjakan 7 iaitu menggunakan kaedah Teknologi Maklumat bagi meningkatkan kualiti pengajaran dan pembelajaran di Malaysia. KPM yang ketika itu diterajui oleh YAB Perdana Menteri, Tan Sri Muhyiddin Yassin percaya bahawa Teknologi Maklumat akan membantu memperkukuh dan mempercepatkan proses pengajaran dan pembelajaran di semua sekolah di Malaysia. Murid sepatutnya mendapat akses kepada kandungan yang lebih luas, menarik, dan interaktif melalui kemudahan yang telah disediakan oleh pihak kerajaan. Jelaslah bahawa kemudahan ICT akan menjadi sebahagian daripada kehidupan murid di sekolah, tanpa diskriminasi antara bandar dengan luar bandar.

Pelajar sekolah merupakan penyumbang yang utama kepada institusi pendidikan negara. KPM mempunyai 5 juta murid, 450 ribu guru, 10 ribu sekolah, 88 kolej vokasional, 17 kolej matrikulasi, 27 institut pendidikan guru, 16 jabatan pendidikan negeri dan beratus-ratus pejabat pendidikan daerah di seluruh negara. Justeru, situasi semasa pandemik Covid-19 ini pastinya memberi kesan kepada pelajar dalam pendidikan negara, terutamanya bagi pelajar yang berada di pedalaman dan keluarga B40 mahupun tiada akses internet yang stabil.

Tujuan kajian ini ialah sebagai perbincangan mengenai kesan semasa dan jangka panjang pandemik Covid-19 ke atas pasaran buruh. Namun, skop perbincangan lebih tertumpu kepada kesan pandemik kepada pelajar dan guru serta ibu bapa. Pelajar dalam konteks kertas kajian ini ialah bersekolah bermula darjah 1 hingga tingkatan 6 atas yang menduduki peperiksaan STPM atau Pra-Universiti.

Struktur kertas perbincangan ini ialah seperti berikut. Seksyen 2 membincangkan secara khusus kesan krisis pandemik Covid-19 kepada pelajar. Berdasarkan maklumat dan data sedia ada berkenaan komposisi pelajar di daerah Kota Bharu, kami membincangkan lima sebab utama mengapa krisis pandemik ini memberi kesan kepada golongan pelajar dan guru.

Seksyen 3 membincangkan senario dan keadaan pelajar dan guru ketika krisis seperti pandemik covid-19 ini seperti H1N1 April 2009 dan Tsunami 2004

Seksyen 4 mencadangkan dasar yang harus dipertimbangkan untuk memastikan manfaatnya kepada guru, pelajar, ibu bapa dan negara secara keseluruhannya.

OBJEKTIF

Kajian ini bertujuan untuk mengetahui bagaimana keadaan semasa berkait dengan penyebaran pandemik covid-19 ketika ini. Kajian ini juga dapat menyumbangkan idea tentang norma baharu sebagai pendidik dan tenaga pengajar kepada pelajar-pelajar di pedalaman khususnya dan pelajar-pelajar di Malaysia khususnya. Melalui kajian ini dapat mengetahui sejauh mana kesan pandemik kepada guru dan pelajar serta keluarga terhadap sistem pendidikan negara ketika pandemik covid-19 ini berlaku.

1. Dapat mengetahui kesan covid-19 terhadap pelajar
2. Dapat mengetahui kesan covid-19 terhadap guru

PEMASALAH KAJIAN

Kelemahan penggunaan teknologi terkini dalam sistem pengajaran dan pembelajaran dalam tempoh Perintah Kawalan Pergerakan (PKP) isu covid-19 ini. E-Pembelajaran adalah platform yang terbaik masa kini untuk meneruskan silibus PdPc setiap subjek. Namun, kaedah penggunaannya sangat terbatas disebabkan penggunaan untuk e-pembelajaran tersebut memerlukan akses internet yang tinggi dan konsisten dalam meneruskan perbincangan kelas atas talian. Faktor lain ialah untuk mendapatkan respondens berdasarkan soalan kaji selidik dalam bentuk kuantitatif sangat mencabar kerana memerlukan capaian internet yang tinggi dan luas.

Jadi, penulis mengambil inisiatif untuk mengkaji bagaimana kedua-dua proses ini berlaku dan seterusnya mengetahui konsep yang digunakan. Di samping itu, penulis juga ingin mengetahui kaedah penyelesaian terbaik di sebalik apa yang berlaku dan kaitannya dengan sistem pembelajaran atas talian. Justeru itu, pemahaman mengenai topik ini amat penting agar penguasaan e-pembelajaran dapat dipertingkatkan. Selain itu, pengetahuan, sikap dan amalan kepada pelajar dan guru memerlukan kekuatan mental dan fizikal yang stabil.

METHODOLOGI

Kajian yang dijalankan merupakan kajian yang bersifat kuantitatif dan menggunakan kaedah soal selidik. Mengikut Neuman (2003) kaedah soal selidik adalah sesuai bagi mengumpul data tentang pengetahuan, sikap dan amalan. Kaedah soal selidik boleh mengukur banyak pembolehubah dalam satu masa. Kaedah ini adalah satu cara yang spesifik untuk mengumpul maklumat mengenai populasi (Mohd. Majid, 2000). Kaedah soal selidik dan tinjauan sesuai digunakan kerana kebolehpercayaan yang tinggi sedangkan kosnya rendah (Ahmad Mahzan, 2002). Kajian yang akan dijalankan adalah berbentuk perihal atau deskriptif di mana data daripada soal selidik yang diedarkan kepada pelajar mahupun guru-guru. Mengikut Azhar dan Nawi (2004), terdapat beberapa faedah dalam menggunakan soal selidik yang sekata.

Sampel Kajian

Kajian ini menggunakan teknik persampelan rawak mudah. Persampelan rawak mudah menurut Noraini (2010), setiap ahli populasi mempunyai peluang yang sama untuk terpilih sebagai sampel. Cara ini adalah yang terbaik untuk mendapatkan sampel daripada saiz populasi yang besar.

Ary et al (2002) menyatakan dua kriteria utama yang mesti ada pada sampel ialah sampel mestilah mewakili populasi dan sampel juga mestilah dapat mengambarkan ciri-ciri populasi yang dikaji. Oleh itu kajian ini telah menggunakan sampel dan memastikan bahawa sampel tersebut adalah mewakili dan menggambarkan ciri-ciri populasi yang dikaji. Setelah mengambil kira faktor kos, masa

dan keperluan menjalankan kajian, pengkaji telah memilih untuk membuat kajian di daerah Kota Bharu, Kelantan.

Menurut John W. Cresswell (2012), kajian kuantitatif adalah jenis penyelidikan pendidikan di mana pengkaji memutuskan bahan apa yang hendak dikaji, bertanya soalan yang khusus, mengecilkan skop soalan, mengumpul data bagi dikuantitatifkan daripada peserta, menganalisa nombor-nombor tersebut menggunakan statistik dan menjalankan inkuiri dalam bentuk yang objektif dan tidak berpihak kepada sesiapa.

Kajian ini secara umumnya bertujuan untuk mengetahui kaedah menangani pandemik Covid-19 dalam kalangan pelajar dan guru. Kajian ini mengunakan model KAP iaitu mengenai pengetahuan. Apabila pengetahuan seseorang itu bertambah, maka pengetahuannya akan menjadi pendorong kepada seseorang untuk melakukan perubahan terhadap dirinya. Perubahan yang berlaku akan menyebabkan tingkah laku (amalan) manusia tersebut berubah. Model KAP selalunya digunakan dalam bidang pemasaran, kepenggunaan, dan untuk membuat penilaian kempen-kempen kesihatan. Model KAP biasanya digunakan untuk menjalankan kajian dalam bidang kesihatan. Kajian lepas yang mengkaji pengetahuan, sikap dan tingkah laku menggunakan Model KAP misalnya kajian yang dibuat oleh Nijuan et al. (2010) menggunakan Model KAP untuk mengkaji pengetahuan, sikap dan amalan penduduk di Negara China terhadap penyakit H5N1. Model KAP mempunyai tiga elemen yang utama iaitu pengetahun, sikap dan amalan.

Menurut Fiesbein dan Ajzen (1975) dan di sokong oleh Mahmud M.H et al, and Siarap, K et al, (2013) pengetahuan juga dikenali sebagai faktor kognitif di mana pengetahuan merupakan asas yang membina pengetahuan dalam struktur pemikiran manusia. Pengetahuan juga berperanan sebagai teras kepada penentuan sikap (attitude), niat (intention) dan tingkah laku (behaviour).

Responden yang terlibat dalam kajian itu diminta untuk bertindak balas terhadap kenyataan dalam soal selidik secara dalam talian (online). Dua pilihan telah diberikan untuk setiap pernyataan bagi menentukan dimensi para respondens berkaitan dengan kehendak soalan. Pilihan mengandungi Ya atau Tidak. Instrumen ini juga telah menjalani kajian rintis pada skor kebolehpercayaan yang tinggi. Manakala, 5 orang pakar dalam bidang berkaitan telah ditemui untuk tujuan kesahan instrumen.

Instrumen kajian

Jadual 1: Kesan Psikologi

Responden	Kekerapan	Peratusan %
Pelajar		
Ada	39	58.2%
Tiada	28	41.8%
Guru		
Ada	38	55.2%
Tiada	29	44.8%

Kajian ini dijalankan dengan menggunakan kaedah tinjauan rentasan (cross-sectional survey designs) yang menggunakan kaedah pungutan data, iaitu kaedah kuantitatif yang menggunakan soal selidik bagi memungut data. Soal selidik meliputi: Bahagian A – Maklumat Responden, Bahagian B – kesan psikologi terhadap pelajar dan guru.

Kaedah ini paling mudah dan senang digunakan pada tempoh PKP ini kerana segala pergerakan tidak dibenarkan oleh pihak kerajaan. Terdapat 2 bahagian instrument iaitu Ya atau Tidak. Pengkaji menggunakan google forms untuk membuat soal selidik secara atas talian. Daripada 67 respondens yang diperolehi, terdapat 55.2% dan 58.2% mengatakan ada kesan psikologi kepada pelajar dan guru semasa tempoh PKP ini berlangsung. Ini menunjukkan kesan awal kerana belum bersedia dengan penggunaan e-pembelajaran secara professional dan tiada kursus khusus yang dijalankan sebelum ini. Kesan psikologi adalah lebih tinggi daripada kebiasaannya.

DAPATAN

6.1 Persampelan kajian

Jadual 2: Demografi responden

Demografi responden	Kekerapan	Peratusan %
Status		
Pelajar	42	62.7%
Ibu bapa/bekerja	25	37.3%
Jantina		
Lelaki	20	29.8%
Perempuan	47	70.1%

Kajian ini menggunakan kaedah tinjauan yang menggunakan borang soal selidik. Teknik persampelan mudah digunakan bagi mendapatkan responden kajian. Seramai 67 respondens diperolehi dari kawasan Daerah Kota Bharu untuk dijadikan responden kajian. Daripada 67 respondens, 62.7% merupakan pelajar, manakala 37.3% merupakan ibu bapa yang bekerja. Hasil dapatan ini secara langsung menunjukkan pelajar begitu aktif memberikan respondens untuk melihat sejauhmana sistem pengajaran dan pembelajaran pendidikan negara di daerah Kota Bharu yang memberi kesan terhadap proses pembelajaran secara atas talian pada hari ini.

Selain daripada itu, apabila berlaku kes seperti Covid-19 ini akan belaku peningkatan penggunaan kelas secara atas talian antara guru dan pelajar. Pelajar yang cemerlang dan mempunyai target akan merasakan satu kerugian masa dan peluang untuk bersemuka dengan guru. Terutamanya untuk mata pelajaran yang mereka masih lemah. Bagi pelajar yang akan menduduki peperiksaan penting seperti Sijil Pelajaran Malaysia (SPM) amat penting bagi mereka kerana semua silibus perlu dipelajari dalam tempoh Perintah Kawalan Pergerakan(PKP). Sistem pembelajaran seharusnya jauh berbeza semasa sesi sebelum ini yang berlaku di dalam kelas. Ini menunjukkan persediaan kepada pelajar dan guru harus diberi keutamaan seperti menyediakan kursus dan bengkel mengenai penggunaan e-pembelajaran. Namun, mengambil masa yang panjang untuk mahir menggunakan sistem e-pembelajaran tersebut.

6.2 Institusi Pendidikan di tutup sementara

Jadual 3: Institusi pendidikan di tutup sementara

Responden	Kekerapan	Peratusan %
Status		
Bersetuju	60	89.6%
Tidak bersetuju	7	10.4%

Kewajaran Institusi pendidikan ditutup buat sementera waktu disebabkan wabak pandemik covid-19 ini adalah untuk menyelamat keadaan dan kesihatan pelajar dan guru ketika di sekolah. Penutupan sekolah di sokong oleh pihak KPM kerana melihat faktor kesihatan lebih penting berbanding pembelajaran secara tradisional iaitu bersemuka di dalam kelas seperti biasa. Keperluan pengajaran dan pembelajaran (PdP) boleh dilaksanakan melalui kelas atas talian seperti yang disarankan oleh pihak KPM dan seluruh guru Malaysia. Penutupan sekolah bukan bermakna tiada pengajaran dan pembelajaran. Perubahan norma baharu berubah 360˚ daripada belajar di dalam kelas kepada belajar secara maya. Ini melihat kepada proses berfikir kepada guru dan pelajar untuk meneruskan sistem pembelajaran yang sempurna melihat kepada pengetahua, amalan dan sikap.

Olson dan Zanna (1993) juga menyatakan bahawa proses untuk berfikir (kognitif) akan mempengaruhi seseorang untuk bertindak mengikut perasaan terhadap sesuatu isu atau maklumat yang diperolehnya. Menurut Kuhlemeier, Bergh dan Nijs (1999) dalam Mahadevan (2009) menyatakan komponen pengetahuan memainkan peranan yang penting untuk menbantu manusia bagi melihat persekitaran dengan lebih fokus. Untuk memahami tindakan psikologi, jelas bahawa pengetahuan faktor penyebab yang membina sikap terhadap sesuatu (Mahadevan, 2009).

Dapatan kaji selidik yang dijalankan oleh KPM semasa PKP menunjukkan terdapat kekangan dari segi akses kepada internet dan penggunaan peranti untuk pembelajaran. Di peringkat sekolah, hampir 80 peratus pelajar sekolah menengah mempunyai telefon pintar diikuti sekitar 36 peratus murid sekolah rendah. Walau bagaimanapun, untuk peranti lain seperti tablet, komputer dan komputer riba, jumlah milikan adalah amat rendah iaitu sekitar hanya lima hingga 14 peratus. Di peringkat pendidikan tinggi, Universiti Awam dan Institusi Pendidikan Tinggi Swasta yang tidak menggunakan pembelajaran atas talian secara sepenuhnya dalam pelaksanaan PdP tidak dibenarkan untuk meneruskan aktiviti pembelajaran secara atas talian. Kementerian Pengajian Tinggi bertegas mengambil kira kepentingan pelajar supaya mereka tidak ketinggalan sekiranya mereka tidak mendapatkan akses kepada internet. Hakikatnya, sistem pendidikan negara kita masih lagi belum berupaya untuk menyokong sepenuhnya pembelajaran secara maya serta mod pembelajaran yang pelbagai. Seiring cabaran Revolusi Industri 4.0 (IR 4.0), Reformasi Digital giat dilaksanakan menyaksikan 10,208 sekolah kini menikmati kelajuan minimum Internet sekurang-kurangnya 30mbps hingga 100mbps selepas KPM berjaya meningkatkan akses Internet dan tiada lagi monopoli pembekal dan penyedia Internet. Maszlee memaklumkan 40,450 kelas telah menggunakan Google Classroom dan ini melibatkan 32,036 guru dan 364,204 murid di seluruh negara. Sejumlah 100 Digital Maker Hubs (DMH) diwujudkan di sekolah-sekolah dengan kerjasama Malaysia Digital Economy Corporation (MDEC) sehingga kini.KPM yang sentiasa memberi keutamaan tinggi secara konsisten berjaya menyiapkan sehingga 90 peratus projek sekolah daif, iaitu 452 daripada

jumlah keseluruhan 534 sekolah daif kini selamat untuk beroperasi manakala 1,216 makmal sains usang turut diperbaiki (Bernama, 2019)

PERBINCANGAN

Kesan kepada pelajar

Pandemik Covid-19 ini merupakan isu kesihatan dunia dan global. Kesan daripada wabak ini, memberi kesan kepada pelajar khususnya kerana menganggu sistem pengajaran dan pembelajaran (PdP) yang telah mereka mengikuti sistem pendidikan negara (MOE) secara langsung dan bersemuka di dalam kelas dan di waktu pembelajaran sedia ada di sekolah. Apabila kerajaan mewujudkan Perintah Kawalan Pergerakan(PKP) bulan Mac lalu, sekolah dan pusat-pusat pengajian di seluruh Malaysia di tutup sementara sehingga keadaan pulih seperti sedia kala. Hasil dapatan menunjukkan sebanyak 58.2% memberi kesan psikologi terhadap pelajar. Ini menunjukkan pelajar tidak bersedia dengan pembelajaran atas talian seperti *Google Classroom, Microsoft Teams, WhatsApp Call, Telegram, Quizizz.com* dan sebagainya. Selain itu, capaian internet bagi pelajar di kampung dan pedalaman agak sukar untuk di akses menyebabkan punca pelajar tidak membuat latihan dan nota yang diberikan oleh guru-guru sepanjang tempuh PKP berlangsung. Maka, objektif pelaksanaan pengajaran dan pembelajaran (PdP) atas talian tidak tercapai. Ini memberi kesan psikologi kepada pelajar yang ingin belajar tetapi tiada maklumat yang diperolehi dari guru. Kesan ini menimbulkan kemurungan dan tiada motivasi kepada pelajar yang ingin belajar seperti pelajar yang lain.

Manakala 41.8% menyatakan tidak memberi kesan kepada pelajar. Hasil dapatan ini menunjukkan responden yang tinggal di bandar mahupun di pecan yang mendapat akses internet yang laju. Sebagai contoh di Bandar Kota Bharu, Pekan Melor, Pekan Ketereh, dan kawasan-kawasan yang ada capaian internet yang tinggi tidak memberi kesan psikologi kepada mereka. Hasil kerja dan proses PdP berjalan dengan sempurna dan mereka dapat melakukan tugasan dengan mudah dan senang menggunakan telefon pintar atau komputer. Malah, kerajaan Malaysia melalui Syarikat Teleco seluruh rangkaian di Malaysia memberikan 1GB secara percuma sepanjang tempuh PKP ini berlangsung. Hasil daripada kemudahan, tidak memberi kesan kepada pelajar malah menyokong penuh untuk melaksanakan sistem pengajaran dan pembelajaran (Pdp) atas talian dengan mudah dan menarik. Hal ini turut di persetujui oleh Valente et al. (1998) dan Mahadevan (2009) apabila pengetahuan seseorang bertambah, maka pengetahuan ini akan menjadi pendorong kepada perubahan sikap.

Kajian ini disokong oleh Mental Health in Emergies, WHO, 2003, mengatakan kerjasam antara professional dan organisasi (sekolah) sangat penting untuk membuat intervensi sokongan sosial dan psikologi dasar sedia bagi pelajar sekolah. Profesional kesihatan mental terutama dari daerah yang terkena sesuatu wabak dan bencana mempunyai peranan dalam latihan dan pengawasan campur tangan sokongan psikologi asas (seperti pertolongan pertama dan kaunseling penyelesaian masalah). Professional disiplin lain misalnya komunikasi, pendidikan, pembangunan komuniti dan penyelarasan bencana. Biasanya berada di depan, dalam pelaksanaan intervensi sosial yang relevan seperti memulakan persekolah, penyusunan ruang pelajar, penyatuan semula keluarga yang berjauhan semasa wabak berlaku dan pembangunan ekonomi yang seimbang perlu diterapkan dengan baik.

Kesan psikologi dalam dapatan yang diperolehi juga disokong oleh Mathew Tull, 2009 berkaitan denga kajian kesan tsunami yang terjadi pada 24 Disember 2004. Seterusnya, International Pasca-Tsunami Study Group (IPTSG) mengembangkan kembali kesan psikologi untuk jangka masa yang panjang, agar dapat mengembangkan intervensi yang berkesan kepada orang yang mengelaminya terutama pelajar sekolah. Dapatan 58.2 % adalah kesan yang besar kepada pelajar. Oleh itu, apabila ia berlaku akan menjadi luar biasa kerana akal tidak boleh berfikir secara rasional (Everly dan Mitchell, 1999). Tiga tahap kaedah untuk menangani psikologi iaitu:

1) Mengurangkan risiko dari krisis dan trauma yang terjadi.
2) Menstabilkan dan mengurangkan segera dari penyakit yang teruk
3) Mempermudahkan penyembuhan dan pemulihan dari masa ke semasa.

Kesan kepada guru

Selain memberi kesan kepada pelajar, para tenaga pengajar dan guru-guru juga memberi kesan yang sama iaitu kesan psikologi terhadap guru-guru kerana salibus dan proses PdP telah terhenti seketika disebabkan wabak pandemik Covid-19 ini. Sebanyak 55.2 % hasil dapatan yang diperolehi daripada soal selidik ini menunjukkan lebih tinggi berbanding dengan pelajar. Guru-guru merupakan tulang belakang kejayaan sesebuah sekolah, pelajar dan komuniti serta negara. Dalam tempoh PKP ini guru-guru banyak belajar berbanding pelajar kerana guru-guru tiada persediaan yang rapi untuk menggunakan sistem e-pembelajaran atas talian ini. Ramai guru menggunakan medium yang telah disediakan oleh pihak Kementerian Pendidikan Malaysia (KPM) iaitu Google Classroom (GC) Moe. Guru-guru perlu belajar melalui medium internet dan perlu membuat pelaporan kepada pihak atasan. Ini menunjukkan tekanan psikologi kepada guru-guru di Malaysia disebabkan masalah pandemik Covid-19 ini. Hasil daripada pembelajaran tersebut, guru-guru dapat memberi tugasan kepada pelajar mereka.

Selain itu, sebanyak 44.8% menyatakan tidak memberik kesan psikologi kepada guru. Ini kerana ramai dalam kalangan guru sudah bersedia dengan pengajaran dan pembelajaran (PdP) atas talian. Seramai 28,878 orang warga pendidik menyertai program e-pembelajaran atas talian melalui telegram eDidik Malaysia yang menganjurkan kursus kepada guru-guru tentang pembelajaran atas talian ini sepanjang tempoh PKP ini berlangsung. Menurut Olson dan Zanna (1993), perasaan kasih dan sayang yang mengandungi emosi dan perasaan seseorang terhadap sesuatu isu atau maklumat dan komponen kognitif yang mempunyai kecenderungan untuk bertindak mengikut cara yang tertentu.

Kesan kepada peperiksaan awam.

Kesan sampingan apabila terjadi kes penularan wabak pandemik Covid-19 ialah peperiksaan awam iaitu Ujian Peperiksaan Sekolah Rendah (UPSR) yang di duduki oleh pelajar Tahun 6. Penilaian Tingkatan 3 (PT3) yang biasa diadakan pada bulan September dan Oktober setiap tahun yang dipduduki oleh pelajar tingkatan 3. Selain itu, Sijil Pelajaran Malaysia (SPM) dan Sijil Vakasional Malaysia (SVM) yang dipduduki oleh pelajar tingkatan 5 adalah sesuatu yang penting untuk meneruskan pembelajaran ke menara gading. Akhir sekali, peperiksaan Sijil Tinggi Agama Malaysia (STAM) dan Sijil Tinggi Persekolahan Malaysia (STPM) bagi pelajar tingkatan 6 bawah dan tingkatan 6 atas. Kesan ini secara langsung terpalit pada semua pihak terutama Lembaga Peperiksaan Malaysia (LPM) untuk menentukan bentuk soalan, meneruskan peperiksaan atau membatalkan peperiksaan tersebut.

Mengikut kementerian pendidikan Malaysia peperiksaan awam di tunda ke fasa pertama tahun 2021. Tarikh peperiksaan Sijil Pelajaran Malaysia (SPM) dan Sijil Vokasional Malaysia (SVM) akan ditunda kepada suku pertama tahun depan. Untuk calon Sijil Tinggi Persekolahan (STPM), tarikh peperiksaan Semester 2 diubah kepada Ogos ini, manakala peperiksaan Semester 3 akan diadakan dalam suku pertama tahun 2021(KPM,2020).

Menteri Kanan (Pendidikan), Dr Mohd Radzi Jidin, berkata peperiksaan Sijil Tinggi Agama Malaysia (STAM) juga akan diadakan dalam suku pertama tahun depan. "Menyedari bahawa penundaan tarikh peperiksaan ini akan memberi kesan kepada kemasukan ke peringkat pengajian tinggi, Kementerian Pendidikan (KPM) dan Kementerian Pengajian Tinggi (KPT) telah bersetuju untuk menangguhkan tarikh kemasukan baharu ke institusi pengajian tinggi (IPT) bagi program asasi, matrikulasi dan peringkat diploma sehingga Julai atau Ogos 2021, manakala program ijazah pada September atau Oktober 2021," katanya pada sidang media hari ini.

Cadangan terhadap sistem pendidikan

Kementerian Pendidikan Malaysia (KPM) merupakan tunjang utama bagi mengeluarkan penyataan bagi perkembangan isu pendidikan yang akan diikuti oleh warga sekolah bawah pentadbiran KPM. Oleh itu, KPM sentiasa mengambil serius dan teliti tentang perkembangan isu Covid-19 berdasarkan laporan dari kementerian kesihatan Malaysia dan badan pertubuhan kesihatan dunia (WHO) agar langkah-langkah persediaan menghadapi cabaran sistem pendidikan dapat diatasi. KPM sebelum ini telah mengeluarkan surat Langkah Kesiapsiagaan Pencegahan jangkitan (2019-nCOV) di sekolah kerajaan dan bantuan kerajaan, pada 4 Februari 2020 untuk persediaan diperingkat awal kejadian jangkitan penyakit ini mula dilaporkan di negara kita. Walau bagaimanapun, KPM sentiasa memberi garis panduan dan maklumat baru yang diperlukan oleh pihak sekolah agar semua warga pendidikan faham dan bertanggungjawab terhadap tugas masing-masing. Oleh itu, KPM mengeluarkan garis panduan bertujuan untuk membantu pengurusan di bawah kpm termasuklah sekolah swasta akademi dan agama, sekolah antarabangsa dan sekolah ekspatriat yang berdaftar dengan kpm mengambil langkah-langkah mengawal penularan virus covid-19.

KPM telah mengeluarkan langkah – langkah mengawal penularan jangkitan covid-19 seperti huraian berikut:

1 Murid dinasihati untuk tidak mengikuti sebarang program yang akan dianjurkan di negara yang terjejas dengan Covid-19 dan dikategorikan sebagai tinggi oleh KKM seperti China, itali, Iran, jepun dan negara sekitar China.

2 Jika terdapat murid yang mempunyai sejarah tinggal atau melawat ke negara terjejas Covid-19 perlu diletakkan bawah perintah pengawasan dan pemantauan (home surveillance) untuk memantau status kesihatan selama 14 hari di kediaman tempat tinggal masing-masing dan tidak perlku ke sekolah. Pihak sekolah akan mengambil tindakan lanjut seperti berikut :

i. mengenalpasti murid dan mengambil maklumat peribadi terutama perincian sejarah perjalanan dan seterusnya melaporkan kepada pihak hospital; dan
ii. memberi makluman tentang gejala penyakit berjangkit disebabkan oleh covid-19 dan segera ke hospital untuk rawatan lanjut; dan
iii. mereka hadir semula ke sekolah setelah 14 hari atau disahkan sihat oleh KKM; dan
iv. merujuk kepada carta alir pengurusan murid yang pulang atau datang dari luar negara; lampiran

3 Letter of absence (LOA) diberikan untuk murid yang diletakkan di bawah home surveillance untuk tempoh 14 hari bagi sekolah-sekolah swasta akademik, agama, sekolah antarabangsa dan ekspatriat.

4 Sentiasa mengingatkan tentang gejala jangkitan virus kepada muris supaya tidak hadir ke sekolah jika ada tanda-tanda jangkitan. 6

5 Jika murid yang bergejala dan hadir ke sekolah perlu diasingkan dan menghubungi ibu bapa, penjaga untuk menjemput pulang dan membuat rawatan selanjutnya.

6 Sekiranya pula didapati terdapat warga sekolah disahkan positif Covid-19 segera melaporkan kepada JKN/ PPKD untuk tindakan kawalan pencegahan wabak serta merta

7 Murid yang tinggal diasrama dan membuat gejala perlu diasingkan dan hubungi ibu bapa/ penjaga untuk dibawa rawatan lanjut

8 Mendapatkan kerjasama dengan JKN/PKD untuk membuat saringan suhu di pintu masuk sekolah dan laporan mestilah dibuat di PPD dan PKD yang berhampiran.

9 Murid-murid mesti dididik untuk sentiasa menjaga tahap kesihatan diri dengan betul seperti amalan mencuci tangan dengan betul, dan memakai hand sanitizer. Amalan batuk yang betul dan mengamalkan cara hidup sihat

10 Murid-murid juga tidak seharusnya berada di tempat awam dan tempat tumpuan orang ramai. Sekiranya perlu, pastikan memakai pelitup hidung (face mask)

11 Memberi kefahaman kepada ibubapa/ penjaga mengenai peranan mereka dalam usaha mencegah penularan wabak penyakit di sekolah dan peka terhadap status kesihatan anak mereka

12 Perlaksanaan aktiviti di luar bilik darjah dibolehkan dengan mengikuti garis panduan yang dikeluarkan KKM dan jika perlu dipertimbangkan untuk membatalkan aktiviti tersebut.

Oleh itu, proses disinfektif perlu dilakukan dengan panduan dan nasihat daripada JKN/PKD. Sebarang tindakan selanjutnya akan diberikan. Sekolah juga perlu ditutup tertakluk kepada pengetua dan guru besar setelah mendapat nasihat dari JKN/PKD.

KPM mengharapkan agar pihat JKN/PKD membantu supaya SOP yang telah dikeluarkan dapat dilaksanakan sebaik mungkin untuk menjamin keselamatan pelajar-pelajar.

RUMUSAN

Jelas dapat dilihat kini institusi pendidikan menggunakan platform dalam talian (online) sebagai alternatif kepada pembelajaran konvensional. Situasi demikian adalah drastik akibat penularan wabak Koronavirus (Covid-19) atau lebih khusus ketika Perintah Kawalan Pergerakan (PKP) dikuatkuasakan.

Hal demikian didorong oleh keperluan pembelajaran mengikut masa atau perancangan sepatutnya, walaupun pelajar berada di dalam kawalan pergerakan di rumah. Bagaimanapun, rata-rata warga pendidik peringkat sekolah ataupun pendidikan tinggi berhadapan kesukaran mengadaptasi pembelajaran secara elektronik (e-learning). Menurut Ahli Akademik, Mohd. Amirul Akhbar Mohd. Zulkifli, hal demikian berlaku akibat institusi pendidikan tidak mempunyai persediaan dalam pengurusan risiko. Beliau berkata, e-learning sepatutnya dilakukan dari dahulu dan penambahbaikan melalui kajian dan penyelidikan. Namun, ia tidaklah bermaksud meninggalkan pembelajaran konvensional. Tetapi, seiringkan e-learning dan pembelajaran dalam kelas," jelasnya. Justeru menurut beliau lagi, institusi pendidikan kini perlu membuat pelaburan dalam teknologi untuk membangunkan e-learning supaya bersedia hadapi risiko seperti pandemik Covid-19.

Menurut Perdana Menteri kita, sekarang warga pendidik menggunakan platform pihak ketiga seperti Zoom, Google Apps, Telegram dan Whatsapp yang berisiko kebocoran maklumat peribadi seperti tular baru-baru ini. Universiti awam perlu kehadapan dalam RnD untuk membina platform khusus masing-masing yang merangkumi aspek 'realtime' dan 'non-realtime' yang boleh dijadikan sebagai rujukan. Universiti Tun Abdul Razak (Unitar) dahulu pernah menjadi perintis platform e-learning yang komprehensif sekitar tahun 1998 – 1999.

Oleh itu sebagai warganegara yang berdaya saing memacu kecemerlangan pendidikan, kita perlu akur kepada keputusan kerajaan bahawa pembelajaran secara e-learning juga boleh dipraktikkan demi kejayaan negara dalam bidang pendidikan.

Dalam masa yang sama, jikalau sebelum ini pelajar kurang mengambil berat mengenai isu kebersihan, kini mereka mula sedar kepentingan menjaga kebersihan. Pelajar lebih mengambil berat mengenai

kesihatan dan keselamatan masing-masing. Jelas, Covid-19 telah merubah manusia di alam sejagat ke arah norma baharu kehidupan khususnya memberi implikasi yang sangat besar di dalam sistem pendidikan negara.

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READINESS OF EARLY CHILDHOOD EDUCATION TEACHERS IN BEKASI CITY, INDONESIA, WITH THE PRESENCE OF EDUCATIONAL DIGITALIZATION INNOVATIONS

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ABSTRACT

This study aims to evaluate the readiness of early childhood education teachers in Bekasi City to face the digitalization of education, focusing on the difference in adaptation between teachers with more than 20 years of experience and those with 1-10 years of experience. The background of this research is based on the importance of digitalization in improving the quality of education and the challenges teachers face in integrating technology into teaching. The method used involved in-depth surveys and interviews with 30 early childhood education teachers in Bekasi City to identify readiness, obstacles, and support needed. The results show that teachers with more than 20 years of teaching experience experience experience have significant difficulties in adapting to digital technology, mainly due to a lack of adequate training and isolation from the educator community. In contrast, teachers with 1-10 years of experience feel more comfortable and enthusiastic about using technology, thanks to their familiarity with digital devices and community support. In conclusion, to achieve successful digitalization of education, a comprehensive strategy is needed, including providing appropriate training and strong community support to ensure that all teachers, regardless of their experience, can adapt to these technological changes and improve the quality of teaching.

INTRODUCTION

Advances in information and communication technology are making the digitalization of education increasingly important. Digital technology has changed how we learn and teach, providing various tools and platforms that make the learning process more interactive and engaging. This includes educational software, learning apps, e-learning platforms, and mobile devices that can all be accessed anywhere and anytime (Fajariyani et al., 2023). With digitalization, learning is no longer limited to physical classrooms but can be done online with broader access.

In addition, the digitization of education also allows for personalized learning. With digital technology, learning materials can be tailored to student's needs and abilities so that each student can learn according to their own pace and learning style. It increases the effectiveness and efficiency of learning and provides opportunities for students to reach their maximum potential (Hasanuddin et al., 2022). For example, teachers can track student progress using a learning management system (L.M.S.) and provide more specific and timely feedback(Rengganis, 2022).

The digitalization of education also supports better collaboration and communication between students, teachers, and parents (Rahmah, 2023). Digital platforms allow for real-time information and communication sharing, facilitating discussion and group work and allowing parents to be more involved in their child's educational development (Noviati et al., 2023). This collaboration enriches students' learning experience and increases their engagement and motivation.

On the other hand, digitizing education can help reduce the gap in access to education. Digital technology provides educational materials to areas that are difficult to reach by the conventional education system (Tjasmadi, 2019). Thus, students in remote places or with limited physical access can

still get quality education through online platforms. This is in line with efforts to realize inclusive and equitable education (Fajrin et al., 2023).

Furthermore, the digitalization of education plays a vital role in preparing students for the future of work. Technical and digital skills are becoming essential in today's digital era (Manijeni et al., 2022). Through digitalization, students can learn and practice these skills early on, such as programming, data analysis, and digital literacy, all of which will be valuable assets in the job market. Digital education can also introduce students to concepts such as machine learning, artificial intelligence, and blockchain technology, which will be an integral part of many industries in the future (Kurniawan et al., 2022).

Digitalization also provides solutions in emergencies, such as the COVID-19 pandemic. Many schools and universities turned to online learning during the pandemic to ensure educational continuity (Sari et al., 2020). This shows how vital digital infrastructure and technological readiness are in crises (Kuncahyono et al., 2020). With a digital platform, the teaching and learning process can be continued despite disruptions in conventional learning methods(Murhadi & Poni, 2019).

Another advantage of digitalizing education is cost efficiency. Digital platforms can significantly reduce printed materials, physical classrooms, and logistics costs. This saves costs not only for educational institutions but also for students and parents (Rochmiyati & Khosiyono, 2023). Additionally, digital resources can be updated easily and quickly, ensuring that educational content is always up-to-date with the latest developments.

However, the digitalization of education also brings challenges, such as technology access, teacher training, and data security (Hadinegoro, 2021). Therefore, the government and educational institutions must ensure adequate technological infrastructure and train teaching staff to integrate technology into learning. This will ensure that the digitalization of education can be implemented effectively and provide maximum benefits (Gaffar et al., 2021).

Finally, the digitalization of education must be balanced with an approach that considers students' social and emotional aspects. While technology can facilitate many aspects of learning, social interaction and emotional support from teachers and peers are still important. Therefore, digital education must allow healthy human interaction and support students' holistic development (Rokmanah & Hendracipta, 2023).

Overall, the digitalization of education is an essential step towards a more inclusive, efficient, and adaptive future. By utilizing digital technology, we can create an education system that is more responsive to student's individual needs, improve the quality of learning, and prepare future generations for the challenges and opportunities in the digital era (Bina et al., 2022). Digitalization is about introducing new technologies and transforming how we understand, teach, and learn to reach our full potential as individuals and society (Anugerah et al., 2023).

The Ministry of Education, Culture, Research, and Technology (Kemendikbudristek) of the Republic of Indonesia has launched an important initiative to encourage the digitalization of education through the "Belajar. id Learning Account" program. This program aims to provide broader and easier access to the digital learning platform for all students, teachers, and education staff in Indonesia. By providing an integrated learning account, the Ministry of Education and Culture wants to ensure that every student can access various learning resources and educational materials online, both at and outside school (Effendi et al., 2022).

Belajar.id Learning Account is designed to support various teaching and learning activities in the digital era. Students and teachers can access multiple services through these accounts, such as educational emails, learning apps, cloud storage, and collaboration platforms (Qomariyah & Qalbi, 2021). This provides opportunities for students to learn in a more interactive and personalized way and

for teachers to manage and deliver subject matter more creatively and effectively (Dinihari et al., 2021). In addition, this account also allows tracking of student learning progress so teachers can provide more precise and accurate feedback.

The Ministry of Education and Culture also sees the Belajar.id Learning Account as a solution to facing educational challenges during the pandemic. With more accessible access to online learning, the teaching and learning process can continue despite physical restrictions (Rochmiyati & Khosiyono, 2023). This initiative is expected to bridge the gap in access to education, especially for students in remote areas or those with limited infrastructure. As such, Belajar. It is an integral part of the government's efforts to ensure that every child in Indonesia has the same opportunity for a quality education (Haerani et al., 2023).

More than that, the Learning Account program also aims to improve digital literacy among students and teachers. Using digital tools and platforms in daily learning will improve students' digital skills, preparing them for the future world of work increasingly connected to technology (Rizal et al., 2023). Meanwhile, teachers are also encouraged to continue learning and adapt to technological developments to become effective facilitators in a digital learning environment (Laurentinus et al., 2023).

Overall, the launch of the Belajar.id Learning Account by the Ministry of Education and Culture is a concrete step towards digital transformation in Indonesia's education sector (Samosir, 2023). By integrating technology into the educational process, a more inclusive, efficient, and adaptive learning ecosystem is likely to be created. This initiative prepares Indonesia's young generation to face global challenges and contributes to realizing the vision of a more advanced and competitive national education (Nugroho & Hidayati, 2023).

The Belajar.id account launched by the Ministry of Education and Culture is a tool to support the digitalization of education and is the main entrance for teachers to access the Independent Teaching Platform (Dewi, 2023). The Independent Teaching Platform is a government initiative designed to provide the support and resources teachers need to implement the Independent Curriculum. They are using the Belajar. I.D. account, teachers can easily access various features and content provided by this platform, including learning modules, teaching materials, and various other resources relevant to curriculum needs (Firdaus et al., 2022).

The Merdeka Mengajar platform offers a variety of educational content that teachers can use to improve the quality of their teaching through a Belajar (Putra & Putri, 2023). Teachers can download learning materials tailored to their needs and participate in the training and courses to enrich their knowledge and skills. This allows teachers to continue developing their professionalism in a dynamic and supportive learning environment (Manijeni et al., 2022).

In addition, Belajar.id accounts allow teachers to collaborate and share experiences with fellow educators through the Merdeka Teaching Platform. The platform provides discussion forums and community spaces where teachers can exchange ideas, teaching strategies, and best practices (Fajariyani et al., 2023). This kind of collaboration enriches the teaching experience and encourages innovation in the teaching-learning process in the spirit of the Merdeka Curriculum, which is flexible and student-centered (Firmansyah et al., 2023).

Another feature that can be accessed through the Belajar.id account on the Merdeka Mengajar Platform, which is for evaluation and assessment. Teachers can use the available digital evaluation tools to assess student learning progress more efficiently and accurately. This makes it easier for teachers to design learning strategies that suit students' abilities and needs so that each student can learn in the most effective way for them (Meranti, 2023).

With the integration of Belajar.id. accounts and the Independent Teaching Platform, the Ministry of Education and Culture seeks to create a more adaptive learning ecosystem responsive to the times (Maya et al., 2022). Belajar.id account is a means of access and a bridge that connects educators with the resources needed to realize a more independent, innovative, and inclusive education. Through this technology, it is hoped that teachers can optimize their role in educating and preparing Indonesia's young generation to face future challenges (Habibah et al., 2022).

Teachers' readiness to face school digitalization in Indonesia still faces considerable challenges. Although initiatives such as the Belajar.id Learning Account and the Merdeka Mengajar Platform have been launched to support digital transformation in the education sector (Sudarma et al., 2023). However, many teachers still struggle to use technology, such as gadgets and the Internet. Many are unfamiliar with modern technological devices, so it takes more time and intensive guidance to adapt (Ulum et al., 2023).

One of the main problems faced is the limitation of using gadgets. Not all teachers have enough access or skills to efficiently use devices such as computers, tablets, or smartphones. In addition, many teachers find it uncomfortable or afraid to use this technology in the teaching process due to a lack of training or technical support. This causes them to feel intimidated by technology and hesitate to utilize it fully in teaching and learning activities (Ridwan et al., 2023).

In addition to the device's difficulty, another significant problem is uneven internet access. In many regions in Indonesia, especially in remote areas, internet access is still a considerable obstacle. Slow or unstable connections often hinder teachers from accessing online learning materials or participating in digital training (Pramila-Savukoski et al., 2023). With adequate internet access, efforts to utilize digital platforms in education become more effective, but it can also reduce teachers' enthusiasm to try new teaching methods (Susanti & Trihantoyo, 2023).

The lack of digital knowledge and skills makes it difficult for many teachers to adapt to educational technology. Most teachers may only be familiar with traditional teaching methods and must become more familiar with various applications or digital tools to support the learning process. With proper training, they can understand how to use this technology to make learning more engaging and interactive for students (Mutawa et al., 2023). This causes frustration and can discourage teachers from using technology in their teaching.

Finally, these challenges show that while school digitalization offers great potential to improve the quality of education, teacher readiness should be a significant focus. More excellent support in the form of ongoing training, better access to devices and the Internet, and adequate technical assistance is urgently needed. Thus, teachers can feel more confident and competent in using technology, so they can fully take advantage of the benefits of digitalization to improve schools' teaching and learning experience.

METHOD

This study uses a survey and interview approach to evaluate the readiness of P.A.U.D. teachers in Bekasi City to adopt digitalization. A total of 30 P.A.U.D. teachers were selected as research samples through the purposive sampling method, which allows the selection of respondents based on specific criteria, such as teaching experience and the use of technology in teaching. The survey will be conducted using a structured questionnaire that includes questions about technology access and use, digital skill levels, and teachers' perceptions of digitalization of education. This questionnaire will be distributed in person or online to facilitate teacher participation. In addition, in-depth interviews will be conducted to understand better the barriers teachers face in integrating technology into their teaching. This interview will include open-ended questions that allow teachers to express their views, experiences, and

challenges related to digitalization. Data from surveys and interviews will be analyzed descriptively to identify significant patterns and themes and provide a comprehensive picture of the readiness and needs of P.A.U.D. teachers in Bekasi City to face the digitalization of education.

RESULTS

The results of surveys and interviews show that early childhood education teachers in Bekasi City with more than 20 years of teaching experience tend to find it challenging to adapt to school digitalization. A survey of 30 teachers revealed that as many as two teachers with more than 20 years of experience had experienced significant challenges adapting to digital technology. This is mainly concerned with using digital devices in daily teaching, as well as an understanding of how to effectively integrate technology into the early childhood education curriculum.

One of the main challenges faced by these experienced teachers is access to adequate training. They feel the current training is unsuitable for their needs and need more in-depth training to equip them with digital skills. One of the teachers interviewed said, "I felt that the training provided was very short and did not answer all my questions. It took me more time to really understand how to use this technology." The lack of appropriate intensive training makes it difficult for them to utilize digital technology as a teaching aid.In addition to training, these experienced teachers feel less connected to other educator communities who can provide support or share knowledge about educational technology. In an interview, one teacher stated, "I feel alone in dealing with all these changes. I don't know who I can ask if I have a problem with technology." This shows that the lack of communities or discussion forums that support teachers in adapting to digitalization is one of the main obstacles. An active community of educators can be beneficial in exchanging information and practical solutions.

Furthermore, adaptation to digitalization also affects the learning methods of these teachers. Some need help learning independently using the available digital platforms. One of the teachers commented, "I am used to learning the traditional way. Using digital platforms to learn something new is quite confusing for me." This reflects that experienced teachers are more comfortable with conventional learning methods and feel pressured when switching to digital methods, which are considered more complicated and unfamiliar.

Overall, this survey and interviews revealed that early childhood education teachers with more than 20 years of experience face various difficulties in adapting to school digitalization. These difficulties are related to access to adequate training, connection with a supportive community of educators, and adaptation to new, digital-based learning methods. To overcome these challenges, a more comprehensive strategy is needed to provide appropriate training, form a solid community of educators, and create a supportive learning environment for experienced teachers in the era of education digitalization.

The survey and interviews also showed a striking difference in adaptation to school digitalization between teachers with more than 20 years of teaching experience and those with 1-10 years of teaching experience. Teachers who have a range of 1-10 years of experience find it easier to adapt to digital technology in teaching—of the 30 teachers surveyed, as many as 18 teachers with less than ten years of teaching experience stated that they feel comfortable and enthusiastic about using digital devices and online learning platforms.

Teachers with 1-10 years of experience are generally more familiar with technology, both because of their younger age and because they interact with digital devices more often in their daily lives. One of the teachers interviewed stated, "I'm used to using smartphones and laptops, so switching to digital teaching isn't that difficult for me." Their daily experience with technology makes them more confident in exploring and adopting digital tools for teaching purposes.

Their willingness to continue learning and developing new skills also supports this ease of adaptation. Many of these young teachers feel that digitalization opens up opportunities for innovation in teaching. "I am happy to be able to use videos and interactive applications in the classroom. This makes the lessons more interesting for the children," said a teacher. Their enthusiasm for learning and trying new things allows them to understand and utilize technology in learning activities quickly.

Furthermore, teachers with 1-10 years of experience feel helped by the community and peer support. They often share tips and experiences about using technology in teaching, both through discussion groups on social media and informal meetings. "We often share experiences on how to use a particular app or how to deal with technical issues," said one teacher. The existence of this active community provides a sense of support and solidarity, which is very helpful in adapting to digitalization.

Overall, ECEC teachers with 1-10 years of teaching experience in Bekasi City showed higher readiness to face the digitalization of education than their more experienced counterparts. Their familiarity with technology drives this convenience, the desire to learn new things, and the support of the educator community. These findings indicate that the digitalization of education has a greater chance of success if it is supported by the proper training and a supportive environment, especially for teachers with younger teaching experience.

The digitalization of education offers excellent opportunities for teachers in Indonesia but also brings significant challenges. On the one hand, this innovation opens up access to a broader range of learning resources, allows for more interactive and personalized teaching, and provides tools that make it easier to manage and evaluate learning. Teachers can leverage digital technology to create more engaging and relevant learning experiences for students and increase efficiency in education administration. On the other hand, many teachers face significant challenges adapting to this technology. Frequently raised issues include a need for more digital skills, limited access to adequate training, and technical constraints such as unstable internet connections. There are also challenges in effectively integrating technology into the curriculum and ensuring that all students have equal access to these digital tools. Therefore, teachers' readiness to face the digitalization of education requires a holistic approach, including ongoing training, technical support, and policies that support digital inclusion.

From a survey conducted on 30 teachers at various levels of education in Indonesia, 70% of teachers feel that education digitalization innovations provide an excellent opportunity to improve the quality of their teaching. As many as 60% of teachers said they were comfortable using technology in the classroom enough, but another 40% felt uncomfortable or uncomfortable at all. The reasons for this inconvenience vary, ranging from lack of training (50%) and limited internet access (30%) to concerns about their ability to keep up with technological developments (20%).

In-depth interviews were conducted with five teachers to explore further the challenges and opportunities they face related to the digitalization of education. Here is a summary of the interview transcript:

"I see digitalization as something good, but I find it difficult to keep up. Many new technologies are being introduced, and I do not always know how to use them. The training provided was also not always in-depth enough to answer all my questions. The internet connection at school is also often unstable, frustrating me when teaching online."

"I feel that this digitalization is very helpful. I can use videos and interactive apps to make lessons more engaging. I also often share my experiences with colleagues in social media groups, so there is always help if I need it. The biggest challenge is more about ensuring all students have the same access because some students are with devices or the Internet."

I was in the middle. There are parts of digitalization that I enjoy, such as the ease of accessing teaching materials, but there are also things that confuse me, such as new software that must be learned. We need more training focusing on hands-on practice, not just theory."

"Digitalization opens up many opportunities for exploration. Kids love to learn with technology, and it makes them more interested. The challenge is that sometimes, I feel unprepared for new technologies that are constantly evolving. Fortunately, our school has a community of teachers who often exchange information and help each other."

"I feel left behind. Kids are now very tech-savvy, while I am still learning to use many apps. If there is more frequent and in-depth training, I may feel more confident. Another challenge is time because learning new technology takes time, and teaching tasks are seductive."

The results of this survey and interviews clearly show that although the digitalization of education brings many opportunities to improve teaching, many teachers still face challenges in adapting to these changes. The difference in experience and readiness between younger and more experienced teachers demonstrates the importance of providing ongoing training and adequate technical support to ensure that all teachers can adapt successfully to these digital innovations.

DISCUSSION

The survey results and interviews with 30 ECEC teachers in Bekasi City show significant challenges in adapting to the digitalization of education, especially among teachers with more than 20 years of teaching experience. A total of 2 teachers from this group reported that they had difficulty adapting to digital technology, including the use of digital devices in daily teaching and the integration of technology into the early childhood education curriculum. These findings align with the innovation diffusion theory by Everett Rogers, which states that individuals who are older or have more extended experience tend to be slower in adopting innovations, including technology, compared to individuals who are younger or with less experience.

The main challenge these experienced teachers face is the need for more access to adequate training. They feel that the training provided needs to be more profound and relevant to their needs, resulting in a lack of digital skills necessary to teach effectively in the digital age. This is supported by research conducted by Teo Silva-Díaz et al. (2023), which found that teachers' perception of the effectiveness of technology training greatly influences their readiness to use technology in teaching. Inadequate training can lower teachers' motivation and confidence in using technology, affecting the quality of their teaching.

In addition to training, these experienced teachers feel less connected to the educator community, which can provide support or share knowledge about educational technology. According to Bandura's theory of social learning (Crain, 2021), social interaction and peer support are significant in the learning process and technology adoption. Teachers who feel "alone" or lack support in digitalization tend to feel isolated and have difficulty developing their digital skills. This shows the importance of building an active and supportive community of educators to facilitate digital adaptation.

Adaptation to digitalization also affects these teachers' learning methods. Some of them feel more comfortable with traditional learning methods and feel pressured when they have to switch to digital methods. The theory of technological discomfort (Technostress) put forward by Marikyan (2021) explains that the discomfort and stress associated with using new technology can affect individual performance and well-being. In this context, teachers who feel pressured by digital technology may experience technostress, which can hinder the adaptation and application of technology in teaching.

Meanwhile, teachers with 1-10 years of teaching experience feel more easily adapted to digital technology in teaching. They are generally more familiar with technology, which makes them more confident in exploring and adopting digital tools. Research by Aziz et al. (2020) on "digital natives" and "digital immigrants" supports these findings, stating that individuals who grow up in digital environments (digital natives) tend to be faster and more comfortable in using technology compared to those who do not (digital immigrants). These young teachers also feel helped by the community and

support from their peers, which shows that a supportive social environment is critical in the technology adoption process.

Overall, the results of these surveys and interviews show that the digitalization of education offers great opportunities to improve the quality of teaching. However, it also brings significant challenges for some teachers. A comprehensive strategy is needed to address these challenges, including relevant ongoing training, strong community support, and policies supporting digital inclusion. With this holistic approach, it is hoped that all teachers can successfully adapt to digital innovation, improve the quality of education in Indonesia, and prepare students to face future challenges.

CONCLUSION

The results of surveys and interviews show that early childhood education teachers in Bekasi City with more than 20 years of teaching experience tend to need help adapting to school digitalization, primarily related to using digital devices and integrating technology into the curriculum. This challenge is mainly due to the need for adequate and relevant training and isolation from the community of educators who can provide support and share knowledge. In contrast, teachers with 1-10 years of teaching experience feel more comfortable and enthusiastic about using technology, thanks to their familiarity with digital devices and support from the community. These findings highlight the need for a comprehensive approach to providing ongoing training and building a solid community of educators to support the successful digitalization of education for all teachers, regardless of their experience.

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REDEFINING CLASSROOM ENGAGEMENT: THE IMPACT OF DIGITAL TOOLS ON PEDAGOGICAL PRACTICES

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ABSTRACT

The rapid advancement of digital technology has significantly influenced various sectors, including education. Traditional pedagogical practices are being reshaped by the integration of digital tools, which promise to enhance classroom engagement and learning outcomes. Despite widespread adoption, the actual impact of these tools on pedagogical practices and student engagement requires thorough examination. This study aims to explore the impact of digital tools on classroom engagement and pedagogical practices. By examining various digital tools and their implementations, the research seeks to identify best practices and potential pitfalls in the digital transformation of pedagogy. While there is substantial literature on the potential benefits of digital tools in education, there remains a lack of comprehensive studies that specifically focus on how these tools redefine classroom engagement and influence pedagogical practices on a practical level. This gap necessitates research that not only highlights successful integrations but also critically analyses challenges and limitations. This research employs qualitative approach. Qualitative data will be gathered through interviews and focus groups with educators, providing insights into their experiences and perceptions of digital tool integration. Preliminary findings suggest that digital tools can significantly enhance classroom engagement by providing interactive and personalized learning experiences. Educators reported increased student participation and motivation when using tools such as gamified learning apps and virtual reality simulations. However, challenges such as technical issues, lack of training, and resistance to change were also noted. The study concludes with recommendations for effective integration of digital tools, emphasizing the need for ongoing professional development and support for educators.

Key words: *Keywords: Redefining, Classroom Management, Digital Tools, Pedagogy, Professional Development*

INTRODUCTION

The rapid advancement of digital technology has significantly influenced various sectors, including education. Traditional pedagogical practices are being reshaped by the integration of digital tools, which promise to enhance classroom engagement and learning outcomes. Despite widespread adoption, the actual impact of these tools on pedagogical practices and student engagement requires thorough examination. This study aims to explore the impact of digital tools on classroom engagement and pedagogical practices. By examining various digital tools and their implementations, the research seeks to identify best practices and potential pitfalls in the digital transformation of pedagogy.

LITERATURE REVIEW

The literature reviewed the theoretical background, digital tools in education and challenges in integration of digital tools as to provide an account of the current state of the present topic.
The integration of digital tools in education is supported by several educational theories. Constructivist theories, for instance, emphasize the importance of active learning, where students construct their knowledge through interactions with the environment and technology (Piaget, 1952; Vygotsky, 1978). According to Piaget (1973), learners must construct their knowledge through experiences by relying on cognitive structure (i.e., schemas and mental models). These cognitive structures are changed and enlarged through three complementary processes of assimilation, accommodation, and correction. Integration of digital tools in education can facilitate such interactive and student-cantered learning environments.

Digital tools in education range from simple software applications to advanced technologies such as virtual reality and artificial intelligence. Studies have shown that these tools can provide personalized learning experiences, increase student engagement, and improve learning outcomes (Cheung & Slavin, 2013; Huang et al., 2020). Gamified learning apps, for example, have been found to motivate students through game-like elements, while virtual reality simulations can offer immersive learning experiences that are otherwise impossible in traditional classrooms (Merchant et al., 2014; Makransky & Lilleholt, 2018). Additionally, digital tool includes adaptive learning technologies, collaborative learning tools and flipped classroom models.

Adaptive learning are digital tools that adjust the content and pace of learning based on individual student needs. These technologies leverage data analytics to provide personalized learning experiences, which can enhance student engagement and learning outcomes. Studies have shown that adaptive learning systems can improve student performance by providing tailored instruction and immediate feedback (Pane et al., 2017; Johnson et al., 2016). Collaborative learning tools, such as online discussion forums and collaborative document editing platforms, facilitate interaction and cooperation among students. These tools support constructivist learning principles by enabling students to work together, share ideas, and build knowledge collectively. Research indicates that collaborative digital tools can foster critical thinking, problem-solving skills, and a sense of community among learners (Garrison & Vaughan, 2008; Stahl et al., 2006). Finally, the flipped classroom model utilizes digital tools to deliver instructional content outside of class, allowing in-class time to be dedicated to interactive activities and personalized support. This approach has been found to increase student engagement and allow for deeper learning experiences. Studies have reported that flipped classrooms can lead to improved student achievement and satisfaction by enabling more active and student-centered learning environments (Bishop & Verleger, 2013; Lo & Hew, 2017).

Despite the potential benefits, the integration of digital tools in education is not without challenges. Technical issues, lack of adequate training for educators, and resistance to change are common barriers (Ertmer & Ottenbreit-Leftwich, 2010; Tondeur et al., 2017). There is also a need for a comprehensive understanding of how these tools affect pedagogical practices on a practical level. Technical barriers are a significant challenge in the integration of digital tools in education. Issues such as unreliable internet connections, outdated hardware, and software glitches can hinder the effective use of digital tools. Research has shown that these technical barriers can disrupt learning and decrease both teacher and student motivation to use technology in the classroom (Peterson & Palmer, 2016; Ritzhaupt et al., 2012). Apart from that, lack of adequate training and professional development for teachers is another major challenge. Teachers often feel unprepared to integrate digital tools into their teaching practices effectively. Studies indicate that ongoing professional development and support are crucial for helping teachers develop the necessary skills and confidence to use technology in the classroom (Davis, Preston, & Sahin, 2009; Hsu, 2016). Another challenge is resistance to change. Resistance to change among educators is a common obstacle to the adoption of digital tools. This resistance can stem from a variety of factors, including a preference for traditional teaching methods, scepticism about the efficacy of digital tools, and concerns about increased workload. Research suggests that addressing these concerns

through supportive leadership and creating a culture of openness to innovation can help mitigate resistance (Ertmer et al., 2012; Howard et al., 2015).

METHODOLOGY

This research employed a qualitative approach to explore the impact of digital tools on classroom engagement and pedagogical practices. Qualitative data was gathered through interviews and focus groups with educators, providing insights into their experiences and perceptions of digital tool integration. The participants in this study included educators from various educational institutions who have experience using digital tools in their teaching practices. A purposive sampling technique was used to select participants who provided rich and detailed information about their experiences.

The data was collected through semi-structured interviews and focus groups. The interviews explored educators' perceptions of the benefits and challenges of using digital tools, while the focus groups provided a platform for discussing these experiences in a group setting. All interviews and focus groups were audio-recorded and transcribed for analysis.

Thematic analysis was used to analyse the qualitative data. This involves identifying, analysing, and reporting patterns (themes) within the data. The analysis was conducted in several phases: familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining, and naming themes, and producing the final report (Braun & Clarke, 2006).

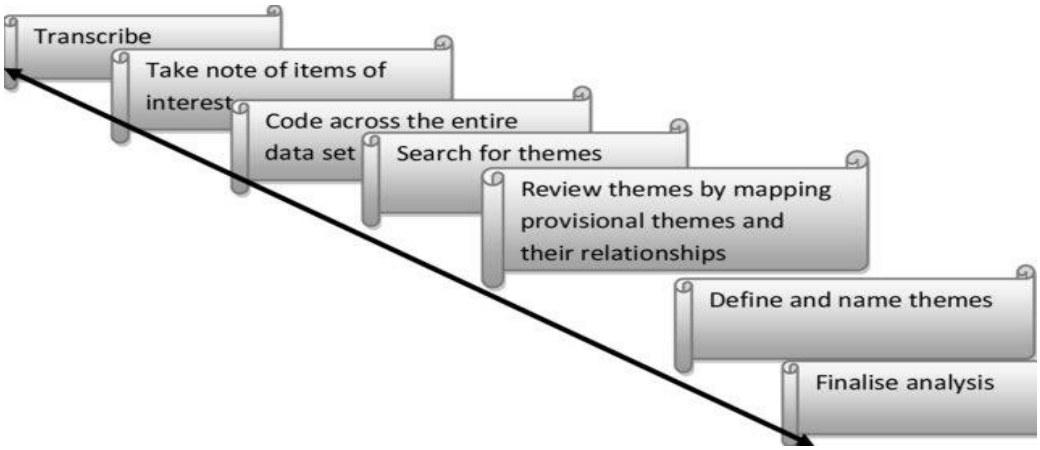

Figure 3.1: Steps in thematic analysis (Adapted from Braun and Clarke, 2013; 2006)

RESEARCH FINDINGS AND DISCUSSION

The findings are segmented into three main themes, several sub themesrelated to the main theme and excerpt from the participants to provide the related context.

Theme: Enhancing Classroom Engagement

Preliminary findings suggest that digital tools can significantly enhance classroom engagement by providing interactive and personalized learning experiences. Educators reported increased student participation and motivation when using tools such as gamified learning apps and virtual reality simulations. These tools offer students a more engaging and immersive learning environment, which can lead to better understanding and retention of the material.

Interactive Learning

> *Using gamified learning apps has transformed the way my students engage with the material. They are much more enthusiastic and involved in the lessons. The interactive elements keep them interested and make learning fun. (P1)*

> *Virtual reality simulations have been a game-changer in my classroom. Students can explore complex concepts in an immersive environment, which enhances their understanding and retention. They are always eager to participate in these sessions. (P2)*

Personalized Learning

> *Adaptive learning technologies have allowed me to tailor the lessons to meet the individual needs of my students. This personalized approach keeps them engaged because the content is relevant and challenging at their level. (P5)*

> *The use of personalized learning apps has significantly increased student participation. Students appreciate the instant feedback and the ability to progress at their own pace. It has made a noticeable difference in their motivation and engagement. (P7)*

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General Engagement

> *The integration of digital tools has overall made the classroom more dynamic and engaging. Students are not just passive listeners; they actively participate and collaborate using these tools. It has created a more vibrant and interactive learning environment. (P4)*

> *Digital tools have provided new ways to engage students who were previously disengaged. For example, shy students are more likely to contribute in online discussions and interactive activities, which has improved their overall participation and confidence. (P6)*

Theme: Challenges in Integration

However, several challenges were noted by the educators. Technical issues, such as unreliable internet connections and software glitches, were common obstacles. Additionally, there was a lack of adequate training and support for educators to effectively integrate digital tools into their teaching practices. Resistance to change among some educators was also observed, which hindered the successful adoption of these technologies.

Technical Issues

> *One of the biggest challenges we've faced is the inconsistency of our internet connection. During critical moments in lessons, the connection can drop, which disrupts the flow and frustrates both the students and me. It makes relying on digital tools quite difficult. (P9)*

> *There have been numerous occasions where software glitches or compatibility issues have interrupted my teaching. These technical problems waste valuable class time and can be very demotivating for students who are ready to engage with the digital content. (P11)*

Lack of Training

> *I feel that I haven't received enough training to use these digital tools effectively. While the technology is impressive, without proper guidance and professional development, it's challenging to integrate them into my teaching in a meaningful way. (P12)*

> *The lack of ongoing support and training is a significant barrier. Initial training sessions are often too brief and don't cover the practical challenges we face in the classroom. We need continuous, hands-on training to build our confidence and proficiency with these tools. (P5)*

Resistance to Change

> *Some of my colleagues are very resistant to adopting new digital tools. They prefer traditional teaching methods and are sceptical about the benefits of technology in the classroom. This resistance creates a divide and can hinder the overall adoption of digital tools in our school. (P3)*
> *There's a general reluctance to change among many educators, me included, primarily because of the perceived increase in workload. Learning new technologies and integrating them into existing lesson plans takes time and effort, which can be overwhelming. (P7)*

Theme: Best Practices for Integration

Based on the findings, several best practices for the effective integration of digital tools in education were identified. These include providing ongoing professional development and support for educators, ensuring reliable technical infrastructure, and fostering a culture of openness to change. It is also important to involve educators in the decision-making process when selecting and implementing digital tools, as this can increase their sense of ownership and willingness to adopt new technologies.

Professional Development

> *Ongoing professional development has been crucial in our successful integration of digital tools. Regular workshops and training sessions have helped us stay updated with the latest technologies and teaching strategies. These sessions provide us with practical skills and the confidence to implement digital tools effectively. (P4)*
> *Having access to continuous professional development opportunities has made a significant difference. The hands-on training sessions, where we can practice using the tools in a supportive environment, are particularly beneficial. It helps us troubleshoot potential issues and share best practices with our colleagues. (P2)*

Reliable Infrastructure

> *Ensuring that we have a reliable technical infrastructure has been key. We invested in high-speed internet and updated our hardware, which has minimized disruptions and allowed us to use digital tools more seamlessly. This reliability is essential for maintaining engagement and maximizing the benefits of these technologies. (P3)*
> *Having a stable and efficient infrastructure means we can focus on teaching rather than troubleshooting. The school's commitment to maintaining up-to-date technology and providing technical support has been instrumental in our smooth transition to digital learning. (P7)*

Openness to Change

> *Creating a culture of openness to change has been vital. Encouraging experimentation and allowing teachers to explore different digital tools without fear of failure has led to innovative teaching practices. This supportive environment fosters creativity and continuous improvement. (P9)*

> *The administration's support in promoting a flexible and adaptive mindset has helped us embrace new technologies. Open discussions about the benefits and challenges of digital integration have also helped to address concerns and build a more cohesive approach to using digital tools in our teaching. (P14)*

CONCLUSION

The integration of digital tools in education has the potential to enhance classroom engagement and improve learning outcomes. However, to achieve these benefits, it is essential to address the challenges associated with digital integration. Ongoing professional development and support for educators, reliable technical infrastructure, and a culture of openness to change are critical for the successful adoption of digital tools in education. Further research is needed to explore the long-term impact of these tools on pedagogical practices and student engagement.

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DEVELOPING AN ELECTRONIC PICTORIAL VOCABULARY TOOL (EPVT) FOR ESL SECONDARY LEARNERS' VOCABULARY LEARNING

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ABSTRACT

The Standards-Based English Language Curriculum (SBELC) only indirectly integrates vocabulary learning through the four core skills of reading, writing, listening, and speaking. Students with poor vocabulary knowledge in English as a Second Language (ESL) often find it difficult to learn and use the English language on a regular basis. This study designed an electronic Pictorial Vocabulary Tool (ePVT) for learning English vocabulary to help students learn vocabulary. In this study, 60 ESL students from Malaysian lower secondary schools used the ePVT to help them learn the target words mentioned in the SBELC. It has incorporated a survey research design that uses both quantitative and qualitative data. The student's evaluation form has been evaluated descriptively in terms of the mean scores and standard deviation. The data obtained from the semi-structured interviews with the students was transcribed and analysed using content analysis techniques. Before the formal study, the ePVT was pilot tested with 10 students to investigate problems and errors that might occur with the tool for improvement purposes. Lower secondary ESL students' vocabulary knowledge has substantially increased by using the ePVT. This study's implications indicate that the use of the ePVT is both interactive and effective in learning the target words. It also contributes to the field of vocabulary acquisition by facilitating further research to improve students' vocabulary acquisition skills.

***Keywords**: electronic Pictorial Vocabulary Tool (ePVT), ESL Secondary Learners, Vocabulary Learning*

INTRODUCTION

The use of digital technology is essential for vocabulary learning, as it simplifies the incorporation of additional resources like images, visual aids, and sound elements without the need for manual preparation. This is demonstrated by the electronic Pictorial Vocabulary Tool (ePVT), which seamlessly integrates images and sound effects with text to support vocabulary development, removing the necessity to print pictures or arrange audio equipment separately. This allows vocabulary learning to take place in an efficient, all-in-one system, reducing the need for complex setup and preparation (Hamsan, Tahir, & Ing, 2023). The post-Covid-19 era offers a timely opportunity to reintroduce technology into education, prompted more by necessity than by choice. In this research, it marks a perfect moment to implement the electronic Pictorial Vocabulary Tool (ePVT), which is designed to enhance vocabulary acquisition and understanding among Lower-Secondary Malaysian ESL students, specifically represented by Form 2 learners in this study.

According to the Standards-Based English Language Curriculum (SBELC), which shapes the English syllabus for Malaysian lower secondary schools, including Form 2, the vocabulary list for Form 2 includes 126 words categorized by topic. This count is like that in the previously mentioned New Word Test. However, the syllabus specifies that students are not expected to memorize all the words or spell them with complete accuracy. This lack of focus on vocabulary mastery may partly explain the students'

low vocabulary levels. At Form 2, students are expected to reach a low-intermediate proficiency level (A2-B1), requiring knowledge of around 1000 words for A2 and 2000 for B1, according to Zipf's Law (Alexiou & Milton, 2009). Unfortunately, most fall short of these standards. A recent study by Sulaiman, Salehuddin, and Khairuddin (2018) revealed that even high-proficiency university students struggle to meet the required vocabulary level. This is consistent with earlier research by Harji, Balakhrisnan, Bhar, and Lechhumanan (2015), which found that Malaysian undergraduates have only a 2000-word vocabulary, far below what is expected for lower secondary students.

The inadequate vocabulary of lower-secondary students is a critical issue, as a strong vocabulary is essential for learning and mastering a language more effectively, thereby enhancing English language proficiency (Nezhad & Shokrpour, 2012). Nation (2015) supports this view, noting that a stronger command of vocabulary significantly boosts students' abilities in listening, speaking, reading, and writing. Fenyi and Jones-Mensah (2022) reinforce this by referencing Alqahtani (2015), who emphasizes that vocabulary acquisition is a crucial aspect of learning a second language, which in this context is English, taught as a second language in Malaysia. Therefore, the researcher suggests using the electronic Pictorial Vocabulary Tool (ePVT) to help lower secondary students enhance their English vocabulary learning, thereby improving their English mastery and proficiency in the four language skills. The objectives of the study are to determine whether the tool has a significant impact on students' vocabulary learning, to identify which of the four modes in the tool are preferred by lower secondary ESL students, and to assess whether the modes with pictorial elements produce better results compared to those without.

LITERARUTE REVIEW

Vocabulary Learning

Acquiring vocabulary is a critical element in learning a foreign language (Schmitt & Carter, 2000). Ahmad (2012) underscores its crucial role in developing proficiency and skill among EFL/ESL learners in their target language. A well-developed vocabulary supports fluent spoken expression and effective written communication. It also plays a key role in both acquiring and producing knowledge, enhancing overall language abilities, including listening, speaking, writing, and reading in ESL/EFL learners. Many students find language acquisition, especially achieving literacy in a second language, to be a formidable challenge (Bogaards & Laufer, 2004).

Language learning becomes more effective when learners can identify which words are more important than others. This prioritization typically hinges on word frequency, as discussed by Nation and Anthony (2016), who classify words into high-frequency and low-frequency categories. Emphasis is placed on high-frequency words, which are generally recommended for study. Therefore, it is crucial to select vocabulary carefully before learning it, ensuring that the vocabulary acquired supports the development of proficiency in the second language.

Generally, there are two distinct approaches to vocabulary acquisition: implicit and explicit learning (Ma, 2009). Implicit learning involves acquiring knowledge without conscious awareness, while explicit learning requires learners to actively and consciously understand what they are learning. Implicit learning is associated with incidental learning, whereas explicit learning aligns with intentional learning (Ma, 2009). In implicit or incidental learning, learners infer the meanings of words from the context in which they appear. Although this approach focuses more on understanding word meanings than on their forms, it is advantageous as learners recognize words in various contexts based on prior exposure. In contrast, explicit or intentional learning is the method used in this study for acquiring vocabulary.

Electronical Pictorial Vocabulary Learning (ePVT)

The researcher describes the electronic Pictorial Vocabulary Tool (ePVT) as a module due to its modular design, which integrates four distinct modes (Text Mode, Text-Picture Mode, Text-Picture-Sound Mode, and Text-Sound Mode) for vocabulary learning. This tool encourages lower-secondary Malaysian ESL students to engage with vocabulary through various forms of information, including text, images, or sounds, or a combination of these elements.

The ePVT is viewed as a module because it consists of a set of functional components that combine four separate modes (Text Mode, Text-Picture Mode, Text-Picture-Sound Mode, and Text-Sound Mode). These modes enable lower-secondary Malaysian students to learn vocabulary by utilizing textual, pictorial, auditory information, or any combination of these modes. Together, these modes form a more intricate system, represented by the electronic Pictorial Vocabulary Tool (ePVT).

The first mode, Text Mode, includes only textual information, such as bilingual translations, definitions, and example sentences. The second mode, Text-Picture Mode, features the same textual content as Text Mode but adds pictures related to the vocabulary items. These images are chosen to be contextually appropriate for Malaysian students without altering the intended meaning. The third mode, Text-Picture-Sound Mode, incorporates an auditory element in addition to the text and images. However, rather than providing pronunciation of the vocabulary items, this auditory component consists of sound effects related to the vocabulary. The fourth mode, Text-Sound Mode, contains text and sound effects but lacks the pictorial elements. The purpose of having these four modes is to evaluate whether incorporating pictorial elements, as seen in the Text-Picture and Text-Picture-Sound Modes, leads to better vocabulary learning outcomes compared to the modes without pictures, namely Text Mode and Text-Sound Mode.

Students' Perceptions in Language Learning

Koenen, Spilt, and Kelchtermans (2022) explain that perceptions in language learning refer to the personal interpretations, beliefs, and understandings that individuals develop concerning different elements of the language learning process. These perceptions include opinions, evaluations, and interpretations related to language proficiency, learning strategies, instructional materials, teaching techniques, classroom dynamics, and cultural factors involved in language acquisition. Students' perceptions can significantly impact their attitudes, motivation, engagement, and behaviours, ultimately shaping their language learning experiences and outcomes (Mystkowska-Wiertelak, 2022).

In this study, the focus is on understanding students' perceptions of multiple aspects of the language learning process. This includes their views on the effectiveness of instructional techniques, the appropriateness and relevance of the learning materials, and the perceived difficulty of tasks, particularly those related to vocabulary acquisition. A key aspect of the research is how students perceive the role and impact of the electronic Pictorial Vocabulary Tool (ePVT), in supporting their vocabulary learning efforts. The study further explores students' self-perceptions regarding their language learning capabilities, examining how confident they feel about their ability to acquire and retain new vocabulary. In addition to their abilities, it investigates their motivation levels and how this affects their engagement with the learning process, particularly in relation to using newly learned vocabulary in practical, communicative settings. By considering these different dimensions of perception, the research aims to provide a comprehensive view of how students interact with language learning, both cognitively and emotionally, and how their beliefs may influence their overall learning outcomes.

METHODOLOGY

This study employed a mixed-methods research design, incorporating both quantitative and qualitative data. According to Yulsardi and Ratmanida (2021), mixed-methods research represents an evolved form of experimental design, integrating both quantitative and qualitative elements. Révész and Rogers (2019) highlight that this approach is particularly suited for research involving intact and commonly formed classes. The research was conducted in Penang, Malaysia, involving a sample of 60 Form 2 secondary school students. Prior to the formal study, the electronic Pictorial Vocabulary Tool (ePVT) was pilot tested with 10 students to identify and address potential issues with the tool.

Quantitative data were collected through an evaluation form distributed to participants. This form, designed for survey purposes, consists of three sections: perception, engagement, and performance. Each section includes statements to help participants articulate their views, which they rated on a Likert scale from 1 (strongly disagree) to 5 (strongly agree). Qualitative data were gathered through semi-structured interviews, designed to explore participants' personal impressions, perspectives, and opinions regarding the ePVT. The interviews included several questions aimed at eliciting detailed responses about the participants' experiences and preferences in vocabulary learning.

According to Tahir, Albakri, Adnan, Shah, and Shaq (2020), the combination of quantitative and qualitative data is justified for pragmatic reasons, such as being consequence-oriented, problem-centred, or pluralistic in nature. The quantitative data were analysed using SPSS version 27, with descriptive statistics including means and standard deviations computed for each survey item. Participants completed the survey via Google Forms. For the qualitative analysis, content analysis was employed to interpret the interview responses. This method was used to understand participants' views on their use of the ePVT and their preferred modes of vocabulary learning. The interviews were recorded, transcribed, and analysed to complement the quantitative findings and address the study's second research question.

RESPONDENTS'DEMOGRAPHY

The research sample was selected from a diverse population of Form 2 Malaysian students across secondary schools in Penang, without regard to factors such as age, race, religion, gender, or background. The selection criteria were twofold: firstly, students had to be from the same Form 2 class within each school; secondly, the selected students needed to have comparable levels of English language proficiency. All participants had received a minimum of six years of continuous English instruction during their primary school years. Moreover, they currently exhibit a low intermediate level of English proficiency, as determined by their early-year English assessments.

Table 1: Students' Demographic Information

Demographic Characteristics	Value Label	Number	Percentage
Age	Form 2	60	100%
Gender	Male	23	38%
	Female	37	61%
Race	Malay	45	75%
	Indian	6	10%
	Chinese	9	15%

RESULTS

Results from Student's Feedback Form

Table 2: Key Indicators for Mean Scores

Mean	Level
3.668 – 5.000	High
2.334 – 3.667	Medium
1.000 – 2.333	Low

As the questions within the form sought to bring to light the perception of the learners towards the model and the modes, be it positive or negative, it would provide useful data to be analysed in terms of the frequency, percentage count, mean and standard deviation of the learners' responses. For the interpretation of the mean score, there are a total of three ranges of which the data values can be sorted into, ranging from high (mean of 3.668 to 5.000), medium (mean of 2.334 to 3.667) and low (mean of 1.000 to 2.333). The benchmark used to interpret the mean responses of all items in the Student Feedback Form is the mean score interpretation by Nugent, Sieppert, and Hudson (2001).

Students' Perceptions of the electronic Pictorial Vocabulary Learning Tool (ePVT)

Table 3: Analysis of Students' Perceptions of the electronic Pictorial Vocabulary Learning Tool (ePVT)

No	Item	Strongly Disagree		Disagree		Unsure		Agree		Strongly Agree		Mean	SD
		N	%	N	%	N	%	N	%	N	%		
1.	The vocabulary modules (workload) are fair.	-	-	-	-	1	3.3	5	16.7	24	80	4.76	0.504
2.	The vocabulary modules are easy to read and understand.	-	-	-	-	-	-	4	13.3	26	86.7	4.86	0.345
3.	The vocabulary modules are challenging.	1	3.3	1	3.3	4	13.3	12	40	12	40	4.10	0.994
4.	The vocabulary modules are very interesting.	-	-	-	-	1	3.3	1	3.3	28	93.3	4.90	0.402
5.	The vocabulary tests are relevant to the target words learned during class.	-	-	-	-	-	-	5	16.7	25	83.3	4.83	0.379

6.	The target words are taught at a suitable level and pace.	-	-	-	-	-	-	3	10	27	90	4.90	0.305

According to the analysis of student feedback form presented in Table 3, which reflects the first part of the form on Students' Perceptions of the Learning Tool, 90% of learners strongly agreed with item 6, indicating that the target vocabulary in the model was taught at an appropriate level and pace for their current knowledge and understanding. In contrast, item 3, which asserts that the vocabulary modules were challenging, received the least strong agreement, with only 12 learners (40%) expressing this view.

Regarding the primary scores of the items in the Students' Perceptions of the Learning Tool, it is important to highlight that all items received notably high levels of positive feedback, with mean scores ranging from M = 3.668 to M = 5.000. Among these, item 4 and item 6 emerged as the top-rated, both with a mean score of M = 4.90, though the standard deviations varied slightly, with SD = 0.402 for item 4 and SD = 0.305 for item 6. These findings strongly suggest that students responded favourably to the use of the electronic Pictorial Vocabulary Learning Tool (ePVT). The consistently high mean scores indicate a consensus that the tool was beneficial, particularly in terms of improving vocabulary acquisition. Furthermore, the close agreement reflected by the low standard deviations highlights the uniformity in student opinions, reinforcing the effectiveness of the ePVT across the board. This positive reception can be attributed to the tool's interactive and multimodal approach, which likely resonated well with the diverse learning preferences of students, making vocabulary learning more engaging and accessible. Overall, the results underscore the success of the ePVT in enhancing the learning experience.

Students' Engagements Through the electronic Pictorial Vocabulary Learning Tool (ePVT)

Table 4: Analysis of Students' Engagements Through the electronic Pictorial Vocabulary Learning Tool (ePVT)

No	Item	Strongly Disagree		Disagree		Unsure		Agree		Strongly Agree		Mean	SD
		N	%	N	%	N	%	N	%	N	%		
1.	During the vocabulary activity, how eager/willing are you to participate?	1	3.3	-	-	-	-	4	13.3	25	83.3	4.73	0.784
2.	How much do you look forward to this vocabulary activity?	-	-	-	-	-	-	4	13.3	26	86.7	4.86	0.345
3.	How bored do you feel throughout the vocabulary activity?	25	83.3	4	13.3	1	3.3	-	-	-	-	1.20	0.484
4.	How motivated to learn more vocabulary do you feel during the activity?	-	-	-	-	-	-	3	10	27	90	4.90	0.305
5.	Would you like to continue learning vocabulary this way in the future?	-	-	-	-	-	-	3	10	27	90	4.90	0.305

6.	How excited do you feel to learn vocabulary via this activity?	-	-	-	-	-	-	4	13.3	26	86.7	4.86	0.345

The analysis of the second section of the student feedback form, which evaluates Students' Engagement Through the Learning Tool, is detailed in Table 4. A substantial majority of students, specifically 27 out of 30 (90%), strongly agreed with items 4 and 5. These items addressed their motivation to learn additional vocabulary during the activity and their interest in continuing to use the same method for future vocabulary learning. These items received the highest levels of agreement in this section. Conversely, item 3, which inquired about students' feelings of boredom during the vocabulary activity, was met with strong disagreement from most participants (83.3% or 25 learners), suggesting that boredom was not a significant issue. Furthermore, no students expressed disagreement with several other items, including item 2, which asked about their anticipation for the vocabulary activity, item 4 regarding their motivation to learn more vocabulary, item 5 about their desire to persist with this learning approach, and item 6 concerning their enthusiasm for learning vocabulary through the activity.

The data analysis reveals that item 3, which asks, 'How bored do you feel throughout the vocabulary activity?', shows a remarkably low mean score of (M = 1.20; SD = 0.484). This indicates that students reported very little boredom during the activity, suggesting a high level of engagement. The low score on this item reflects that most learners maintained their interest and enthusiasm throughout the vocabulary exercise. When this finding is considered in conjunction with the positive feedback received from other items on the feedback form, it becomes clear that students generally held a favourable view of the electronic Pictorial Vocabulary Tool (ePVT). Overall, the data underscores that learners not only found the ePVT to be effective in facilitating their vocabulary acquisition but also enjoyed the learning process, leading to a significantly enhanced vocabulary learning experience.

Students' Performances Through the electronic Pictorial Vocabulary Tool (ePVT)

Table 5: Analysis of Students' Performances Through the electronic Pictorial Vocabulary Tool (ePVT)

No	Item	Strongly Disagree		Disagree		Unsure		Agree		Strongly Agree		Mean	SD
		N	%	N	%	N	%	N	%	N	%		
1.	I know more English vocabulary after each vocabulary module.	-	-	-	-	1	3.3	3	10	26	86.7	4.83	0.461
2.	I can memorize the new words faster and better after learning the target words from the vocabulary modules.	-	-	1	3.3	-	-	5	16.7	24	80	4.73	0.639
3.	I can understand better the meaning of the target words being taught in the vocabulary modules.	-	-	-	-	-	-	4	13.3	26	86.7	4.86	0.345
4.	I can use the target words that I have learned from the vocabulary modules	-	-	1	3.3	-	-	1	3.3	28	93.3	4.86	0.571

	accurately when writing sentences.											
5.	I can remember the target words that I have learned from the vocabulary modules for a much longer period of time.	-	-	1	3.3	1	3.3	2	6.7	26	86.7	4.76	0.678
6.	I am able to use more vocabulary in speaking and writing after having learned them from the vocabulary modules.	-	-	1	3.3	-	-	3	10	26	86.7	4.80	0.610

According to the analysis presented in Table 5, item 4 received the highest level of agreement from students, with 28 learners (93.3%) strongly affirming the statement, 'I can use the target words that I have learned from the vocabulary modules accurately when writing sentences.' This indicates that a substantial majority of students feel confident in applying the vocabulary they have acquired. Additionally, while Item 2, which states, 'I can memorize the new words faster and better after learning the target words from the vocabulary modules', received the lowest proportion of strong agreement with 24 learners (80%), this still represents a significant majority. The high percentage of strong agreement for both items underscore the overall effectiveness of the vocabulary modules in enhancing students' ability to use and remember new words.

Additionally, none of the students strongly disagreed with the following items: item 2, which states, 'I can memorize the new words faster and better after learning the target words from the vocabulary modules'; Item 4, which reads, 'I can use the target words that I have learned from the vocabulary modules accurately when writing sentences'; item 5, which says, 'I can remember the target words that I have learned from the vocabulary modules for a much longer period of time'; and Item 6, which asserts, 'I am able to use more vocabulary in speaking and writing after having learned them from the vocabulary modules.' This absence of strong disagreement indicates a positive consensus among students regarding the effectiveness of the vocabulary modules in enhancing their language skills.

Regarding the mean scores for each item on the students' feedback form concerning their Performance with the electronic Pictorial Vocabulary Tool (ePVT), all scores reflect a high level of positive feedback, with none falling below a mean score of 3.668. This indicates a consistently favourable response from the participants across all items. Essentially, these results underscore the significant impact of the ePVT on enhancing student performance. The uniformly high scores suggest that the tool has been effective in improving various aspects of vocabulary learning, as evidenced by the positive perceptions expressed by the students. This consistent feedback highlights the ePVT's role in successfully augmenting student performance and engagement with the learning process.

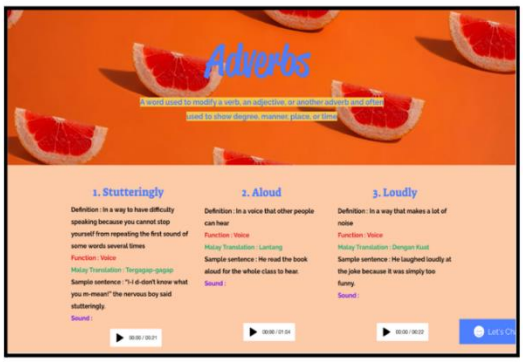
Results from Student's Semi-Structured Interview

Before examining the data collected from the interview, the researcher has opted to reiterate the four Vocabulary Learning Modes along with their associated parts of speech. This restatement provides a clear foundation and context for understanding the subsequent analysis of the interview results. The following sections detail the Vocabulary Learning Modes and their specific components, setting the stage for a comprehensive review of the interview findings.

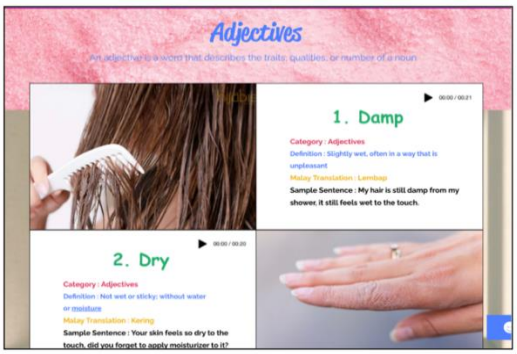
Mode 1: Text Mode (Nouns)

Mode 2: Text-Picture Mode (Verbs)

Mode 3: Text-Sound Mode (Adverbs)



Mode 4: Text-Picture-Sound Mode (Adjectives)



Upon examining the transcribed interviews from a semi-structured session with six selected students, it became evident that the most preferred vocabulary learning mode among the four options in the electronic Pictorial Vocabulary Tool (ePVT), is Mode 4, the Text-Sound-Picture Mode. Most of the interviewed students (five out of six) expressed a preference for Mode 4, citing its engaging nature and its effectiveness in enhancing their comprehension of vocabulary through the incorporation of visual images and sound effects. This feedback highlights the value of integrating multiple sensory elements in vocabulary instruction to improve student engagement and understanding.

Interviewer: "Number four, what is your favourite module?"

Responses:
(Student 1) "Module 4, because it contains a lot of pic, audio and text.''
(Student 2) "Module 4, because there are many references for me to refer to."
(Student 3) "It is Module 4, because has fully Multimedia elements."
(Student 5) "Module 4 because got audio and picture."
(Student 6) "For me it is Module 4, because it has more features."

All the students interviewed agreed that the use of pictorial elements significantly enhanced their vocabulary learning and comprehension, which likely explains their strong preference for Mode 4, the Text-Sound-Picture Mode. This mode's integration of images and auditory elements appears to be highly effective in improving their understanding of vocabulary. In contrast, only one student expressed a preference for Mode 2, the Text-Picture Mode. This student's preference was based on the visual appeal of the pictures and coloured text rather than any substantial improvement in vocabulary understanding. Unlike the majority who favoured Mode 4 for its comprehensive approach—including both visual and auditory tools that aid learning—this student's positive feedback on Mode 2 was limited to its aesthetics. This highlights a clear distinction between the preferences of most students, who valued the educational benefits of Mode 4, and the singular preference for Mode 2, which did not offer the same perceived advantages in terms of vocabulary comprehension.

In contrast to the positive feedback regarding the other vocabulary learning modes, all interviewed students identified Mode 1, which is the Text Mode, as their least preferred method within the entire learning model. Mode 1 is characterized by its reliance solely on textual information and explanations. The students reported that this mode, which lacks additional multimedia elements, was perceived as monotonous and unengaging. They pointed out that the absence of varied and interactive components rendered it a single-dimensional approach to learning, which significantly impeded their ability to fully grasp and internalize the vocabulary being taught. This limitation was notably less effective compared to the more dynamic and comprehensive Mode 4, which integrates pictures and sound effects, thereby offering a richer and more effective vocabulary learning experience.

Additionally, all six students interviewed concurred that the inclusion of pictorial elements significantly enhances their ability to grasp vocabulary meanings more effectively. They expressed that Mode 1, which relies solely on textual information, falls short in facilitating their understanding compared to modes that incorporate visual aids. Specifically, the students noted that Mode 4, which integrates both pictorial elements and other tools, was highly favoured for its ability to support vocabulary learning through various modalities. Almost all the interviewees (five out of six) agreed that Mode 4 was the most beneficial due to its extensive range of resources that facilitate vocabulary acquisition. The sole exception was one student who preferred Mode 2, which also employs visual elements but to a lesser extent compared to Mode 4. This student's preference was attributed to a liking for the visual appeal of Mode 2, although it did not offer the same comprehensive support for vocabulary understanding as Mode 4.

Interviewer: "Number nine, do you think that the use of pictures makes the meaning of the words easier to understand?"

Responses:
(Student 1,2,3 & 5) "Yes."
(Student 4) "Yes! The pictures make it easier for us to understand because the picture we can use it as a reference."
(Student 6) "Yes of course."

In response to question 10, participants were asked to identify which of the four vocabulary learning modules they found to be most effective in terms of learning, understanding, and retaining new target words. All six students unanimously selected Module 4 as the most effective. This preference for Module 4 may be attributed to its extensive array of tools designed to facilitate vocabulary acquisition. Notably, Module 4 stands out as one of the two modules that incorporate pictorial elements. This suggests that the inclusion of visual aids plays a significant role in enhancing the learning experience.

Furthermore, when considering the responses to question 9, which highlighted the effectiveness of the pictorial element in improving vocabulary comprehension, it becomes evident that visual components are crucial for facilitating deeper understanding and retention of vocabulary. This correlation underscores the importance of incorporating visual tools in vocabulary learning modules to maximize educational outcomes.

Interviewer: "Number four, what is your favourite module?"

Response:
(Student 4) "Module 2 because it has a lot of pictures and coloured text to make it interesting."

Modes 1 and 3, which are the Text-Mode and Text-Sound Mode respectively, were consistently ranked lower by the interviewed students in terms of preference, perceived usefulness, and necessity. These modes did not resonate well with the learners, indicating that they did not find them as effective or engaging. This preference pattern highlights that students who favour Mode 4, which incorporates both pictorial and auditory elements, are more inclined towards multimedia approaches rather than modes that rely solely on text or sound. Specifically, students appreciate the integration of sound effects with pictures, as this combination helps them visualize and conceptualize the action, event, or phenomenon associated with the vocabulary item being studied. In contrast, they find that sound effects alone, when used in conjunction with text but without visual support, do not provide the same level of contextual understanding or engagement. Thus, the data suggests that the multimedia aspect of Mode 4, which blends visual and auditory elements, is perceived as more beneficial for enhancing vocabulary learning compared to the more singular approaches of Modes 1 and 3.

Interviewer: "Number five, what is your least favourite module?"

Responses:
(Student 1) "Module 1, because there it only has texts."
(Student 2) "Module 1, because it doesn't have any interactive materials for me to more understand the words."
(Student 3) "Module 1, because it is hard to read, it has text only."
(Student 4) "Module 1 and 3 because it has no picture, make it look plain."
(Student 5) "Module 1 because it has text only, so it is not interesting."
(Student 6) "Module 1 because it only has text, difficult for me to understand."

The interviews with the students disclose a clear agreement regarding their dissatisfaction with Module 1, which solely relies on text-based information. Each student expressed clear discontent with this

module, citing various reasons for their lack of preference. Student 1 criticized Module 1 for its exclusive use of text, implying that the absence of additional elements made it less engaging. Student 2 highlighted the lack of interactive materials, indicating that the module did not facilitate a deeper understanding of vocabulary. Student 3 noted the difficulty of reading and the plain nature of the text, which contributed to a challenging learning experience. Similarly, Student 4 mentioned that both Module 1 and Module 3 were unappealing due to the absence of pictorial elements, describing these modules as 'plain' and lacking in visual stimulation. Student 5 echoed this sentiment by expressing that Module 1's reliance on text made it uninteresting. Finally, Student 6 reiterated the difficulties associated with Module 1, emphasizing that the text-only format hindered their comprehension. Collectively, these responses underscore a preference for learning tools that integrate more interactive and multimedia elements, which can provide a richer and more engaging learning experience compared to the text-only approach of Module 1.

DISCUSSION

The findings from Research Objective 1 indicate that the use of the electronic Pictorial Vocabulary Tool (ePVT) significantly enhances vocabulary learning among Lower-Secondary Malaysian ESL students, specifically those in Form 2. These results affirm the positive impact of incorporating visual aids in educational settings. This outcome supports previous research that emphasizes the importance of using pictures and visual elements to engage students and improve their comprehension. The results align with established theories such as Multimedia Learning Theory and Gardner's Theory of Multiple Intelligences, particularly the theory related to Visual-Spatial Learners (Silverman, 1989). These theories suggest that integrating visual components effectively caters to diverse learning styles and reinforces the effectiveness of the ePVT as a valuable educational tool.

Regarding Research Objective 2, which aims to identify the preferred mode among the four ePVT modes for Lower-Secondary Malaysian ESL students, the qualitative data from the interviews indicate a clear preference for Mode 4. Out of the six students interviewed, five expressed a strong preference for Mode 4, citing it as their favourite. They highlighted that Mode 4, which integrates textual, pictorial, and auditory elements, provides a comprehensive approach to enhancing their vocabulary learning and understanding. This mode was noted for its ability to incorporate multiple sensory channels, which the students found most beneficial. The data from the Students' Feedback Forms validate these findings, showing that most learners agree or strongly agree that the ePVT is engaging and significantly improves their vocabulary performance. They generally perceive the tool as beneficial, useful, and well-suited to their needs. While the positive feedback reflects an overall favourable attitude towards the ePVT, the specific insights from the interviews reveal a distinct preference for Mode 4, the Text-Picture-Sound Mode. This preference suggests that the students may have a visual-auditory learning style, as supported by Gardner's Theory of Multiple Intelligences, which posits that learners benefit from both visual and auditory stimuli in addition to textual information.

Furthermore, the preference for Mode 4 aligns with the Multimedia Learning Theory, which asserts that learning is enhanced when multiple sensory channels are engaged, facilitating better information absorption and processing. The combination of pictorial and auditory elements in Mode 4 creates a more engaging and enjoyable learning environment, contributing to its popularity among students. This engagement likely led to more noticeable improvements in vocabulary learning compared to the other modes, indicating that Mode 4 provided the most effective and conducive learning atmosphere. According to Krashen's Input and Affective Filter Hypothesis, Mode 4's ability to lower the students' affective filter to an optimal level supports this hypothesis, demonstrating its effectiveness in maximizing learning. Additionally, the participants reported that the material learned was easier to remember and retained for longer periods, lending support to the Working Memory Model and the Levels of Processing Theory.

Research Objective 3 investigates whether the pictorial modes of the vocabulary learning model (Text-Picture Mode and Text-Picture-Sound Mode) lead to better vocabulary learning outcomes compared to their non-pictorial counterparts (Text Mode and Text-Sound Mode). According to the analysed data, the mean improvement for Mode 2 (Text-Picture Mode) is 23.4, which surpasses the mean improvement of Mode 1 (Text Mode), which stands at 21.3. Similarly, Mode 4 (Text-Picture-Sound Mode) shows a mean improvement of 24.3, exceeding the mean improvement of Mode 3 (Text-Sound Mode), which is 22.9. This data suggests that incorporating pictorial elements into the learning modes results in more significant gains in vocabulary acquisition compared to modes that do not include these visual aids.
Since the primary distinction between Mode 2 and Mode 1, as well as Mode 4 and Mode 3, lies in the inclusion of pictorial elements, the data clearly demonstrates that the pictorial modes (Text-Picture Mode and Text-Picture-Sound Mode) result in more effective vocabulary learning compared to their non-pictorial counterparts (Text Mode and Text-Sound Mode). These findings strongly suggest that incorporating additional sensory mediums and channels of information transfer enhances students' learning performance. This supports the validity and reliability of the Multimedia Learning Theory, which posits that engaging multiple senses can improve educational outcomes. Mode 2, which integrates both visual and textual elements, offers a more enriched learning experience compared to the purely textual Mode 1. Similarly, Mode 4, with its combination of visual and auditory elements, surpasses the auditory-focused Mode 3. The presence of pictorial elements in Modes 2 and 4 likely contributes to a more engaging and less stressful learning environment, leading to improved performance relative to Modes 1 and 3. This additional sensory engagement appears to reduce students' affective filters and enhance their overall learning experience.

CONCLUSION

Based on the study's results, it is concluded that the electronic Pictorial Vocabulary Learning Tool (ePVT) is effective for vocabulary acquisition among Lower Secondary Malaysian ESL students, specifically Form 2 students. The evidence supporting this conclusion is based on an analysis that students' performances 100% increase in terms of their vocabulary learning These positive outcomes further affirm previous research on enhancing students' academic performances in language learning through digital technology. For example, Mousavi and Nemati (2017) demonstrated the effectiveness of the 'Tell Me More' application over traditional printed media, while Enayati and Gilakjani (2020) highlighted the app's role in improving memory retention of learned vocabulary and the impact of visual aids, as discussed by Ercan (2014) and other studies by McTigue (2009) and Chang, Quintana, and Krajcik (2010) focusing on mathematics and science.

Additionally, this study reveals that incorporating pictorial elements significantly improves students' ability to learn and comprehend new vocabulary. This inclusion enhances vocabulary knowledge and its application in writing and sentence construction. The research also shows that utilizing multiple learning tools—such as textual, pictorial, and auditory information—effectively addresses the diverse needs and learning preferences of students. The positive effects extend to vocabulary retention, with context-appropriate visuals and sound effects facilitating quicker and more effective recall, supported by the Level Processing Theory (Craik & Tulving, 1975) and the Working Memory Model.

Moreover, the electronic Pictorial Vocabulary Learning Tool (ePVT) addresses gaps identified in previous research concerning digital tools for remote learning, specifically for English vocabulary. Unlike generalized models, this digital tool is specifically designed for vocabulary learning and is optimized for this purpose, drawing directly from the Standards-Based English Language Curriculum (SBELC). According to Puentedura (2006), this tool offers an effective alternative to traditional classroom methods for remote vocabulary instruction.

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EMBRACING ICT: SECONDARY SCHOOL ENGLISH TEACHERS' ADAPTATION TO ONLINE PLATFORMS IN KELANTAN

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ABSTRAK

The shift from traditional teaching methods to digitally enriched instruction is imperative to meet the needs of the current generation of learners. Integrating Information and Communication Technology (ICT) in education has become crucial to contemporary pedagogical practices. This study explores how Kelantan secondary school English teachers respond to this movement. Specifically, it aims to determine their computer literacy level and perceptions of using online platforms in English classes. A questionnaire was administered to 214 English teachers across Kelantan to gather data on their digital proficiency and attitudes towards online teaching tools. The findings indicate a high level of computer literacy, with 59.4% of teachers demonstrating the necessary skills to use digital platforms effectively. Furthermore, 63.8% of the teachers hold positive views on integrating online platforms in teaching English, recognizing the benefits these technologies offer in enhancing educational delivery. The discussion of the findings reveals that most teachers are capable and willing to incorporate ICT in their teaching practices. This positive reception suggests a readiness among educators to adapt to modern educational demands, which could significantly improve the quality of English language instruction. The implications of this research are far-reaching, highlighting the need for ongoing professional development in ICT to sustain this positive trend. Additionally, the study underscores the importance of institutional support in providing the necessary technological resources and infrastructure. By addressing these needs, educational stakeholders can ensure the successful integration of digital tools, ultimately advancing quality education and contributing to sustainable development goals.

***Keywords**: ICT integration, English education, online platform, digital literacy, perception*

INTRODUCTION

The rapid advancement of Information and Communication Technology (ICT) has significantly transformed various sectors, including education. The integration of online platforms in teaching and learning has become increasingly vital, especially during the COVID-19 pandemic, which necessitated a swift transition to remote learning. This shift shows the importance of teachers being equipped with digital skills and tools to facilitate effective online education (Hafifah & Sulistyo, 2020). Research indicates that teachers with a high level of ICT literacy are better equipped to implement innovative teaching strategies that enhance student engagement and learning outcomes (Adzhari et al., 2023; Farisa et al., 2023; Hafifah & Sulistyo, 2020).

Online platforms can be beneficial and challenging for English teachers. New teachers or young teachers are more open to adapting online platforms, but not all teachers fancy adopting technology in their classes (Balchin & Wild, 2022). Studies have shown that teachers' perceptions of ICT are crucial in their willingness to embrace these tools in their classrooms. For instance, some teachers may perceive ICT as a barrier rather than a facilitator of learning, which can hinder their motivation to incorporate

technology into their teaching practices (Irzawati & Hasibuan, 2020; Khan & Kuddus, 2020). Furthermore, the disparity in access to technology and training can exacerbate these challenges, particularly in rural areas where resources may be limited (Abkarin, 2021; Santosa et al., 2022). Research has consistently shown that teachers' attitudes towards ICT are influenced by their experiences and training. Teachers who receive adequate professional development in ICT are more likely to adopt these tools effectively in their teaching (Adzhari et al., 2023; Prayoga & Pramono, 2021; Shahi, 2022). Conversely, a lack of training can lead to resistance and reluctance to utilise technology, ultimately affecting student learning experiences (Putri & Syafryadin, 2022; Zadtyi et al., 2021).

In Malaysia, particularly in rural areas like Kelantan, a state known for its strong cultural heritage and rural demographic, adapting secondary school English teachers to online platforms presents opportunities and challenges. The region faces unique educational difficulties, including limited access to technological resources and varying levels of digital literacy among educators (Idarwana Hasin & Khalid, 2021). Despite government initiatives to enhance ICT integration in schools, the implementation and effectiveness of these measures remain uneven. English teachers, in particular, play a crucial role in shaping students' language proficiency, and their ability to effectively utilise online platforms is essential in ensuring the continuity and quality of education in an increasingly digital world. Thus, this study examines how Kelantan secondary school English teachers respond to the shift toward digital learning. It specifically aims to assess their level of computer literacy and their views on using online platforms in English classrooms.

LITERATURE REVIEW

The Internet has been made possible by the incredible advancements in telecommunications technology. The accessibility of email, internet sites, and data on nearly any subject, thanks to the Internet, has improved our lives and education. Collecting educational resources is straightforward when using the internet because people do not have to visit a library, waste time browsing for suitable books and articles (Connaway & Randall, 2013), buy textbooks or order an overpriced newspaper while using the internet (Wilber, 2023).

Digital Literacy in Education

Digital literacy is a critical competency for educators in the modern educational landscape, as it encompasses the skills required to effectively use technology for teaching and learning purposes. The integration of ICT in education necessitates that teachers possess a high level of digital literacy, including the ability to use digital tools and the capacity to evaluate, create, and communicate information in a digital format (Hafifah & Sulistyo, 2020). Research has shown that digitally literate educators can employ innovative teaching strategies that enhance student engagement and learning outcomes (Adzhari et al., 2023). This ability to navigate digital environments effectively allows teachers to utilise online resources for lesson planning, implement interactive learning experiences, and foster collaborative learning among students. However, despite the acknowledged importance of digital literacy, many educators still face challenges in acquiring these necessary skills. Kaminskienė et al. (2022) highlight that many teachers lack familiarity with new technologies and often feel ill-equipped to manage digital tools effectively in their classrooms. This gap in digital competence can be attributed to insufficient training opportunities and support systems, which leaves educators struggling to keep pace with rapidly evolving technological advancements.

Furthermore, research indicates that educators' perceptions of their digital skills can significantly influence their confidence in utilising technology for teaching. Teachers who receive targeted professional development focused on enhancing digital competencies are likelier to adopt ICT tools effectively in their instructional practices (Prayoga & Pramono, 2021; Saud, 2023). Conversely, a

lack of adequate training can lead to feelings of inadequacy and reluctance to embrace new technologies, ultimately impacting the quality of education they provide.

In rural areas like Kelantan, where access to technology and resources may be limited, the need for digital literacy among educators becomes even more critical. Disparities in training and resource availability can exacerbate existing challenges, making it essential for educational stakeholders to prioritise professional development initiatives that enhance teachers' digital skills. Thus, digital literacy among educators is a fundamental aspect of successfully integrating technology into teaching and learning. Ensuring that teachers are well-equipped with the necessary digital skills through ongoing training and support can significantly improve the effectiveness of ICT integration in the classroom, ultimately benefiting student learning experiences.

Technological Pedagogical Content Knowledge (TPACK)

The Technological Pedagogical Content Knowledge (TPACK) framework is an essential model for effectively integrating technology into educational practices. Developed by Mishra and Koehler (2006), TPACK builds on the foundational concept of Pedagogical Content Knowledge (PCK) introduced by Lee Shulman. While PCK emphasises the intersection of pedagogy (the art and science of teaching) and content knowledge (the subject matter to be taught), TPACK expands this concept by incorporating Technological Knowledge (TK). This addition creates a more holistic understanding of the competencies that educators must possess to integrate technology successfully into their teaching. Table 1 describes each category.

Table 1 TPACK Framework Description

	TPACK Category	Description
1.	Content Knowledge (CK):	Teacher's understanding of the subject matter they are teaching. A deep knowledge of the content enables educators to convey information accurately and identify key concepts essential for student understanding.
2.	Pedagogical Knowledge (PK):	Teaching methods and strategies include knowledge of instructional techniques, classroom management, assessment methods, and the ability to adapt teaching approaches to meet the diverse needs of learners.
3.	Technological Knowledge (TK):	Teacher's proficiency with various digital tools and technologies. It involves understanding how to effectively use software, hardware, and online resources to enhance teaching and learning.
4.	Pedagogical Content Knowledge (PCK):	Knowledge of how to teach specific content effectively. It combines pedagogy and content knowledge, allowing teachers to present material in understandable and engaging ways for students.
5.	Technological Content Knowledge (TCK):	Technology can effectively represent content. Understanding the affordances and constraints of technology related to the subject matter and how these can enhance or hinder the learning process is crucial.

6.	Technological Pedagogical Knowledge (TPK):	Integrating technology into pedagogical practices involves understanding how different technologies can support specific teaching strategies and learning outcomes.
7.	Technological Pedagogical Content Knowledge (TPACK):	The intersection of all three knowledge domains (content, pedagogy, and technology). It represents the comprehensive understanding that teachers must create effective learning experiences that leverage technology to support content learning through appropriate pedagogical strategies.

The TPACK framework is valuable for educators as it emphasises the interplay between technology, pedagogy, and content knowledge, as illustrated in Figure 1. This framework allows teachers to select and use technological tools that enhance instructional practices and student engagement. For example, a teacher using TPACK might choose a digital platform based on its features (TK) and how it can facilitate a teaching strategy (PK) aligning with the curriculum content (CK), as discussed by Stapf and Martin (2019) and Bahri et al. (2023). Additionally, Habiyaremye et al. (2023) highlight that embracing the TPACK framework enables educators to enrich student's learning experiences and make more informed instructional decisions, ultimately leading to improved educational outcomes. In conclusion, TPACK equips educators with the knowledge to integrate technology effectively and emphasises the importance of understanding the relationships among content, pedagogy, and technology in creating engaging student learning experiences. Fostered TPACK can help educators navigate the complexities of teaching in the digital age, enhancing their instructional practices and supporting student learning.

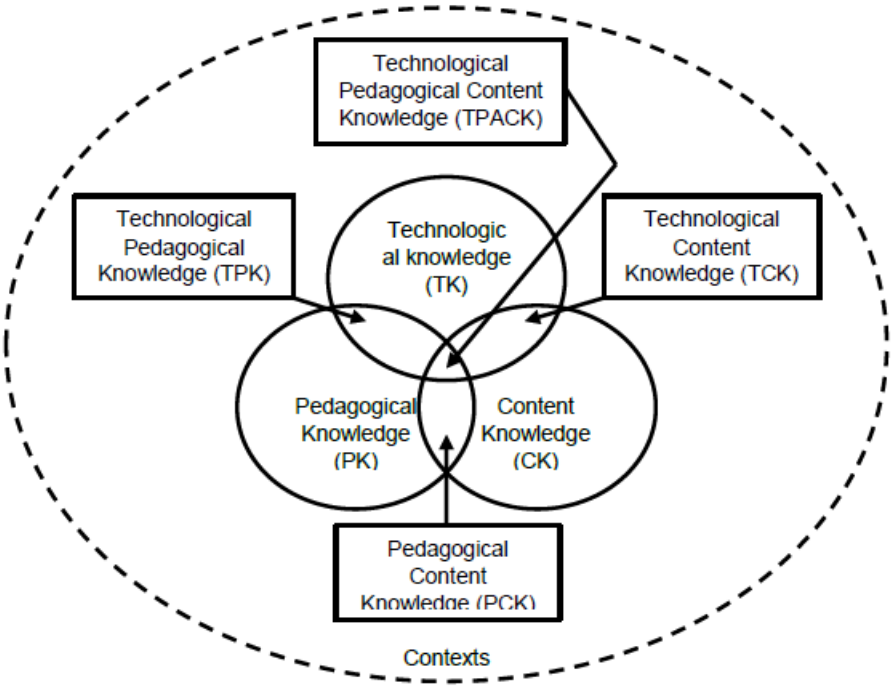

Figure 1 TPACK Framework (Amir Izuddin 2020)

Teachers' Challenges in Utilising Technology in Teaching

Integrating technology into teaching has become a significant educational priority, yet teachers encounter numerous challenges that impede their effective use of ICT. One of the primary obstacles is the lack of familiarity with technology. Research indicates that many teachers are not well-versed in

newer digital tools and lack the requisite skills to manage them effectively. This gap in digital competency underscores the need for improved training in ICT usage (Zhang & Aslan, 2021). Without adequate knowledge and skills, teachers struggle to navigate the complexities of technology, which limits their ability to integrate it seamlessly into their instructional practices.

In addition to limited ICT knowledge, poor training and technical support access exacerbate the issue. Kaminskienė et al. (2022) highlight the critical role of professional development in empowering teachers to utilise technology effectively. When teachers do not receive sufficient training or support, they are more likely to encounter challenges, such as installing and troubleshooting applications and integrating technology into the curriculum. This lack of support often leads to frustration and reluctance to embrace digital tools in their classrooms, further perpetuating the technology gap.

Another significant challenge for teachers is the disparity in resource availability, particularly in rural or under-resourced areas. Studies such as Idarwana Hasin and Khalid (2021) emphasise that limited access to technological resources in these regions can severely hinder teachers' ability to utilise ICT effectively. In rural areas like Kelantan, where the infrastructure may not fully support advanced technological integration, teachers are often constrained by the lack of necessary tools and stable internet connectivity, making it difficult to conduct online or tech-enhanced lessons. As a result, teachers in these regions face additional barriers to utilising technology compared to their counterparts in more urbanised areas with better infrastructure.

Teachers' perceptions of technology also play a pivotal role in determining their willingness to adopt ICT. Some educators view technology as a burden rather than an asset, primarily due to their discomfort with digital tools or past negative experiences with technology in the classroom (Irzawati & Hasibuan, 2020; Khan & Kuddus, 2020). These negative perceptions, often influenced by the lack of support and resources, lead to resistance to change and an inclination to continue traditional teaching methods. This attitude can significantly affect the successful integration of ICT in education.

In summary, several factors hinder the effective use of technology in teaching, including limited ICT knowledge, insufficient training and support, resource disparities, and negative perceptions of technology. Addressing these challenges requires comprehensive professional development programs and enhanced infrastructural support, particularly in rural areas, to ensure teachers are equipped and motivated to incorporate technology into their teaching practices.

METHODOLOGY

The study utilised a quantitative research design, with 214 secondary school English teachers from Kelantan participating through snowball sampling techniques. This method was selected to specifically target English teachers currently teaching in secondary schools in Kelantan. Table 2 summarises the demographic profiles of the participants.

Table 2 Participants Demographic Profile

	Frequency	Percentage	Mean	SD
Age				
20 - 30 years old	75	35		
31 - 40 years old	84	39.3	1.97	0.89
41 - 50 years old	42	19.6		
50 years old and above	13	6.1		
Gender			1.59	0.49

Male	87	40.7		
Female	127	59.3		
Teaching Experience				
1 - 4 years	54	25.2		
5 - 8 years	98	45.8	2.12	0.88
9 - 12 years	45	21		
13 years and more	17	7.9		

The research instrument used was a 25-item questionnaire designed to determine the participants' computer literacy level and their perception of using online platforms in their classes. The questionnaire was divided into three parts: i) Demographic Profile (three questions), ii) Computer Literacy Level (ten questions) and iii) Perception on Online Platform in Classroom (ten questions). Likert scale of agreement was used to collect the feedback from the participants. The questionnaire was distributed using Google Forms to assist the snowballing process. The data collected was then descriptively analysed using Microsoft Excel 2021.

FINDINGS

Level of Computer Literacy

The research results indicate that secondary school English teachers in Kelantan have generally demonstrated effective adaptation to online platforms, albeit with varying levels of comfort and expertise. The findings from Table 3 reveal that a majority of teachers, 63.6%, believe they possess a good understanding of computer literacy (M=2.41, SD =0.84). Furthermore, 59.8% of teachers feel they have basic knowledge of online platforms that are useful in teaching (M=2.42, SD =0.77), indicating a moderate level of confidence with some diversity in responses. Teachers' primary use of the internet is to source ideas for creating materials to teach English writing skills (M=2.53, SD =0.76), with 69.2% in agreement. Additionally, a significant percentage of teachers, 66.8%, reported using digital technology and devices to support their teaching (M=2.54, SD =0.71), suggesting a consistent integration of digital tools in their classrooms. However, only 55.6% of teachers are familiar with learning applications such as Google Classroom and Padlet (M=2.35, SD 0.80), indicating potential areas for professional development.

Furthermore, 59.3% of respondents agreed that Google Classroom is the most convenient tool for distributing online materials (M=2.43, SD =0.76). However, some teachers remain neutral or disagree, suggesting the need to explore alternative platforms. A majority of teachers, 62.1%, stated that they keep up to date with new digital tools and applications (M=2.48, SD =0.73), indicating an active interest in staying current with technology for teaching. Additionally, 58.9% reported that they rarely encounter difficulties when conducting lessons on online platforms (M=2.38, SD =0.81), suggesting that while most teachers are comfortable, a significant minority still face challenges.

However, only 46.7% of teachers are familiar with the process of uploading, downloading, and installing applications (M=2.30, SD =0.74), but 51.4% believe they know how to solve technical problems related to digital tools (M=2.35, SD=0.75). In summary, the findings indicate that most teachers embrace information and communication technology (ICT) in their teaching, mainly using the Internet and digital tools to enhance lessons. Nonetheless, there are gaps in technical problem-solving skills and familiarity with certain applications, which could benefit from further professional development.

Table 3 Analysis of Teachers' Level of Computer Literacy

No	Statement	Agree (%)	Neutral (%)	Disagree (%)
1.	I understand what computer literacy is.	63.6	13.6	22.9
2.	I am familiar with the process of uploading, downloading and installing applications.	46.7	36.4	16.8
3.	I use digital technology and devices to support my teaching.	66.8	20.1	13.1
4.	I know how to solve technical problems related to digital tools.	51.4	32.2	16.4
5.	I know basic things on online platforms that are useful in teaching my students.	59.8	22.4	17.8
6.	I am familiar with learning applications such as Google Classroom and Padlet.	55.6	23.8	20.6
7.	I often use the Internet to find ideas to create materials for teaching English writing skills.	69.2	14.5	16.4
8.	Google Classroom is the most convenient application I use to distribute online materials for English writing.	59.3	24.3	16.4
9.	I keep up to date with new digital tools and applications used in teaching and learning.	62.1	23.4	14.5
10.	I rarely encounter difficulties while conducting lessons on an online platform.	58.9	20.1	21.0

Perception Towards Online Platforms in Teaching

The data presented in Table 4 illustrates teachers' perceptions regarding using online platforms in teaching. The findings reveal an overall positive attitude towards integrating online platforms in education. However, there exists variability in the level of agreement across different dimensions of online platform usage. Expressly, 67.3% of teachers agreed that online platforms facilitate the preparation of teaching materials (M=2.51, SD=0.77), indicating the integral role of technology in lesson preparation. Furthermore, a majority of teachers (69.6%) believe that online platforms have the potential to enhance student's writing skills (M=2.53, SD=0.76), as evidenced by 67.8% agreement on the effectiveness of online platforms in providing teaching opportunities (M=2.51, SD=0.77). Moreover, 63.6% of teachers believed online materials could enhance student engagement and promote active learning (M=2.49, SD=0.74).

In addition, 61.2% of teachers acknowledged the significant opportunities presented by information and communication technology (ICT) (M=2.43, SD=0.79), with a considerable proportion (63.1%) agreeing that ICT-supported teaching enhances learning effectiveness (M=2.47, SD=0.75). This sentiment is particularly evident in utilising technology to improve the quality of teaching (60.7%, M=2.42, SD=0.79). Furthermore, a majority of teachers (61.2%) perceive the use of ICT as straightforward (M=2.43, SD=0.79) and recognise its role in providing flexibility in learning (M=2.40, SD=0.79). Despite encountering challenges, a significant proportion of teachers (60.3%) remain committed to utilising online platforms to teach English writing skills (M=2.46, SD=0.73).

The findings show teachers' highly beneficial perception of online platforms, particularly in enhancing students' writing skills and fostering student engagement. While technology is widely accepted in preparing resources, opinions regarding the ease of use and the quality of teaching writing with technology vary.

Table 4 Analysis of Teachers' Perception of the Use of Online Platforms in Teaching

No	Statement	Agree (%)	Neutral (%)	Disagree (%)
1.	The use of technology helps to prepare teaching resources and materials.	67.3	15.9	16.8
2.	The use of technology improves the quality of teaching writing.	60.7	20.6	18.7
3.	An online platform provides many effective teaching opportunities that help students to be more active in class.	67.8	15.0	17.3
4.	An online platform helps teachers create classroom materials and promote student engagement during lessons.	63.6	21.5	15.0
5.	I am aware of the great opportunities that ICT offers for effective teaching.	61.2	20.1	18.7
6.	It is easier to teach by using technology.	61.2	20.1	18.7
7.	Technology-supported teaching makes learning writing more effective.	63.1	21.0	15.9
8.	An online platform gives students flexibility; they can learn wherever and whenever they want.	59.3	21.5	19.2
9.	Using online platforms can improve students' writing skills.	69.6	14.0	16.4
10.	I will keep using online platforms to assist my students in teaching English writing skills.	60.3	25.2	14.5

DISCUSSION

The findings reveal significant insights into ICT integration in English language teaching, demonstrating a commendable level of computer literacy among teachers. This suggests that they possess the necessary skills to utilise digital platforms effectively. In teaching, computer literacy involves more than just knowing how to use computers and software; it encompasses a broader range of digital skills and competencies. Technology-savvy teachers are more likely to engage their students in the digital era and adapt to an ever-changing classroom environment (Panakaje et al., 2024). As mentioned earlier, teachers in rural areas may have a basic understanding of computer use, but many still lack confidence. The main challenges often stem from unfamiliarity with technology, insufficient training, and inadequate technical support. Kaminskienė et al. (2022) emphasise teachers' difficulties with technology, such as installing applications. Therefore, navigating and implementing technology in teaching is increasingly essential. The high percentage of teachers exhibiting computer literacy suggests that the foundational skills required for effective ICT integration are present among a substantial portion of the teaching workforce.

Moreover, teachers positively perceive using online platforms in their English classes. This positive attitude towards technology integration is crucial, as research consistently shows that teachers' beliefs and perceptions significantly influence their willingness to adopt new teaching methodologies (Tondeur et al., 2016). Recognising the benefits of online platforms, such as enhanced engagement, resource accessibility, and collaborative learning opportunities, demonstrates readiness among educators to embrace modern pedagogical practices. This aligns with the Technological Pedagogical Content Knowledge (TPACK) framework, which emphasises the importance of integrating technology, pedagogy, and content knowledge to create effective learning experiences (Koehler & Mishra, 2009; Mishra & Koehler, 2006).

The implications of these findings are multifaceted. Firstly, teachers' readiness to incorporate ICT into their teaching practices indicates promising ground for further development in this area. However, ongoing professional development in ICT is crucial to sustaining and enhancing this positive trend. Professional development programs should not only focus on improving technical skills but also foster a deeper understanding of how to integrate technology meaningfully into the curriculum (Fernández-Batanero et al., 2022). This is consistent with the argument that teacher education programs must incorporate technology integration strategies to prepare educators for the digital age.

Furthermore, the study highlights the importance of institutional support in facilitating the successful integration of ICT in education. While teachers in Kelantan are willing to adapt to digital teaching methods, the availability of technological resources and infrastructure is critical to their success (Amhag et al., 2019). Educational stakeholders must prioritise providing adequate technological tools and training to ensure teachers can effectively implement ICT in their classrooms. This is especially important in regions where access to technology is limited, as previous research highlights that disparities in resource availability can hinder the effective use of ICT in education (Aidoo et al., 2022).

Additionally, the findings suggest that integrating ICT in English language teaching can significantly enhance instructional quality. Teachers proficient in digital platforms can create more engaging and interactive learning environments, improving student outcomes. This aligns with broader educational goals of fostering 21st-century skills such as critical thinking, collaboration, and digital literacy (Trilling & Fadel, 2021). By equipping students with these skills, educators better prepare them for the demands of the modern workforce.

To sum up, this study indicates a positive trend in ICT adoption among secondary school English teachers in Kelantan. High levels of computer literacy and favourable perceptions of online platforms suggest that educators are ready to embrace digital teaching methods. However, it is imperative to provide ongoing professional development and institutional support to fully realise the potential of ICT in enhancing English language instruction. By addressing these needs, educational stakeholders can ensure that teachers are equipped to navigate the challenges of the digital age, ultimately contributing to the advancement of quality education and achieving sustainable development goals.

CONCLUSION

The integration of ICT into education is vital for equipping educators and students to navigate the complexities of the modern digital landscape. This study has highlighted the significant level of computer literacy among secondary school English teachers in Kelantan, indicating a readiness to embrace online platforms as tools for enhancing teaching and learning. The findings demonstrate that most teachers possess the necessary skills to utilise digital tools effectively, and they recognise the benefits that technology offers in terms of improving student engagement and learning outcomes.

However, despite these positive trends, challenges remain that could hinder the effective integration of ICT in classrooms. Issues such as limited familiarity with certain applications, inadequate technical support, and varying perceptions of technology among educators must be addressed to foster a more conducive environment for ICT adoption. The disparities in access to training and resources, particularly in rural areas, highlight the importance of ongoing professional development and institutional support.

To ensure that teachers are competent and confident in using technology, educational stakeholders must prioritise targeted training programs that enhance digital literacy and address specific challenges faced by educators. By doing so, we can facilitate a more effective and meaningful

integration of ICT in teaching practices, ultimately leading to improved educational quality and outcomes for students.

In conclusion, this research emphasises the potential for enhancing English language instruction through the thoughtful integration of technology. With adequate support and resources, educators can transform their teaching methods to better meet the demands of today's learners, thus contributing to the achievement of sustainable development goals in education. As the educational landscape continues to evolve, a commitment to fostering digital literacy among educators will ensure that teachers and students thrive in an increasingly digital world.

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ANALISIS FATWA MUFTI MALAYSIA TERHADAP MATA WANG KRIPTO MENURUT PERSPEKTIF MAQASID AS-SYARIAH

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ABSTRAK

Mata wang kripto, sebagai satu inovasi dalam teknologi kewangan, telah mencetuskan perdebatan yang ketara dalam kalangan sarjana Islam, terutama dalam konteks kepatuhan kepada hukum syariah. Kajian ini bertujuan untuk menilai fatwa-fatwa yang dikeluarkan oleh Mufti Malaysia mengenai mata wang kripto melalui perspektif maqasid as-syariah. Maqasid as-syariah, yang merangkumi objektif utama syariah untuk melindungi agama, nyawa, akal, keturunan, dan harta, menyediakan asas penting dalam menilai kesesuaian dan kebolehlaksanaan penggunaan mata wang kripto dalam sistem kewangan Islam. Dengan menganalisis literatur dan kandungan fatwa-fatwa berkaitan, kajian ini mendapati bahawa pandangan ulama mengenai mata wang kripto adalah berbeza-beza, di mana sesetengah ulama menganggapnya haram kerana unsur ketidakpastian (gharar) dan risiko eksploitasi (maslahah). Namun, terdapat juga ulama yang menerima penggunaan mata wang kripto dalam keadaan tertentu, selagi mana ia mematuhi prinsip-prinsip maqasid as-syariah, seperti melindungi harta dan menghindari kemudaratan. Kajian ini menekankan bahawa fatwa mengenai mata wang kripto haruslah mengambil kira keseluruhan aspek maqasid as-syariah untuk memastikan keputusan yang dibuat selaras dengan matlamat syariah dan memberi manfaat kepada umat Islam di Malaysia.

***Kata Kunci**: Mata wang kripto, maqasid as-syariah, fatwa, syariah, maslahah, inovasi teknologi kewangan.*

PENDAHULUAN

Mata wang telah diciptakan sejak berzaman lamanya sebagai medium pertukaran sesuatu dengan sesuatu yang lain. Ianya adalah nikmat Allah swt kepada manusia yang perlu dipatuhi aturan ketetapan dari-Nya. Sekiranya manusia menggunakannya untuk kebaikan maka kebaikan jugalah ganjarannya sebaliknya jika diletakkan pada tempat yang tidak sepatutnya maka binasalah pemiliknya. Mata wang digunakan secara meluas untuk pelbagai tujuan harian dalam kehidupan manusia. Catatan sejarah membuktikan mata wang sebagai suatu sistem yang berevolusi dan berubah mengikut peredaran zaman dan perkembangan teknologi manusia[1]. Mata wang kertas atau fiat yang wujud pada hari ini bersandarkan kepada nilai komoditi, emas, perak sehinggalah kepada mata wang elektronik yang digunakan pada hari ini.

Fintech merupakan singkatan perkataan *Financial Technology* yang membawa erti Teknologi Kewangan. Dengan arus teknogi kewangan yang semakin berkembang ini, urusan transaksi harian semakin mudah dengan wujudnya aplikasi elektronik atas talian seperti perbankan internet, e-wallet, jom pay,e-zakat selain kemudahan sedia ada kad kredit dan kad debit (Mohd Faisol Ibrahim, 2021).

Seiring dengan perkembangan tersebut, wujud mata wang digital atau kripto yang sehingga hari ini kian meningkat penggunaan dan pemilikannya. Satoshi Nakamoto dipercayai telah mencipta mata wang kripto ini berasaskan kepada teknologi blockchain pada tahun 2009. Mata wang ini tidak wujud secara fizikal sebagaimana wang fiat pada masa kini namun ia mempunyai nilai tersendiri berdasarkan

[1] Suffian Haqiem Nor Azelan, Asmak Ab Rahman dan Mohd Shahid Mohd Noh, "Mata Wang Islam : Analisa Menurut Pandangan Sarjana Islam", Jurnal Al-Basirah 12, (2022), 107-116.

komoditinya walaupun tidak dikeluarkan oleh mana-mana bank di dunia (Muhamad Mu'izz Abdullah, 2024).

Penggunaan mata wang digital turut mendapat perhatian masyarakat dan trend penggunanya semakin menunjukkan peningkatan. Dengan kemajuan yang dicapai ini, urusan harian manusia. menjadi semakin mudah dan nilai kekayaan juga semakin berkembang. Namun, dalam masa yang sama perhatian perlu diberikan kepada aspek syariah yang mungkin timbul daripada penggunaan mata wang digital kripto ini kerana asas kepada sesuatu tindakan manusia menatijahkan balasan pahala atau dosa yang menjadi keimanan kepada Allah. Penggunaan mata wang kripto menjadi khilaf dalam kalangan mufti di Malaysia kepada beberapa pandangan iaitu harus, haram serta harus bersyarat. Kajian ini dijalankan bagi melihat dari aspek maqasid al-syariah berkait dengan mata wang kripto dari sudut maslahah dan mafsadahnya.

METODOLOGI KAJIAN

Kajian secara kualitatif digunakan bagi mencapai objektif kajian ini memandangkan kajian ini membincangkan konsep mata wang kripto sebagai mata wang dari perspektif syariah. Pandangan ulama-ulama dalam kitab klasik dan kontemporari diteliti bagi melihat isu-isu yang berkaitan terhadap mata wang dan penggunaan mata wang kripto dari sudut maqasid al-syariah. Data dan maklumat berkaitan mata wang kripto diperoleh melalui pelbagai sumber seperti buku, jurnal, laporan, kertas persidangan dan beberapa laman sesawang yang boleh dipercayai. Dalam pengumpulan data, penyelidik memberi tumpuan kepada sumber rujukan yang relevan dan berguna bagi memenuhi objektif penyelidikan.

Kajian Literatur

Sejarah Perkembangan Mata Wang

Perjalanan evolusi mata wang telah melalui beberapa tahap penting dari zaman dahulu hingga ke bentuk moden yang kita kenali hari ini. Pada awalnya, masyarakat menggunakan sistem barter, di mana barang ditukardengan barang lain yang dianggap setara dari segi nilai. Walaupun sistem ini dapat memenuhi keperluan asas, ia mempunyai kelemahan yang ketara, seperti kesukaran mencari pihak yang memiliki barang yang diinginkan dan pada masa yang sama menginginkan barang yang kita tawarkan.

1. Penggunaan Komoditi Sebagai Mata Wang

Sejarah mencatatkan bahawa pelbagai jenis komoditi mula digunakan sebagai alat pertukaran yang lebih efisien. Sebagai contoh, logam berharga seperti emas dan perak telah lama digunakan sebagai mata wang kerana memiliki nilai intrinsik yang tinggi, mudah dibahagikan, dan mudah dibawa. Selain itu, masyarakat juga menggunakan barang-barang lain seperti garam, kulit binatang, dan batu sebagai mata wang, bergantung kepada nilai yang diakui oleh komuniti setempat (Weatherford, 1997).

2. Kemunculan Mata Wang Syiling

Sekitar 600 tahun sebelum Masihi, mata wang syiling diperkenalkan oleh kerajaan Lydia, yang terletak di kawasan yang kini dikenali sebagai Turki moden. Syiling ini diperbuat daripada campuran emas dan perak, yang dikenali sebagai electrum, dan setiap syiling membawa tanda rasmi kerajaan untuk memastikan keasliannya dan nilai yang sah. Dengan kemunculan mata wang syiling, transaksi menjadi lebih mudah dan dipercayai kerana syiling mempunyai nilai yang tetap dan seragam (Davies, 2002).

3. Pengenalan Mata Wang Kertas

Pada abad ke-7, mata wang kertas pertama kali diperkenalkan di China semasa pemerintahan Dinasti Tang, dan penggunaannya semakin meluas semasa Dinasti Song. Tujuannya adalah untuk menggantikan logam yang sukar untuk diuruskan dalam jumlah yang besar. Pada awalnya, mata wang kertas ini disokong oleh emas atau perak yang disimpan di tempat tertentu sebagai jaminan (von Glahn, 1996). Kemudian, penggunaan mata wang kertas merebak ke Eropah pada abad ke-17, apabila bank-bank mula mengeluarkan nota bank yang boleh ditukar dengan emas.

4. Sistem Bretton Woods dan Peralihan Kepada Mata Wang Fiat

Selepas Perang Dunia Kedua, sistem Bretton Woods diperkenalkan pada tahun 1944, di mana kebanyakan mata wang dunia diikat kepada dolar Amerika Syarikat, yang pada ketika itu disandarkan kepada emas. Namun, pada tahun 1971, Presiden Richard Nixon menamatkan sistem ini, yang membawa kepada peralihan kepada sistem mata wang fiat. Dalam sistem ini, nilai mata wang tidak lagi disandarkan kepada emas tetapi bergantung kepada keyakinan dan kestabilan ekonomi negara yang mengeluarkannya (Eichengreen, 2019).

5. Kemunculan Mata Wang Kripto

Dalam dekad terkini, dunia telah menyaksikan kemunculan mata wang digital, dimulai dengan pelancaran Bitcoin pada tahun 2009 oleh individu atau kumpulan yang menggunakan nama samaran Satoshi Nakamoto. Bitcoin adalah mata wang kripto pertama yang menggunakan teknologi blockchain untuk merekodkan transaksi secara terdesentralisasi dan tanpa kawalan pusat. Sejak itu, pelbagai mata wang kripto lain seperti Ethereum dan Ripple telah muncul, menjadikan mata wang digital sebagai satu lagi evolusi penting dalam sejarah kewangan (Narayanan et al., 2016).

6. Mata Wang Masa Depan

Dengan perkembangan teknologi dan ekonomi global yang semakin pesat, bentuk mata wang pada masa hadapan berkemungkinan akan terus berubah. Mata wang kripto dan sistem kewangan terdesentralisasi (DeFi) semakin mencabar sistem kewangan tradisional dan mungkin akan mengubah cara manusia menggunakan mata wang pada masa akan datang. Walaupun masih terdapat ketidakpastian mengenai pengawalseliaan dan penerimaan yang meluas, mata wang digital kini menjadi komponen penting dalam landskap kewangan moden (Yermack, 2015).

Fatwa dan Pendapat Mufti Terhadap Mata Wang Kripto

Mata wang kripto seperti Bitcoin, Ethereum, dan pelbagai aset digital lain telah mencetuskan perbincangan dalam kalangan ulama di Malaysia, terutamanya berkaitan kepatuhan terhadap prinsip syariah. Penggunaan teknologi blockchain yang mendasari mata wang kripto, serta sifatnya yang terdesentralisasi, menimbulkan persoalan mengenai kesesuaian mata wang ini dengan hukum Islam. Di Malaysia, fatwa daripada Majlis Fatwa Kebangsaan dan beberapa mufti negeri memainkan peranan penting dalam menentukan kedudukan hukum mengenai penggunaan mata wang kripto.

Fatwa Majlis Fatwa Kebangsaan Malaysia

Majlis Fatwa Kebangsaan Malaysia mengeluarkan pandangan yang bersifat berhati-hati mengenai mata wang kripto. Pada Disember 2017, dalam satu seminar yang membincangkan isu ini, kebimbangan utama yang diketengahkan adalah ketidakstabilan dan unsur ketidakpastian (gharar) yang tinggi dalam mata wang kripto. Selain itu, mata wang kripto juga dilihat berpotensi untuk mengandungi unsur spekulasi melampau (maisir), yang bercanggah dengan prinsip-prinsip syariah (Majlis Fatwa Kebangsaan, 2017).

Majlis Fatwa menyimpulkan bahawa transaksi menggunakan mata wang kripto seperti Bitcoin dan Ethereum tidak diharuskan kerana risiko yang terlibat, ketidakstabilan nilai, dan kemungkinannya digunakan dalam aktiviti haram seperti pengubahan wang haram dan pembiayaan keganasan. Namun begitu, Majlis Fatwa turut menyatakan bahawa lebih banyak kajian diperlukan untuk menilai teknologi ini dengan lebih mendalam, memandangkan kemajuannya yang pesat.

Pandangan Mufti Negeri

Selain fatwa daripada Majlis Fatwa Kebangsaan, beberapa mufti negeri di Malaysia turut memberikan pandangan masing-masing mengenai mata wang kripto. Contohnya: Mufti Wilayah Persekutuan menegaskan bahawa mata wang kripto tergolong dalam kategori haram, terutamanya kerana wujudnya elemen gharar dan ketidakpastian yang tinggi berkaitan nilai serta penggunaannya. Beliau juga menyarankan agar kajian lanjut dilakukan untuk memahami fenomena ini secara lebih mendalam dan implikasinya terhadap teknologi serta syariah (Pejabat Mufti Wilayah Persekutuan, 2018).

Mufti Pulau Pinang dan beberapa mufti negeri lain turut mengeluarkan fatwa yang serupa, menyatakan bahawa buat masa ini, penggunaan mata wang kripto tidak dibenarkan dalam Islam kerana kehadiran unsur riba, gharar, dan risiko jenayah yang berkaitan dengan transaksi dalam mata wang ini (Jabatan Mufti Pulau Pinang, 2018).

Isu-Isu Utama dalam Fatwa Mata Wang Kripto

Pandangan ulama di Malaysia terhadap mata wang kripto didasarkan pada beberapa isu utama yang berkaitan dengan prinsip syariah:

1. Ketidakpastian (Gharar): Ketidakstabilan harga dan ketidaktentuan dalam nilai intrinsik mata wang kripto menjadikannya sukar untuk diharuskan dalam syariah kerana ia melibatkan tahap ketidakpastian yang tinggi.
2. Spekulasi Melampau (Maisir): Pasaran mata wang kripto sering dikaitkan dengan spekulasi yang tinggi, yang membawa kepada unsur perjudian, yang dilarang dalam Islam.
3. Risiko Penipuan dan Jenayah: Sifat terdesentralisasi mata wang kripto menjadikannya sukar untuk mengesan transaksi, yang meningkatkan risiko penyalahgunaan untuk aktiviti haram seperti pengubahan wang haram dan penipuan.

Fatwa yang Berhati-Hati

Meskipun banyak fatwa cenderung untuk mengharamkan penggunaan mata wang kripto, beberapa ulama berpendapat bahawa mata wang ini boleh dianggap harus dengan syarat-syarat tertentu. Menurut pandangan ini, teknologi blockchain yang mendasari mata wang kripto boleh menawarkan transparansi dan keselamatan yang lebih baik dalam keadaan tertentu. Sekiranya langkah-langkah pencegahan diambil untuk mengurangkan spekulasi dan risiko penipuan, mata wang kripto mungkin dapat digunakan dalam cara yang lebih terkawal dan sesuai dengan syariah (Ahmad, 2021).

Analisis Pandangan Mufti Malaysia Terhadap Mata Wang Kripto Menurut Maqasid Al-Syariah

Dari perspektif Maqasid As-Syariah, fatwa berkaitan mata wang kripto perlu dilihat dalam konteks lima objektif utama syariah: memelihara agama, nyawa, akal, keturunan, dan harta. Beberapa ulama berpendapat bahawa mata wang kripto berpotensi untuk memberi manfaat (maslahah) jika ia dikawal dengan baik. Namun, pada masa yang sama, ia membawa risiko besar yang perlu dielakkan, seperti ketidakpastian dan kerugian ekonomi yang tidak dijangka.

1. Memelihara Agama (Hifz al-Din)

Dari aspek memelihara agama, mufti Malaysia menekankan bahawa setiap urus niaga kewangan mestilah bebas daripada riba (faedah berlebihan), gharar (ketidakpastian), dan maisir (spekulasi atau perjudian). Kebimbangan utama yang disuarakan oleh Majlis Fatwa Kebangsaan dan beberapa mufti negeri ialah kehadiran unsur gharar dalam mata wang kripto, kerana ketidakpastian nilai dan ketidakstabilan harga yang sangat ketara. Selain itu, elemen spekulasi yang tinggi dianggap sebagai maisir, yang jelas dilarang dalam Islam. Oleh itu, mata wang kripto, dari perspektif ini, dilihat bercanggah dengan objektif Maqasid al-Syariah dalam memelihara agama.

2. Memelihara Nyawa (Hifz al-Nafs)

Objektif memelihara nyawa menekankan pentingnya melindungi keselamatan fizikal dan mental individu. Dalam konteks mata wang kripto, terdapat kebimbangan besar mengenai risiko yang berkaitan dengan penipuan, pengubahan wang haram, dan aktiviti haram lain. Oleh kerana mata wang kripto bersifat terdesentralisasi dan boleh digunakan secara anonim, ia berpotensi disalahgunakan dalam jenayah kewangan dan siber, yang boleh mendatangkan bahaya kepada individu dan masyarakat. Ini bertentangan dengan prinsip hifz al-nafs, yang menghendaki syariah melindungi kesejahteraan dan keselamatan masyarakat.

3. Memelihara Akal (Hifz al-'Aql)

Objektif memelihara akal menuntut bahawa setiap individu perlu membuat keputusan kewangan berdasarkan pengetahuan yang mencukupi dan bebas daripada jahalah (kejahilan). Mufti Malaysia mengkritik pelaburan dalam mata wang kripto sebagai sangat spekulatif dan tidak stabil. Spekulasi melampau dan potensi kerugian besar dapat memberi kesan negatif terhadap pemikiran dan keputusan individu yang terlibat, sekali gus bercanggah dengan prinsip hifz al-'aql yang menekankan kewarasan dalam membuat keputusan kewangan.

4. Memelihara Keturunan (Hifz al-Nasl)

Dalam konteks hifz al-nasl, kestabilan ekonomi keluarga adalah penting. Penggunaan mata wang kripto yang tidak dikawal dengan baik boleh menyebabkan kebankrapan atau kerugian yang besar, yang akhirnya menjejaskan institusi keluarga. Mufti Malaysia kebanyakannya mengambil pendekatan untuk mengharamkan penggunaan mata wang kripto buat masa ini, memandangkan kesannya terhadap kewangan individu dan keluarga tidak memenuhi syarat syariah untuk melindungi kestabilan keluarga dan warisan generasi akan datang.

5. Memelihara Harta (Hifz al-Mal)

Objektif memelihara harta merujuk kepada usaha memastikan harta individu diurus dengan cara yang produktif dan tidak membawa kepada pembaziran atau kerugian. Dalam fatwa mufti di Malaysia, kebimbangan utama adalah berkaitan dengan ketidakstabilan nilai dan risiko tinggi dalam penggunaan mata wang kripto. Mufti Wilayah Persekutuan dan Majlis Fatwa Kebangsaan menyatakan bahawa turun naik nilai mata wang kripto yang drastik boleh membawa kepada kerugian harta yang besar, dan ini bertentangan dengan prinsip hifz al-mal.

Perbincangan Kajian

Secara keseluruhan Fatwa dan pendapat mufti di Malaysia mengenai mata wang kripto masih dalam fasa berhati-hati. Kebanyakan ulama cenderung untuk mengharamkannya kerana unsur gharar, maisir, dan risiko penyalahgunaan dalam aktiviti haram. Walau bagaimanapun, terdapat juga pandangan yang lebih terbuka terhadap kemungkinan penggunaannya jika syarat-syarat syariah tertentu dapat dipenuhi. Dengan kemajuan teknologi dan penggunaan mata wang kripto yang semakin berkembang, fatwa-fatwa ini mungkin akan berubah berdasarkan penyelidikan dan perkembangan masa hadapan. Perspektif Maqasid al-Syariah memberikan panduan yang komprehensif untuk menilai kebaikan dan keburukan mata wang kripto, dengan tujuan memastikan manfaat terbesar bagi umat Islam.

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MEMPERKASAKAN KOMPETENSI GURU DALAM PENGGUNAAN TEKNOLOGI DIGITAL UNTUK PENGAJARAN DI SK BETING LINTANG

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ABSTRAK

Sistem Pendidikan kita perlu relevan dengan arus perubahan dunia dan generasi millennial. Justeru Amanat Tahun Baharu 2024 Kementerian Pendidikan Malaysia (KPM) menggariskan 5 fokus strategik dan melalui fokus strategik kedua menekankan Pemerkasaan Dasar Pendidikan Digital.Selaras dengan itu, pihak pengurusan SK Beting Lintang turut mengambil inisiatif untuk memperkasakan penggunaan teknologi digital dalam kalangan guru-guru tambahan lagi majoriti guru tidak menggunakan teknologi digital dalam pengajaran mereka.Tinjauan awal melalui learning walk pihak pengurusan serta melalui soal-selidik menggunakan google form jelas meununjukkan hanya 7.14 % iaitu 2 daripada 28 orang guru sahaja yang mahir menggunakan teknologi digital dalam pengajaran dan 78.6 % iaitu 22 orang guru sederhana mahir dan 14.29 % iaitu 4 orang guru lemah.Cabaran pihak pengurusan semakin kritikal apabila 80% daripada guru-guru ini berusia melebihi 50 tahun. Pihak pengurusan telah mengambil langkah pro aktif bagi membuat intervensi bagi meningkatkan kemahiran penggunaan digital melalui 3 objektif utama iaitu mengenalpasti tahap penguasaan kemahiran guru, mengenalpasti tahap penggunaan digital dalam kalangan guru di kelas serta mengenalpasti tahap kesediaan guru dalam menggunakan teknologi digital bagi pengajaran mereka. Ketiga-tiga objektif ini terangkum untuk memperkasakan kompetensi guru dalam penggunaan teknologi digital bagi pengajaran mereka. Borang soal-selidik berdasarkan 3 objektif ini diedarkan kepada semua guru dengan pembinaan item yang menjurus kepada objektif yang dinyatakan. Hasil kajian ini menunjukkan 100 % guru bersedia melaksanakan pengajaran menggunakan digital setelah mengikuti beberapa siri Professional Learning Community (PLC) digital yang disusun oleh pihak pentadbir.Selain daripada itu peratus penguasaan kemahiran digital pada tahap mahir meningkat dari 7.14 % kepada 20.0 %. Peningkatan sebanyak 12.86 % agak memberangsangkan dalam masa 3 bulan. Beberapa intervensi telah dilaksanakan oleh pihak sekolah bagi memastikan kompetensi guru dapat ditingkatkan iaitu dengan memperbanyakkan PLC berkualit mengikut keperluan guru, menaik taraf capaian jalur lebar, menambah bilangan LCD, menyediakan prasarana yang selesa dan berfokus berdasarkan keperluan guru.

Kata Kunci: *penggunaan teknologi digital, penguasaan kemahiran dan kesediaan membentuk kompetensi*

PENGENALAN

Dalam era digital yang semakin berkembang pesat, keperluan untuk memperkasakan kompetensi guru dalam penggunaan teknologi digital menjadi semakin mendesak. Pendidikan abad ke-21 menuntut para pendidik untuk tidak hanya mahir dalam bidang pedagogi tradisional, tetapi juga memiliki kemahiran dalam penggunaan alat dan teknologi digital untuk menyokong pengajaran dan pembelajaran. Transformasi digital dalam pendidikan bukan sahaja memerlukan pengetahuan asas tentang teknologi,

tetapi juga pemahaman mendalam tentang bagaimana teknologi boleh dimanfaatkan secara efektif untuk meningkatkan kualiti pendidikan. Justeru itu, usaha untuk memperkasakan guru dengan kemahiran digital yang relevan adalah kritikal dalam memastikan mereka dapat memenuhi tuntutan pendidikan moden dan menyediakan murid dengan pengalaman pembelajaran yang holistik, inovatif dan kreatif.

Rentetan dari itu, kajian ini dilaksanakan bagi menyahut seruan Kementerian Pendidikan Malaysia (KPM) bagi memperkasakan kompetensi guru dalam penggunaan digital di Sekolah Kebangsaan (SK) Beting Lintang. Objektif kajian adalah untuk mengenalpasti tahap penggunaan teknologi digital dalam kalangan guru, tahap penguasaan kemahiran serta tahap kesediaan mereka dalam penggunaan digital. Tinjauan awal terhadap 28 orang guru melalui soal-selidik menunjukkan bahawa hanya 7.14 % guru menunjukkan kemahiran yang baik dalam penggunaan digital, 78.6 % berada pada tahap sederhana lemah, dan 14.9 % berada pada tahap lemah. Justeru itu pelbagai usaha dilakukan oleh pihak sekolah bagi memperbaiki kelemahan yang ada seterusnya memperkasakan kompetensi guru sejajar dengan fokus strategik kedua Kementerian Pendidikan Malaysia (KPM) iaitu memperkasakan Dasar Pendidikan Digital di sekolah.

Kajian lalu menunjukkan bahawa peningkatan kompetensi digital dalam kalangan guru adalah penting bagi memastikan keberkesanan pengajaran dan pembelajaran di abad ke-21. Kajian oleh Fernández-Batanero et al. (2022) mendapati bahawa penggunaan teknologi digital dalam bilik darjah dapat meningkatkan motivasi dan pencapaian pelajar. Seterusnya, kajian oleh Liesa-Orus et al. (2023) menunjukkan bahawa latihan dan sokongan yang berterusan adalah kritikal dalam memperkasakan guru dengan kemahiran digital. Menurut Reisoğlu (2022) literasi digital adalah faktor utama dalam meningkatkan kompetensi guru, yang seterusnya membawa kepada peningkatan keberkesanan pengajaran dan pembelajaran. Tambahan pula, List (2019) menyatakan bahawa perhubungan antara pengetahuan pedagogi teknologi dan kompetensi digital guru mempunyai pengaruh yang signifikan terhadap penggunaan teknologi digital di dalam kelas.

Fokus utama Kementerian Pendidikan Malaysia terhadap pendidikan digital juga menekankan kepentingan pemerkasaan guru dalam aspek ini. Inisiatif seperti Pelan Pembangunan Pendidikan Malaysia (PPPM) 2013-2025 telah menekankan penggunaan teknologi dalam pendidikan sebagai salah satu teras utama. Oleh itu, kajian ini adalah relevan dalam menyokong matlamat tersebut dengan memberikan gambaran jelas mengenai tahap penggunaan, penguasaan kemahiran, dan kesediaan guru dalam mengintegrasikan teknologi digital dalam pengajaran mereka. Justeru itu kajian ini diharapkan dapat memberikan sumbangan bermakna dalam usaha memperkasakan kompetensi digital dalam kalangan guru di SK Beting Lintang, sekaligus menyokong objektif Kementerian Pendidikan Malaysia dalam meningkatkan kualiti pendidikan di negara ini

Pernyataan Masalah

Melalui analisis persekitaran secara pemerhatian dan *learning walk* dari kelas ke kelas melihat proses pengajaran dan pembelajaran, Isu yang dikenal pasti di SK Beting Lintang menunjukkan guru-guru masih lagi menggunakan kaedah tradisional iaitu *chalk and talk* untuk mengajar serta lembaran kerja. Hanya 2 daripada 30 guru yang sering menggunakan teknologi digital untuk pengajaran dalam kalangan guru. Ianya terbukti melalui tinjauan awal soal-selidik menggunakan *google form* menunjukkan bahawa hanya 7.14 % iaitu 2 orang sahaja daripada 28 responden yang mahir menggunakan teknologi digital, 78.6 % iaitu 22 orang guru kurang mahir, dan 14.29 % iaitu 4 orang tidak mahir langsung. Ketidakseimbangan ini menunjukkan bahawa sebilangan besar guru tidak mempunyai kemahiran yang mencukupi untuk memanfaatkan teknologi digital dalam pengajaran mereka. Masalah ini berpunca daripada kekurangan latihan yang berkesan, kurangnya sumber atau sokongan teknikal, atau kekurangan kesediaan untuk menggunakan teknologi baru. Fokus kajian menggariskan tiga objektif utama iaitu menilai tahap penggunaan digital dalam kalangan guru, menilai tahap kemahiran digital guru dalam pengajaran dan menilai tahap kesediaan guru untuk mengintegrasikan teknologi digital dalam

pengajaran. Melalui soal selidik kedua yang diberikan secara atas talian, persoalan dikemukakan berkisar kekerapan guru menggunakan teknologi digital dalam kelas, jenis teknologi atau aplikasi yang digunakan,menilai sikap guru terhadap penggunaan teknologi digital dalam pengajaran dan kesanggupan mereka mempelajari ilmu digital bagi kelangsungan pendidikan kini. Beberapa cadangan diutarakan bagi membangunkan strategi serta cadangan untuk meningkatkan kemahiran dan kesediaan guru dalam penggunaan teknologi digital. Pihak pengurusan sekolah menyediakan latihan, sokongan dan sumber yang diperlukan bagi membantu guru memperbaiki kompetensi mereka. Beberapa siri PLC telah dilaksanakan untuk memperkenalkan aplikasi yang boleh digunakan bagi membantu pengurusan dan pengajaran guru seperti *Chat GPT* dan *Kahoot* yang ada di dalam *Google Classroom*. Mereka juga diperkenalkan dengan *Artificial Intelligent (AI)* serta aplikasi yang boleh digunakan untuk menukar suara dan membuat video bersama AI. Penceramah turut memperkenalkan beberapa perisian yang boleh membantu guru dalam mempelbagaikan kaedah pengajaran agar lebih menarik dan berimpak tinggi. Hasil dapatan melalui soal-selidik menggunakan *google form* kali ke 2 setelah beberapa siri PLC teknologi digital mendapati guru-guru telah mulai berani menggunakan teknologi digital setelah diberi kemahiran dan pengetahuan melalui siri-siri PLC Digital. Sebelumnya, melalui tinjauan awal menunjukkan 78.6% tidak menguasai teknologi digital dan kini 67.9% guru telah kerap menggunakan teknologi digital dalam pengajaran.

Objektif dan Soalan Kajian

Berasaskan fokus kajian, objektif umum kajian adalah untuk memperkasakan kompetensi guru dalam penggunaan digital di SK Beting Lintang.

Objektif kajian adalah seperti berikut:

i. Mengenalpasti tahap penggunaan teknologi digital dalam kalangan guru untuk pengajaran.
ii. Mengenalpasti tahap penguasaan kemahiran guru dalam penggunaan teknologi digital.
iii. Mengenalpasti tahap kesediaan guru dalam penggunaan teknologi digital dalam pengajaran.

Persoalan kajian adalah seperti berikut:

i. Sejauhmanakah penggunaan digital dalam kalangan guru untuk meningkatkan pengajaran?
ii. Sejauhmanakah penguasaan asas digital dalam kalangan guru?
iii. Apakah usaha-usaha pihak sekolah dalam memastikan guru-guru bersedia untuk menggunakan teknologi digital dalam pengajaran?

TINJAUAN LITERATUR

Model Penerimaan Teknologi (TAM)

Kajian ini menggunakan Model Penerimaan Teknologi (*Technology Acceptance Model*) (TAM). Ianya merupakan kerangka kerja untuk memahami bagaimana pengguna menerima dan menggunakan teknologi. Sayaf et al. (2022) menyatakan bahawa model ini adalah satu teori yang dibina untuk memahami niat individu untuk menggunakan teknologi dan inovasi semasa iaitu persepsi mudah penggunaan, kepentingan dan kenikmatan dalam mempengaruhi tingkah laku pengguna.TAM berfokus kepada dua faktor utama yang mempengaruhi keputusan seseorang untuk menerima dan menggunakan teknologi. Pertama sejauhmana seseorang percaya bahawa menggunakan teknologi tertentu akan meningkatkan sinerji atau produktiviti mereka dalam konteks pekerjaan. Kedua, sejauhmana seseorang percaya bahawa menggunakan teknologi tersebut tidak akan memerlukan usaha yang besar dan dapat digunakan dengan mudah. Kedua-dua faktor ini mempengaruhi sikap seseorang terhadap teknologi.

Model TPACK (*Technological Pedagogical Content Knowledge*)

Model TPACK (*Technological Pedagogical Content Knowledge*) adalah satu kerangka kerja yang menggambarkan pengetahuan yang diperlukan oleh guru untuk mengintegrasikan teknologi dalam pengajaran secara berkesan. Model ini menggabungkan tiga komponen utama: Pengetahuan Kandungan (CK), Pengetahuan Pedagogi (PK), dan Pengetahuan Teknologi (TK). Gabungan ketiga-tiga komponen ini membantu guru untuk memahami cara menggunakan teknologi secara bijak dalam mengajar kandungan spesifik dengan pendekatan pedagogi yang tepat. Menurut Basilotta-Gómez-Pablos et al. (2022), TPACK terus menjadi kerangka asas dalam kajian teknologi pendidikan, namun terdapat pergeseran ke arah penggunaan Kecerdasan Buatan (AI) dalam menyokong pengembangan TPACK. Penggunaan AI dilihat dapat meningkatkan cara guru mengintegrasikan teknologi dengan lebih dinamik dan berkesan Akram et al. (2022) menyatakan bahawa kemahiran TPACK sangat penting dalam memenuhi tuntutan pembaharuan pendidikan yang semakin kompleks. Pengetahuan ini perlu sentiasa dikembangkan untuk menyesuaikan diri dengan keperluan zaman moden, terutamanya dalam konteks pendidikan digital.

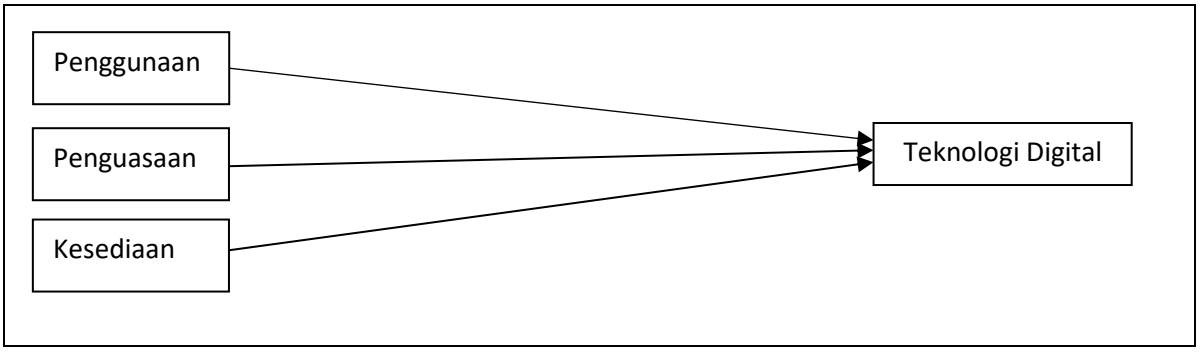
Persampelan Kajian

Seramai 28 orang guru SK Beting Lintang dari umur 30 an sehingga 50 an serta latar belakang opsyen yang pelbagai di ambil sebagai responden. Mereka mempunyai kemahiran menggunakan teknologi digital yang berbeza.

Instrumen

Menggunakan soal-selidik sebagai tinjauan awal dan selepas beberapa siri PLC digital, instrumen soal-selidik kedua menyusul menggunakan skala likert berdasarkan objektif kajian. Data-data yang dikumpul dianalisis menggunakan analisis deskriptif melibatkan min dan sisihan piawai untuk mengenalpasti tahap penggunaan teknologi digital dalam kalangan guru untuk pengajaran, mengenalpasti tahap penguasaan kemahiran guru dalam penggunaan teknologi digital serta mengenalpasti tahap kesediaan guru dalam penggunaan teknologi digital dalam pengajaran.

Kerangka Konseptual



Sumber: ***Model Penerimaan Teknologi (TAM) dan Model TPACK (Technological Pedagogical Content Knowledge)***

DAPATAN KAJIAN

Jadual 1: Bahagian A-Analisis Taburan Bilangan Dan Peratusan Responden Mengikut Jantina, Umur,Pengalaman mengajar dan Tahap Pendidikan.

		Bilangan	Peratus (%)
Jantina	Lelaki	6	21
	Perempuan	22	89
Umur	20-30	1	3.6
	31-40	2	7.1
	41-50	10	35.7
	51-60	15	53.6
Pengalaman mengajar	5-10	1	3.6
	11-20	7	25
	>21	20	71.4
Tahap Pendidikan	ISM	26	92.9
	IS	2	7.1

Jadual 2: Bahagian B - Tahap Penggunaan Teknologi Digital Dalam Kalangan Guru

Items	5 SK	4 K	3 KK	2 JJ	1 TP	Min	S.P
1.Saya menggunakan peralatan teknologi digital dalam sesi pengajaran.	2 (7.1%)	8 (28.6%)	11 (39.3%)	7 (25.0%)	0 (0%)	3.18	0.90
2.Saya menggunakan pelbagai aplikasi digital dalam sesi pengajaran.	1 (3.6%)	7 (25.0%)	10 (35.7%)	10 (35.7%)	0 (0%)	2.96	0.88
3.Saya menggunakan internet sebagai sumber tambahan dalam menyediakan bahan pengajaran.	6 (21.4 %)	18 (64.3%)	3 (10.7%)	1 (3.6%)	(0%)	4.04	0.69
4.Saya menggunakan aplikasi pembelajaran dalam Google Classroom untuk sesi pengajaran.	0 (0%)	4 (14.3%)	15 (53.6%)	6 (21.4%)	3 (10.7%)	2.71	0.85
5.Saya menggunakan perisian multimedia bagi tujuan pengajaran untuk menarik minat murid dalam kelas.	0 (0%)	10 (35.7%)	14 (50.0%)	4 (14.3%)	0 (0%)	3.21	0.69

SK= Sangat Kerap, K= Kerap, KK= Kadang-kadang, JJ = Jarang-jarang, TP= Tidak Pernah

Jadual 3: Bahagian C - Tahap Kemahiran Penguasaan Teknologi Digital Dalam Kalangan Guru

Items	5 SS	4 S	3 KS	2 TS	1 STS	Min	S.P
1) Saya menggunakan Microsoft word untuk menyediakan bahan pengajaran.	11 (39.3%)	15 (53.6%)	2 (7.1%)	0 (0%)	0 (0.0%)	4.32	0.61
2) Saya menggunakan Microsoft powerpoint untuk membuat presentasi sesi pengajaran.	3 (10.7%)	17 (60.7%)	8 (28.6%)	0 (0%)	0 (0%)	3.82	0.61
3) Saya menggunakan Microsoft excel untuk menyediakan bahan pengajaran.	0 (0%)	17 (60.7%)	11 (39.3%)	0 (0%)	0 (0%)	3.61	0.50
4) Saya menggunakan platform pembelajaran digital Google Classroom untuk sesi pengajaran dan pembelajaran.	1 (3.6%)	13 (46.4%)	14 (50%)	0 (0%)	0 (0%)	3.54	0.58
5) Saya mengendalikan sendiri peranti digital untuk pengajaran di dalam kelas/makmal komputer.	3 (10.7%)	14 (50.0%)	10 (35.7%)	1 (3.6 %)	0 (0%)	3.70	0.72
6) Saya menggunakan pelbagai aplikasi digital sebagai sumber bahan pengajaran.	4 (14.3%)	13 (46.4%)	11 (39.3%)	(0%)	0 (0%)	3.75	0.70
7) Saya menggunakan kemahiran AI bagi mendapatkan sumber pengajaran serta meningkatkan ilmu dalam Pendidikan.	0 (0%)	13 (46.4%)	14 (50%)	1 (3.6 %)	0 (0%)	3.43	0.60

SS = Sangat Setuju, S = Setuju, KS = Kurang Setuju, TS= Tidak Setuju , STS= Sangat Tidak Setuju

Jadual 4: Bahagian D - Tahap Kesediaan Guru Dalam Penggunaan Teknologi Digital Untuk Pengajaran Di Sekolah

Items	5 SS	4 S	3 KS	2 TS	1 STS	Min	S.P
1) Saya bersedia untuk menyertai kursus atau bengkel berkaitan teknologi digital.	7 25.0%)	19 (67.9%)	2 (7.1%)	0 (0%)	0 (0%)	4.18	0.55
2) Saya bersedia menggunakan teknologi digital dalam sesi pengajaran.	4 (14.3%)	23 (82.1%)	1 (3.6%)	0 (0%)	0 (0%)	4.11	0.42
3) Saya aktif menimba ilmu berkaitan	3 (10.7%)	22 (78.6%)	(0%)	3 (10.7%)	0 (0%)	3.96	0.58

teknologi digital dari pelbagai sumber.							
4) Saya mendapati pengajaran menggunakan teknologi digital lebih menarik minat murid beerbanding kaedah konvensional.	12 (42.9%)	14 (50%)	2 (7.1%)	0 (0%)	0 (0%)	4.36	0.62
5) Saya mendapati hasil pengajaran menggunakan teknologi digital lebih berkesan berbanding kaedah konvensional.	8 (28.6%)	16 (57.1%)	4 (14.3%)	0 (0%)	0 (0%)	4.14	0.65

SS = Sangat Setuju, S = Setuju, KS = Kurang Setuju, TS = Tidak Setuju,STS=Sangat Tak Setuju

Skor Purata Min	Interpretasi Data
3.5 – 5.0	Tinggi
2.5 – 3.4	Sederhana
1.0 – 2.4	Rendah

Rujukan : Oxford,R.L. (1990)

Nilai Sisihan Piawai	Konsensus Responden
➢ 1.01	Sangat Tinggi
0.76 – 1.00	Tinggi
0.51 – 0.75	Sederhana
0.26 – 0.50	Rendah
0.00 – 0.25	Sangat Rendah

Sumber : (Ramli 1999)

Hasil dapatan melalui Jadual 2, bahagian B item nombor 4 berkaitan tahap penggunaan teknologi digital dalam pengajaran menunjukkan min paling rendah iaitu 2.71 berada pada tahap sederhana. Soalan ini berkaitan penggunaan aplikasi pembelajaran dalam Google Classroom untuk pengajaran oleh guru. Begitu juga pada item nombor 2, guru menggunakan pelbagai aplikasi digital dalam sesi pengajaran dengan min 2.96 juga berada pada tahap sederhana. Bagi Jadual 3, bahagian C , item nombor 7 mempunyai min paling rendah iaitu 3.43 min sederhana pada item yang berkaitan kemahiran guru menggunakan AI sebagai sumber pengajaran . Berdasarkan dapatan ini maka pihak pengurusan sekolah telah mengadakan PLC berkaitan ketiga-tiga bidang bagi meningkatkan kemahiran penggunaan aplikasi Google Classroom, meningkatkan dan mendedahkan penguasaan terhadap pelbagai aplikasi digital yang lain serta memberikan bengkel khas berkaitan Artificial *Intelligent (AI).* 5 siri PLC dilaksanakan berdasarkan data yang telah dikumpulkan. Selain daripada itu, tahap kesediaan guru sangat cemerlang. *Google form* yang diberikan menunjukkan kesemua item berkaitan kesediaan guru untuk menggunakan teknologi digital dalam pengajaran sangat positif dan memperolehi tahap tinggi. Ini memberi makna bahawa kesemua guru bersedia menggunakan teknologi digital dalam pengajaran dan keyakinan diri terserlah apabila beberapa siri PLC telah diadakan. Impak yang ketara ini amat memberangsangkan dan semoga kesemua guru akan terus menggunakan teknologi digital dalam pengajaran secara istiqamah.

PERBINCANGAN

Hasil soal selidik yang dilaksanakan ke atas 28 orang guru di SK Beting Lintang menunjukkan beberapa penemuan penting berkenaan penggunaan dan penguasaan teknologi digital dalam pengajaran. Berikut adalah dapatan utama berdasarkan objektif kajian yang telah dinyatakan iaitu berdasarkan penggunaan teknologi digital dalam pengajaran, majoriti guru menunjukkan tahap penggunaan teknologi digital yang rendah dalam pengajaran mereka. Walaupun beberapa guru telah mula mengintegrasikan alat digital seperti Google Classroom dan aplikasi pendidikan lain, sebahagian besar masih menggunakan teknologi secara terhad atau tidak konsisten. Alat yang paling kerap digunakan termasuk penyampaian bahan ajar melalui *Power Point* dan papan putih digital. Penggunaan aplikasi interaktif atau platform pembelajaran dalam talian masih kurang dilihat. Berdasarkan penguasaan kemahiran guru dalam teknologi digital pula menunjukkan sebahagian besar guru menunjukkan penguasaan yang lemah dalam kemahiran teknologi digital. Ini termasuk pengetahuan asas tentang aplikasi dan alat digital, serta cara mengintegrasikannya dalam pengajaran. Latihan dan sokongan perlu diberikan secara berterusan dan ramai guru mengakui kurangnya latihan formal dalam penggunaan teknologi digital, dan ada yang memerlukan lebih banyak sokongan teknikal dan pedagogi untuk mempertingkatkan kemahiran mereka. Kesedaran guru terhadap pengajaran menggunakan teknologi digital setelah melalui beberapa sesi penggugaran minda menunjukkan peningkatan yang ketara dan perubahan sikap berlaku melalui soal-selidik yang dilaksanakan buat kali kedua.Guru menunjukkan minat untuk menggunakan teknologi digital namun pihak sekolah berdepan dengan kekangan kewangan untuk melengkapi makmal komputer dengan penghawa dingin, penyediaan lebih banyak LCD agar memudahkan guru-guru untuk menggunakannya tanpa perlu menunggu giliran.Pihak sekolah juga sedang berusaha untuk meluaskan cakupan internet kepada seluruh kawasan sekolah agar warga sekolah dapat menggunakan teknologi digital lebih meluas.

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Secara keseluruhan, kajian ini berjaya mencapai objektif utamanya, dengan menunjukkan bahawa walaupun ada peningkatan dalam penggunaan dan penguasaan teknologi digital dalam kalangan guru, masih terdapat cabaran yang perlu diatasi. Latihan yang lebih berfokus dan sokongan teknikal yang berterusan diperlukan untuk memperkukuhkan kompetensi digital dalam kalangan guru di SK Beting Lintang. Kesediaan guru untuk berubah dan mengadaptasi teknologi dalam pengajaran menunjukkan potensi yang besar, namun memerlukan usaha berterusan untuk memastikan kejayaan jangka panjang. Dapatan kajian ini juga meunjukkan bahawa melalui siri PLC yang dilaksanakan bagi meingkatkan pengetahuan dan kemahiran guru dalam pengusaan teknologi digital dapat meingkatkan kesediaan guru dan kesanggupan mereka menggunakan teknologi digital ini dalam pengajaran. Ianya jelas bahawa kesemua guru bersedia menggunakan teknologi digital dalam pengajaran melalui soal selidik yang ke 2 setelah beberapa siri PLC dilaksanakan kepada semua warga guru SK Beting Lintang. Penggunaan AI dilihat dapat meningkatkan cara guru mengintegrasikan teknologi dengan lebih dinamik dan berkesan. Falloon (2020) menyatakan bahawa kemahiran TPACK sangat penting dalam memenuhi tuntutan pembaharuan pendidikan yang semakin kompleks. Pengetahuan ini perlu sentiasa dikembangkan untuk menyesuaikan diri dengan keperluan zaman moden, terutamanya dalam konteks pendidikan digital.

Kesimpulan hasil kajian yang telah dijalankan dapat dikategorikan kepada 3 dapatan iaitu peningklatan Latihan secara berterusan, penyediaan sumber dan alat serta sokongan yang berterusan dari pihak sekolah serta pihak PPD, JPN dan KPM. Tumpuan perlu diberikan kepada peningkatan latihan dan bimbingan untuk guru dalam penggunaan teknologi digital. Program latihan yang komprehensif dan berterusan perlu diperkenalkan untuk membantu guru membina kemahiran dan keyakinan mereka.Seterusnya sekolah perlu memastikan bahawa guru mempunyai akses kepada alat dan sumber yang sesuai untuk penggunaan teknologi digital dalam pengajaran.Selain dari itu, penubuhan kumpulan sokongan atau mentor yang dapat membantu guru dalam mengatasi cabaran teknikal dan pedagogi perlu diwujudkan agar usaha ini dapat dimantapkan dan akhirnya semua guru dapat menjadi pakar dalam

bidang teknologi digital.Dengan menangani isu-isu ini, SK Beting Lintang dapat memperkasakan kompetensi guru dalam penggunaan teknologi digital dan seterusnya meningkatkan keberkesanan pengajaran di sekolah tersebut.

Cadangan Penambahbaikan

Kajian konvensional ini menunjukkan impak yang signifikan dalam meningkatkan kemahiran penggunaan teknologi digital dalam kalangan guru di SK Beting Lintang. Tiga objektif utama yang dititikberatkan—tahap penggunaan, kemahiran, dan kesediaan guru amat penting dalam memperkasakan kompetensi mereka. Namun, terdapat beberapa kekangan yang perlu ditangani untuk meningkatkan keberkesanan kajian ini. Antara isu utama adalah keperluan sokongan kewangan daripada Kementerian Pendidikan Malaysia (KPM) untuk melengkapkan peranti digital seperti LCD, komputer, Smart TV, dan Smart Board. Selain itu, capaian jalur lebar yang lebih meluas di seluruh kawasan sekolah adalah kritikal agar guru dapat mengakses internet dengan lebih mudah untuk pengajaran. KPM juga perlu mengambil inisiatif untuk menyediakan kos penyelenggaraan ICT setiap tahun. Ini adalah penting untuk memastikan kelestarian penggunaan teknologi digital dalam proses pengajaran dan pembelajaran. Dengan langkah-langkah ini, diharapkan kemahiran teknologi digital guru dapat terus ditingkatkan dan memberi impak positif kepada pendidikan.

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MODUL PEMBELAJARAN DIGITAL i-LED DI TADIKA

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ABSTRAK

Perkembangan teknologi pada hari ini memperlihatkan perubahan dalam pelbagai aspek kehidupan. Teknologi maklumat dan komunikasi (ICT) membolehkan kaedah pengajaran dan pembelajaran dilakukan lebih mudah dengan mengikut aliran masa kini. Perkembangan teknologi juga mempengaruhi inovasi dalam kaedah pengajaran dan pembelajaran. Jenis-jenis media pembelajaran interaktif merangkumi video pembelajaran, simulasi interaktif, permainan edukatif. Kementerian Pendidikan Malaysia (KPM) melalui Pelan Pendidikan Malaysia (PPPM) 2015- 2025 telah memperkenalkan budaya keusahawanan melalui mata pelajaran matematik seawal peringkat sekolah rendah. Bagaimanapun, pendidikan awal kanak-kanak di Tadika kurang memberi penekanan terhadap budaya keusahawanan tersebut. Penerapan keusahawanan dalam pembelajaran akan menyerlahkan kanak-kanak tersebut dengan ciri kepimpinan, berdaya saing, mampu membuat keputusan dan bijak mengurus kewangan. Di Malaysia, guru-guru Pendidikan Awal Kanak-Kanak juga masih belum didedahkan tentang konsep dan kaedah pendekatan serta pelaksanaan keusahawanan digital. Penggunaan elemen teknologi digital dalam asas keusahawanan melalui Dasar Keusahawanan Negara kurang digiatkan walaupun sudah berada dalam era teknologi abad ke-2. Objektif kajian ini adalah untuk membangunkan Modul Pendidikan Keusahawanan Kanak-kanak melalui kaedah Interaktif Learning Digital (i-LED) dengan kesepakatan pakar. Metodologi modul pembelajaran digital i-LED di tadika ini dibangunkan berasaskan Model ADDIE dan menggunakan soal selidik yang diadaptasi serta telah diverifikasi . Hasil dapatan kajian menunjukkan majoriti responden bersetuju modul pembelajaran i-LED ini akan membantu kanak-kanak memahami kelebihan menyimpan wang. Malahan responden juga menyokong penerapan kemahiran digital adalah sesuai diperkenalkan untuk pembelajaran abad ke-21 serta kanak-kanak sesuai berkomunikasi dengan permainan digital berasaskan keusahawan. Tiga keperluan utama yang dipersetujui untuk kandungan modul adalah berkaitan operasi dan nilai wang, keperluan dan kemahuan serta pernyataan urusniaga. Dapatan ini diharapkan dapat membantu menyampaikan ilmu keusahawanan berasaskan pembinaan Modul Pendidikan Keusahawanan Digital Kanak-kanak Tadika dengan lebih menarik dan berkesan.

***Kata Kunci**: Keusahawanan digital kanak-kanak, pendidikan keusahawanan digital, pembelajaran keusahawanan, pembelajaran digital,*

PENGENALAN

Perkembangan teknologi pada hari ini memperlihatkan perubahan dalam pelbagai aspek kehidupan. Teknologi maklumat dan komunikasi (ICT) membolehkan kaedah pengajaran dan pembelajaran dilakukan lebih mudah dengan mengikut aliran masa kini. Perkembangan teknologi juga mempengaruhi inovasi dalam kaedah pengajaran dan pembelajaran. Jenis-jenis media pembelajaran interaktif merangkumi video pembelajaran, simulasi interaktif, permainan edukatif (Utomo, 2023). Melalui pembelajaran interaktif pelajar-pelajar dapat mevisualisasi konsep abstrak, tingkatkan kefahaman dan

retensi. Pelajar juga diberi kesempatan untuk mengambil keputusan dan melihat kesan tindakan mereka serta mendorong pemikiran kritis dan memberi motivasi kepada pelajar (Utomo, 2023). Pembelajaran interaktif memberi keseronokan kepada pelajar, mereka boleh menetapkan peranan mereka dan boleh fokus dalam pembelajaran (Tasripin et al, 2021).

Di Malaysia kanak-kanak masih belum memahami konsep keusahawanan digital dan bagaimana menjalankannya. Pendidikan dan kesedaran terhadap keusahawanan digital bagi kanak-kanak masih lagi kurang diberikan. Kekurangan Elemen Teknologi Digital dalam Asas Keusahawanan Melalui Dasar Keusahawan Negara (DKN 2030) dalam era teknologi abad ke-21, seharusnya elemen pendidikan keusahawanan secara digital dapat diperkenalkan secara menyeluruh. Keperluan pendidikan asas keusahawanan seharusnya berada satu tahap di hadapan dengan elemen interaktif dan mudah difahami oleh guru. Dengan itu, pendekatan guru yang boleh diaplikasikan di dalam kelas melalui amalan Kurikulum Standard Prasekolah Kebangsaan yang bersifat holistik dan bersepadu.

Namun begitu, dalam Pelan Pembangunan Pendidikan (2013-2025) elemen penerapan kemahiran khusus dan atribut tidak banyak memfokuskan asas keusahawanan di peringkat Tadika (Kementerian Pendidikan Malaysia, 2018). Oleh itu, penubuhan pelan tindakan yang bermatlamat bagi mengembang dan memperkukuhkan pendidikan kewangan khususnya dalam membekalkan Dan memudahkan guru tambahan ilmu pengetahuan dan kemahiran pendidikan digital asas keusahawanan di peringkat Tadika seharusnya dapat dijalankan secara menyeluruh.

Pada hari ini guru tadika kurang berpengetahuan berkaitan keusahawanan yang menyukarkan diri mereka untuk memberikan pengajaran yang berkesan kepada kanak- kanak. Pernyataan ini disokong oleh kajian yang dijalankan oleh Ab Hassan (2012), menyatakan dalam dapatan kajiannya bahawa guru mempunyai pengetahuan yang sangat terhad terhadap keusahawanan. Menurut guru, keusahawanan ini hanya difahami oleh golongan-golongan yang mengambil kursus berkaitan bisnes dan hanya boleh dilakukan melalui pelaburan yang besar. Di samping itu, guru juga berpendapat menyatakan bahawa tidak mudah untuk memperkenalkan keusahawanan ini kepada kanak-kanak kerana berpendapat bahawa kanak-kanak akan mempunyai kesukaran untuk memahami pengajaran yang diajar.

Selain itu, program di bawah Wawasan Kemakmuran Bersama 2030 di bawah Aktiviti Pertumbuhan Ekonomi Utama iaitu KEGA 3 berkaitan Ekonomi Digital (Kementerian Hal Ehwal Ekonomi, 2019) seharusnya diberikan peluang kepada pendidikan generasi awal kanak- kanak dalam menerima asas keusahawanan dari segi maklumat, alat kewangan serta sumber berkaitan pendidikan kewangan yang bersesuaian dengan melibatkan pembelajaran secara digital. Justeru, amat wajar sekiranya 'Asas Pendidikan Literasi Kewangan dan 'Dasar Keusahawanan Nasional (Kementerian Pembangunan Keusahawanan, 2019) dapat diselaraskan dari segi pelaksanaan asas keusahawanan Pendidikan Awal supaya dapat dijadikan sebagai garis panduan berguna kepada generasi baru dalam menambah baik amalan dan pemahaman melalui pembangunan modul yang efektif.

Oleh itu, satu modul asas keusahawanan yang interaktif dan berkesan seharusnya perlu diwujudkan bagi membantu generasi awal kanak-kanak dalam menyediakan pengetahuan dan kemahiran yang mencukupi dalam mengharungi cabaran masa depan. Perkara ini juga penting untuk meningkatkan kesedaran, pendidikan dan sokongan bagi kanak-kanak yang berminat dalam keusahawanan digital. Dengan itu, kanak-kanak di Malaysia berpeluang untuk mengembangkan bakat dan keterampilan dalam bidang ini.

PERNYATAAN MASALAH

Kajian menunjukkan modul pendidikan kewangan awal kanak-kanak yang bersesuaian di Malaysia didapati kurang diberikan penekanan berbanding pada peringkat sekolah menengah. Menurut Cheng, et al. (2020) inisiatif terhadap pendidikan asas keusahawanan seharusnya diperkenalkan kepada semua individu sejak mereka kecil lagi. Kepentingan asas keusahawanan sepatutnya bermula dan berkembang dalam diri kanak-kanak bermula dari usia empat hingga tujuh tahun (Cheng, et al. 2020). Pada usia ini, mereka sepatutnya sudah mula mengetahui asas kaedah penggunaan wang dan amalan menguruskan kewangan melalui perniagaan. Apabila seseorang individu dapat memahami risiko yang dihadapi dalam menguruskan kewangan sejak kecil lagi, dia seharusnya dapat membuat keputusan kewangan dengan lebih baik pada masa akan datang (Inanna et al. 2020). Jufri & Wirawan (2018) pula menyatakan bahawa apa yang dipelajari oleh kanak-kanak Tadika berkaitan asas keusahawanan akan memberi kesan kepada pengetahuan, nilai, tingkah laku dan amalan semasa mereka dewasa kelak. Walau bagaimanapun, menurutnya lagi pendedahan kanak-kanak kepada pengetahuan dan amalan mengenai program asas keusahawanan secara individu dengan elemen keseronokan didapati sangat kurang dilakukan. Justeru itu, suatu medium baru dalam membentuk modul asas keusahawanan dalam bentuk digital terhadap kanak-kanak Tadika adalah sangat penting bagi tujuan merangka amalan terbaik dan melaksanakan penambahbaikan yang bersesuaian.

PERSOALAN DAN OBJEKTIF KAJIAN

Kajian ini berada dalam Fasa 1 iaitu menganalisis keperluan dan merekabentuk modul Pembelajaran Digital I-Led Di Tadika. Berikut adalah persoalan kajian pada Fasa 1 ini:

1. Apakah keperluan pembangunan Modul Pendidikan Keusahawanan Kanak- Kanak Melalui kaedah *Interaktif Learning Digital* (i-LED)?

Seterusnya bagi mencapai persoalan kajian di atas, berikut adalah objektif khusus ditetapkan pada fasa ini iaitu:

1. Mengenalpasti keperluan pembangunan Modul Pendidikan Keusahawanan Kanak- Kanak Melalui kaedah *Interaktif Learning Digital* (i-LED).

KAJIAN LITERATUR

Pendidikan awal kanak-kanak haruslah dirancang dengan sebaiknya kerana perkembangan kognitif dan bahasa berlaku pada kanak-kanak menjangkaui tahun pertama usianya (Norfaezah et al., 2015). Kaedah pengajaran yang sesuai untuk pendidikan keusahawanan seharusnya diintegrasikan ke dalam sistem pendidikan supaya kanak-kanak lebih mahir dan cekap dalam hal ehwal pengurusan berlandaskan sikap keusahawanan (Wahab et al, 2016).

Menurut Janius (2023), dalam kajian yang bertajuk Pemupukan Pendidikan Keusahawanan dalam diri Kanak-kanak Melalui Aktiviti Bermain di Tadika menyatakan kepentingan terhadap pendidikan keusahawan dalam pendidikan awal kanak-kanak. Hasil dapatan kajiannya, beliau memperkenalkan pendidikan dan nilai keusahawanan sejak kecil merupakan salah satu usaha terpenting dalam membentuk watak generasi akan datang, terutamanya kanak-kanak yang akan tumbuh dewasa. Pembelajaran keusahawanan dalam kalangan kanak-kanak lebih menjurus kepada didikan tingkah laku dan mental kanak-kanak bagi membentuk perwatakan kanak-kanak yang mantap seperti kreatif, berdisiplin, kritis, mampu menyelesaikan masalah, mampu berkomunikasi, menghargai masa, mengawal diri dan sebagainya.

Menurut Pebriyanti et al (2022) dalam menerapkan keusahawanan kepada kanak- kanak, pemahaman guru terhadap perkembangan kanak-kanak sangat penting kerana kefahaman sedemikian akan menentukan keberkesanan pembelajaran tersebut kepada kanak-kanak. Namun terdapat permasalahan yang berlaku yang menyebabkan penerapan keusahawanan kepada kanak-kanak tidak dapat diterapkan kerana didapati segelintir guru tidak mempunyai pengetahuan atau kemahiran di dalam memahami perkembangan yang sesuai untuk kanak- kanak. Kesannya, menyebabkan guru tersebut hanya melaksanakan pengajaran yang berkaitan dengan nombor dengan terus mengajar simbol nombor tanpa menunjukkan contoh yang sesuai untuk kanak-kanak atau tanpa mengaitkan nombor-nombor tersebut dengan sekeliling mereka.

Seterusnya, dalam kajian Zhiming et al (2021) menyatakan bahawa didikan perniagaan sejak kecil adalah melibatkan keluarga kurang berkemampuan yang merupakan pendatang dari China pada awal tahun 1960-an. Hasil kajian beliau mendapati bahawa faktor utama dalam kejayaan kanak- kanak bergelar usahawan adalah disebabkan oleh didikan keusahawanan yang diterapkan oleh keluarga sejak mereka kecil lagi. Hal ini menunjukkan, asas keusahawanan seharusnya dipupuk dan dididik dalam diri setiap kanak-kanak sejak kecil lagi melalui pengetahuan untuk menguruskan wang dan perbelanjaan melalui aktiviti perniagaan yang bersesuaian mengikut peringkat umur mereka.

Keusahawanan merupakan sesuatu tingkah laku atau perbuatan yang dilakukan untuk mendapatkan keuntungan dari segi wang ataupun yang dipanggil sebagai perniagaan. Apabila disebut tentang keusahawanan ini, maka melibatkan dengan pengiraan ataupun matematik. Elemen kreativiti dan inovasi, kemahiran berfikir aras tinggi (KBAT) serta STEM (Sains, Teknologi, Kejuruteraan dan Matematik) antara elemen penting yang menjadi pendekatan di dalam Kurikulum Standard Prasekolah Kebangsaan. Ianya merupakan kebolehan mencipta sesuatu yang baharu dan berbeza melalui pemikiran kreatif dan tindakan inovatif untuk mencipta peluang (Zaini et al., 2022). Keusahawanan telah menjadi teras dalam mencipta perubahan, pembaharuan dan kemajuan. Di dalam bidang pendidikan awal kanak-kanak, keusahawanan adalah bertujuan untuk memupuk semangat keusahawanan dalam diri pelajar agar pada masa hadapan dapat melahirkan usahawan. Namun begitu, pengintegrasian pendidikan keusahawanan dalam proses pembelajaran itu sendiri merupakan penghayatan nilai-nilai keusahawanan dalam aktiviti pembelajaran. Menurut Suzanti dan Maesaroh (2017) nilai yang dibangunkan dalam pendidikan keusahawanan adalah pembangunan nilai daripada ciri-ciri usahawan yang harus dimiliki oleh kanak-kanak. Sebahagian daripada nilai-nilai keusahawanan tersebut dengan huraian yang terperinci akan disepadukan melalui pendidikan keusahawanan.

Pendidikan keusahawanan ini adalah mendorong kanak-kanak tersebut untuk menjalankan aktiviti keusahawanan dengan pemantauan guru. Hal ini bermaksud, guru berperanan sebagai pembimbing dan kanak-kanak yang akan melaksanakan pengajaran yang diajar oleh guru tersebut. Oleh sebab itu, di dalam memupuk keusahawanan di dalam diri kanak- kanak, ianya juga akan dapat memupuk tingkah laku yang lebih berdikari di dalam diri kanak-kanak tersebut (Loderup et al., 2021).

Pelaksanaan pembelajaran menggunakan bantuan kemudahan teknologi digital menjadi *trend* dalam pendidikan sekarang termasuklah pendidikan awal kanak-kanak. Menurut Hero (2019), dengan kemudahan ini menjadikan proses pembelajaran menjadi lebih kondusif, interaktif, dan bermanfaat kepada kedua-dua guru dan pelajar. Pembelajaran digital mula digiatkan lebih meluas apabila wujud revolusi industri yang menuntut perubahan dalam pendidikan dan juga Pandemik Covid 19 yang mengubah landskap pendidikan dengan begitu drastik sekali (Nordin & Bacotang, 2021).

Keberkesanan pembelajaran sesebuah mata pelajaran adalah bergantung kepada sejauh mana usaha guru mengendalikan aktiviti-aktiviti di dalam kelas. Hendraningrat dan Fauziah (2021) berpendapat bahawa guru perlu mempunyai peranan penting kerana penyelidikan telah menunjukkan bahawa penggunaan teknologi dapat meningkatkan motivasi pembelajaran kanak-kanak berbanding pembelajaran melalui kaedah tradisional. Sekiranya, pendekatan yang dilaksanakan guru berkonsepkan belajar sambil melakukan pelbagai aktiviti, maka kanak-kanak akan lebih bersemangat dan tertarik

untuk belajar. Disebabkan itu, penggunaan kemudahan teknologi digital ini menjadi pilihan ramai guru dalam mengendalikan pembelajaran di semua peringkat daripada pendidikan awal kanak-kanak sehingga peringkat pengajian tinggi (Magesvaran & Mahamod, 2021).

Pelaksanaan pembelajaran dan pengajaran menggunakan teknologi digital yang berkesan tidak semua boleh dilakukan oleh para guru. Menurut responden dalam kajian Eleftheriadi et al (2021) menyatakan bahawa faktor kurang kefahaman dan pengetahuan dalam ICT menyebabkan sukar untuk guru mengendalikan kelas menggunakan kemudahan teknologi seperti yang disarankan. Tambahan, pengetahuan guru yang kurang dalam mengintegrasi teknologi dalam pembelajaran menjadi alasan tidak mampu untuk mengaplikasikan kemudahan ini terutama mata pelajaran Matematik yang melibatkan numerasi. Lim et al (2024) turut mengemukakan halangan utama guru adalah kekurangan sumber pengetahuan dan latihan secara praktikal dan terperinci. Justeru, situasi ini menjelaskan bahawa sangat keperluan untuk menyediakan latihan dan modul yang bersesuaian kepada guru untuk dijadikan sebagai panduan dalam merancang dan melaksanakan dalam kelas. Guru yang mempunyai persepsi dan pemahaman yang positif terhadap penggunaan teknologi boleh mengaplikasikannya dalam pembelajaran secara berkesan (Xie et al, 2019).

Perubahan dalam struktur sosiodemografik disokong pula perkembangan teknologi serta proses globalisasi membawa perubahan dalam citarasa, gaya hidup dan seterusnya corak pemikiran dalam pembuatan keputusan berkaitan kewangan. Struktur kurikulum peringkat rendah mahupun pengajian tinggi perlu direka bentuk dengan lebih realistik dan praktikal selaras dengan perkembangan dinamik sektor kewangan yang kini bergerak ke era fintech dan Revolusi Industri 4.0 (IR4.0). Konsep learn, unlearn and relearn menjadi dimensi pembelajaran masa kini yang perlu diadaptasikan dengan perubahan semasa. Program pendidikan kewangan perlu memberikan penekanan kepada pembelajaran secara pengalaman. Kajian akademik yang dijalankan oleh Mandell (2008), menunjukkan program literasi kewangan menggunakan permainan pasaran saham memberikan peningkatan kepada skor celik kewangan di Amerika Syarikat (AS).

Menurut Abd Halim @ Hamilton Ahmad (2021) daripada Pusat Pengajian Ekonomi, Kewangan dan Perbankan, Universiti Utara Malaysia menyatakan di negara ini, simulasi permainan saham dalam talian diperkenalkan Maybank dan beberapa institusi kewangan menganjurkan Inter-Varsity Stock Challenge (IVSC) pada 2019. Usaha ini sedikit sebanyak memberikan pengalaman secara praktikal terhadap pasaran saham tanpa memberikan risiko kewangan sebenar. Namun, usaha ini perlu diperluaskan sehingga ke peringkat pelajar sekolah rendah sekiranya kita ingin meningkatkan pengetahuan kewangan dalam kalangan rakyat untuk jangka panjang.

Antara program pendidikan kewangan boleh diperkenalkan kepada pelajar sekolah adalah dengan menggunakan pendekatan gamifikasi. Konsep asas kewangan boleh diaplikasikan dalam permainan digital agar dapat menarik perhatian generasi Z yang mudah berinteraksi dengan teknologi. Pendedahan kepada simpanan, insurans dan pelaburan perlu diterapkan dalam permainan digital dengan reka bentuk permainan menarik. Antara permainan kewangan dalam talian yang terdapat di pasaran ialah Financial Soccer (Visa) dan 1 Million Dollar Journey (Singapore Management University). Namun, tiada lagi permainan kewangan digital yang dibangunkan mengikut konteks tempatan. Pendidikan mengenai pengetahuan kewangan perlu bermula awal bermula dengan pelajar sekolah rendah atau pada usia muda lagi.

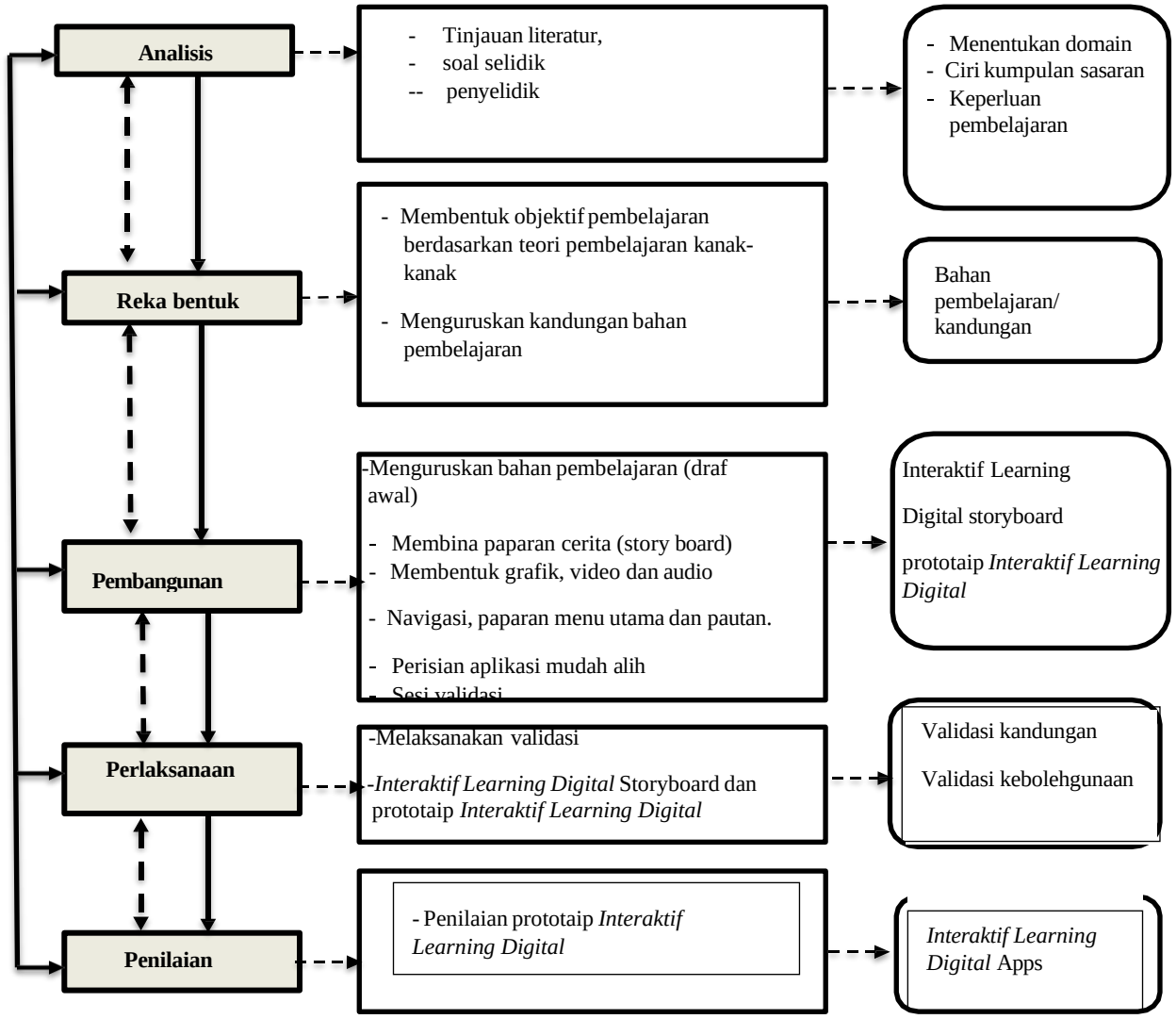
Menurut Alessi and Trollip (2001), penggunaan permainan dalam pembelajaran mempunyai beberapa kelebihan. Kelebihan utama ialah sangat berkesan untuk meningkatkan motivasi pembelajaran dalam kalangan pelajar. Dengan inisiatif ini mampu menggalakkan pelajar mempelajari mata pelajaran yang langsung tidak diminatinya; bahkan, sesetengah pelajar akan menumpukan lebih masa berbanding semasa proses pembelajaran berlangsung tanpa baran aktiviti yang menarik. Pendekatan menggunakan permainan juga akan menyebabkan pelajar menunjukkan usaha yang bersungguh-sungguh bagi mempelajari keusahawanan berbanding pembelajaran menggunakan kaedah lain. Permainan juga

dipercayai boleh menggalakkan motivasi intrinsik berbanding motivasi ekstrinsik. Permainan boleh digunakan untuk menjadikan pembelajaran berlaku dalam suasana yang gembira dan seterusnya mendorong pelajar untuk belajar secara sukarela serta kurang mengharapkan ganjaran tertentu, contohnya keputusan peperiksaan yang baik. Kajian Rieber (1996) terhadap kebaikan psikologi dan sosiologi bermain mendapati bahawa permainan menyokong motivasi intrinsik dengan memberikan maklum balas, fantasi dan cabaran.

Model ADDIE telah digunakan untuk menjalankan kajian ini yang merujuk kepada *Analysis, Design, Development, Implementation, Evaluation* yang digunakan dalam reka bentuk modul pendidikan keusahawanan melalui Interaktif Learning Digital (i-LED). Proses yang disediakan dalam model tersebut mempunyai peringkat yang jelas dan teliti serta berorientasikan sistem yang menghasilkan modul pengajaran baik (Aldoobie, 2015). Reka bentuk model ini melibatkan proses sistematik untuk mereka bentuk, membangunkan, melaksana dan menilai pengajaran (Dick et al, 2009). Model ADDIE yang terdiri daripada lima fasa utama analisis, reka bentuk, pembangunan, pelaksanaan dan penilaian yang membolehkan untuk menghasilkan modul pendidikan keusahawanan menggunakan teknologi digital. Dalam pada itu, menurut Dick et al (2009), reka bentuk pengajaran dan pembelajaran yang berkesan harus merangkumi proses yang sistematik untuk mereka bentuk, membangun, melaksanakan dan menilai pengajaran itu sendiri. Justeru, dengan elemen-elemen tersebut bersesuaian untuk model ini dijadikan rujukan untuk menghasilkan modul bersesuaian untuk guru dan kanak-kanak.

Lima fasa yang dikemukakan dalam model ADDIE mempunyai matlamat dan objektif yang tersendiri. Setiap fasa menyediakan output yang boleh digunakan sebagai maklumat awal untuk meneruskan ke fasa seterusnya (Steven J. McGriff, 2000). Dalam erti kata lain, model ADDIE ialah sebuah proses reka bentuk pengajaran yang melibatkan proses pengulangan iaitu kerana setiap peringkat mempunyai penilaian formatif yang mungkin menjadi penentu kembali semula ke peringkat yang sebelumnya (Bacotang & Mohamedisa, 2016). Hal ini bermakna produk akhir bagi satu peringkat atau fasa merupakan produk permulaan bagi peringkat yang seterusnya. Secara ringkasnya, model ADDIE menerapkan lima tahap atau elemen bagi aktiviti saling berkaitan yang memandu amalan pembentukan modul pembelajaran (Md Said & Abd Gani, 2015).

Rajah 1 menunjukkan kerangka kajian yang menggunakan model ADDIE.



Rajah 1: Aplikasi Model ADDIE dalam rekabentuk *Interaktif Learning Digital i-LED*

METODOLOGI

Kajian ini menggunakan reka bentuk Kuantitatif. Model ADDIE dipilih sebagai rangka kerja pembangunan keseluruhan kerana ia merupakan model yang berorientasikan pembangunan sistem dalam menghasilkan reka bentuk pengajaran yang baik dan bersistematik di mana hasil dari setiap fasa menerangkan langkah untuk fasa yang seterusnya (Aldoobie, 2015). Bagaimanapun untuk kajian Fasa 1 ini iaitu diperingkat analisis akan memfokuskan kepada soal selidik responden untuk mendapatkan domain serta keperluan pembelajaran modul Interaktif Learning Digital i-LED.

Soal selidik Fasa 1 ini diadaptasi dan diubahsuai daripada beberapa kajian lepas yang sedikit sebanyak berkait dengan tajuk kajian ini seperti Jadual 1 di bawah. Soal selidik ini diubah suai mengikut objektif kajian bagi fasa analisis keperluan iaitu mengenalpasti keperluan pembangunan modul pendidikan keusahawanan kanak-kanak melalui kaedah bermain.

Jadual 1: Adaptasi soal selidik daripada kajian terdahulu

Bahagian	Kajian	Tajuk
A	Aqila Zahirah zulkifri (2012)	Sikap keusahawanan dan penerapan elemen keusahawanan dalam kalangan guru prasekolah
B	Zaynep Tezel (2020) Arminda do Paco & Maria Palinhas (2011)	Financial education for child and youth Teaching entrepreneurship to children as a case study
C	Mohamad Shafiq (2020)	Kesedaran terhadap penggunaan teknologi Augmented Reality dalam kalangan pelajar ISMP Pendidikan Awal kanak-kanak di universiti Perguruan Sultan Idris.
D	Shafizan et al (2021) yang	Kanak-kanak, kemiskinan dan literasi digital: ke arah masa depan digital yang positif
E	Md Ibrahim & Mohamad Yatim (2014)	Kreativiti dan kemahiran kanak-kanak dalam mereka bentuk permainan digital bagi tujuan pembelajaran.

Soal selidik ini terbahagi kepada lima bahagian iaitu:

i. Bahagian A berkaitan dengan demografi responden: umur, kelulusan akademik, pengalaman mengajar dan pengetahuan mereka berkenaan dengan pendidikan keusahawanan
ii. Bahagian B berkaitan dengan pengetahuan mengenai pendidikan keusahawanan melalui interaktif learning: tahap pengetahuan guru tadika berkenaan dengan pendidikan keusahawanan ini
iii. Bahagian C pula berkaitan dengan keperluan pembinaan modul pendidikan keusahawanan melalui permainan,
iv. Bahagian D adalah tentang kandungan modul pendidikan keusahawanan: pemilihan intipati dalam modul pendidikan keusahawanan melalui Interaktif learning Digital dan
v. Bahagian E adalah aktiviti permainan pendidikan keusahawanan digital yang dicadangkan berkaitan dengan pendidikan keusahawanan melalui bermain dalam talian.

Analisis kebolehpercayaan item telah dilakukan dan Jadual 2 berikut menunjukkan nilai tersebut.

Jadual 2: Dapatan Analisis Kebolepercayaan Item

Bahagian soalan	Nilai pekali Alpha
Item B Keperluan Pembangunan Modul Pendidikan Keusahawanan Digital Kanak-Kanak Di Tadika	0.88
Item C Keperluan Kandungan Modul Pendidikan Keusahawanan Digital Kanak-Kanak Di Tadika	0.90
Item D Aktiviti Pendidikan Keusahawanan Digital	0.80

Berdasarkan model pengukuran Rasch, skor nilai Alpha Cronbach yang boleh diterima adalah 0.71-0.99 sepertimana yang diterangkan oleh (Bond & Fox 2015). Nilai yang diperoleh daripada kajian rintis iaitu 0.80 – 0.90 seperti di jadual 2 menunjukkan kesemua konstruk mempunyai nilai kebolehpercayaan yang boleh diterima dan digunakan dalam kajian analisis keperluan yang sebenar.

Borang soal selidik juga telah dinilai dan disahkan oleh dua orang pakar. Menurut Muqsith (2018), menghujahkan bahawa kesahan dilihat sebagai satu alat pengukuran atau set pengukuran mewakili konsep kajian secara terperinci dan tepat tanpa sebarang kesilapan sistematik dan sebagainya. Dalam kajian ini, kesahan kandungan dan Bahasa dinilai oleh dua orang pakar iaitu seorang pakar merupakan pensyarah daripada bidang keusahawanan dan seorang lagi pensyarah dari bidang Bahasa. Pelantikan pakar penilai ini bertujuan untuk memperoleh kesahan kandungan dan Bahasa bagi instrumen yang disediakan. Disamping itu, sebelum soal selidik ini diedarkan kepada sampel kajian, pengkaji telah

memohon kelulusan etika penyelidikan daripada pihak Pusat Pengurusan dan Inovasi (RMIC) bagi menjalankan kajian penyelidikan ke atas guru tadika. Selain itu, kelulusan surat kebenaran dan pengesahan pelajar juga diperlukan sebelum soal selidik diedar dan surat tersebut dimohon daripada pihak Institusi Pengajian Siswazah (IPS).

Soal selidik telah diedarkan kepada sampel kajian yang sebenar. Soal selidik diedarkan kepada sampel kajian menggunakan *google form*, dan pautan soalan selidik tersebut dihantar melalui aplikasi *Whatsapp* dan juga Email kepada guru tadika. Responden akan diberikan masa selama dua minggu bagi menjawab soal selidik tersebut dengan memastikan setiap item telah dijawab tanpa membiarkan satu soalan pun tanpa jawapan.

Selepas dua minggu seterusnya, data yang telah dikumpul dianalisis oleh penyelidik menggunakan aplikasi Statistical Package for Social Sciences (SPSS) bagi menjawab persoalan kajian. Skala Likert LIMA (5) mata digunakan bagi mengukur setiap item yang dinyatakan.

DAPATAN KAJIAN

Sebanyak 367 borang soal selidik diedarkan kepada guru-guru Tadika. Data yang diperolehi dianalisis menggunakan SPSS versi 21. Pentaksiran untuk kekerapan (f), peratus (%) dan min untuk analisis setiap item.

Keperluan Pembangunan Modul Pendidikan Keusahawanan Digital Kanak-Kanak Tadika

Jadual 3: Keperluan Pembangunan Modul Pendidikan Keusahawanan Digital Kanak-Kanak Tadika

Bil.	Perkara	1 f(%)	2 f(%)	3 f(%)	4 f(%)	5 f(%)	Min	SP
1.	Kanak-kanak telah didedahkan dengan kurikulum pendidikan keusahawanan	14 (3.8)	52 (14.2)	106 (28.9)	175 (47.7)	20 (5.4)	3.37	0.92
2.	Kanak-kanak diperkenalkan dengan elemen keusahawanan berdasarkan standard pembelajaran	11 (3.0)	45 (12.3)	95 (25.9)	194 (52.9)	22 (6.0)	3.47	0.89
3.	Kanak-kanak melakukan aktiviti keusahawanan dalam semua aktiviti tunjang	12 (3.3)	75 (20.4)	115 (31.3)	149 (40.6)	16 (4.4)	3.22	0.93
4.	Kanak-kanak didedahkan dengan pengetahuan keusahawanan dalam kehidupan harian	8 (2.2)	48 (13.1)	68 (18.5)	213 (58.0)	30 (8.2)	3.57	0.89
5.	Kanak-kanak terlibat dalam aktiviti keusahawanan seperti hari kantin, hari terbuka, hari sukan.	11 (3.0)	43 (11.7)	73 (19.9)	200 (54.5)	40 (10.9)	3.59	0.93
6.	Kanak-kanak tidak dapat mengaitkan nilai wang dengan konsep tambah tolak	29 (7.9)	118 (32.2)	64 (17.4)	134 (36.5)	22 (6.0)	3.01	1.11
7.	Kanak-kanak tidak dapat menjelaskan konsep untung rugi	22 (6.0)	81 (22.1)	74 (20.2)	156 (42.5)	34 (9.3)	3.27	1.08
8.	Kanak-kanak tidak dapat menyusun wang (syiling dan kertas) mengikut nilai	41 (11.2)	138 (37.6)	60 (16.3)	110 (30.0)	18 (4.9)	2.95	1.11

9.	Kanak-kanak tidak didedahkan dengan bahan bantu mengajar yang bersesuaian dengan pendidikan keusahawanan	30 (8.2)	127 (34.6)	62 (16.9)	129 (35.1)	19 (5.2)	2.95	1.11
10.	Kanak-kanak tidak didedahkan tentang pengurusan kewangan (Contoh: pembaziran, berbelanja bila perlu, simpanan/menabung)	40 (10.9)	127 (34.6)	63 (17.2)	112 (30.5)	25 (6.8)	2.88	1.61
11.	Kanak-kanak memahami konsep nilai wang	2 (0.5)	27 (7.4)	59 (16.1)	224 (61.0)	55 (15.0)	3.83	0.79
12.	Kanak-kanak memahami kelebihan menyimpan wang	3 (0.8)	19 (5.2)	49 (13.4)	227 (61.9)	69 (18.8)	3.93	0.77
13.	Kanak-kanak memahami perbezaan antara berbelanja, menyimpan, meminjam dan berkongsi wang	09 (2.5)	37 (10.1)	88 (24.0)	183 (49.9)	50 (13.6)	3.62	0.92
14.	Kanak-kanak mengetahui dan membandingkan harga barang yang ingin dibeli	9 (2.5)	41 (11.2)	96 (26.2)	175 (47.7)	46 (12.5)	3.57	0.93
15.	Kanak-kanak minat menonton rancangan animasi kanak-kanak berkaitan dengan keusahawanan - pendedahan awal tentang keusahawanan kepada kanak-kanak	9 (2.5)	34 (9.3)	91 (24.8)	180 (49.0)	53 (14.4)	3.64	0.24
16.	Kanak-kanak mengenali asas digital (contoh: perkakasan teknologi dan aplikasi)	5 (1.4)	43 (11.7)	86 (23.4)	203 (55.3)	30 (8.2)	3.57	0.85
17.	Kemahiran digital sesuai diperkenalkan untuk kanak-kanak (pembelajaran abad ke-21)	5 (1.4)	23 (6.3)	59 (16.1)	211 (57.5)	69 (18.8)	3.86	0.83
18.	Kanak-kanak sesuai berkomunikasi dengan permainan digital berasaskan keusahawanan (contoh: Bread Barber Shop)	6 (1.6)	22 (6.0)	73 (19.9)	218 (59.4)	48 (13.1)	3.76	0.81
19.	Kanak-kanak dapat menggunakan fungsi aplikasi digital	5 (1.4)	31 (8.4)	82 (22.3)	210 (57.2)	39 (10.6)	3.67	0.82
20.	Kanak-kanak dapat mengakses kepada peralatan teknologi	6 (1.6)	31 (8.4)	91 (24.8)	194 (52.9)	45 (13.3)	3.66	0.86

Nota: 1- sangat tidak setuju; 2- tidak setuju; 3- tidak pasti; 4-setuju; 5-sangat setuju

Data dalam Jadual 3 menunjukkan analisis keperluan pembangunan model pendidikan keusahawanan digital kanak-kanak tadika. Analisis data menunjukkan bagi pernyataan "kanak-kanak memahami kelebihan menyimpan wang" majority guru setuju (61.9%), sangat setuju (18.8%), Tidak pasti (13.4%) diikuti tidak setuju (5.2%) dan sangat tidak setuju (0.8%) dengan mencatat nilai min tertinggi sebanyak 3.93.

"Kemahiran digital sesuai diperkenalkan untuk kanak-kanak (pembelajaran abad ke-21)" mencatat min kedua tertinggi dengan nilai min sebanyak 3.86. Didapati (57.5%) guru setuju, (18.8%) sangat setuju, 16.1% tidak pasti, (6.3%)tidak setuju dan (1.4%) Sangat tidak setuju. Seterusnya, pernyataan "kanak-kanak memahami konsep nilai wang" didapati sebanyak (61%) guru setuju, 16.1% tidak pasti, (15.0%) sangat setuju, (7.4%) tidak setuju dan hanya (0.5%) sangat tidak setuju dengan nilai min 3.83.

Bagi pernyataan "kanak-kanak sesuai berkomunikasi dengan permainan digital berasaskan keusahawanan (contoh: Bread Barber Shop) didapati majority guru setuju (59.4%), (19.9%) tidak pasti,

13.1% sangat setuju, (6.0%) tidak setuju dan (1.6%) sangat tidak setuju dengan mencatat nilai min 3.76 "Kanak-kanak dapat menggunakan fungsi aplikasi digital" mencatat nilai min sebanyak 3.67. Di dapati (57.2%) setuju, (22.3%) tidak pasti, (10.6%) sangat setuju 8.4% tidak setuju dan hanya (1.4%) sangat tidak setuju.

Keperluan Kandungan Modul Pendidikan Keusahawanan Digital Kanak-Kanak Tadika

Jadual 4: Keperluan Kandungan Model Pendidikan Keusahawanan Digital Kanak-Kanak Tadika

	Perkara	1 f(%)	2 f(%)	3 f(%)	4 f(%)	5 f(%)	Min	SP
1.	Ketepatan menyelesaikan tugas mengikut masa yang ditetapkan	11 (3.0)	23 (6.3)	109 (29.7)	191 (52)	33 (9.0)	3.58	0.85
2.	Kesedaran terhadap kesan dan akibat daripada aktiviti keusahawanan digital	9 (2.5)	20 (5.4)	110 (30.0)	198 (54.0)	30 (8.2)	3.60	0.81
3.	Kebolehan mencipta produk keusahawanan digital	13 (3.5)	26 (7.1)	102 (27.8)	193 (52.6)	33 (9.0)	3.56	0.88
4.	Penyesuaian diri dalam aktiviti berkaitan keusahawanan digital	9 (2.5)	17 (4.6)	97 (26.4)	211 (57.5)	33 (9.0)	3.66	0.80
5.	Kebolehan menyelesaikan masalah berkaitan dengan aktiviti keusahawanan digital	9 (2.5)	18 (4.9)	112 (30.5)	195 (53.1)	33 (9.0)	3.61	0.81
6.	Berkeupayaan memimpin aktiviti keusahawanan digital	10 (2.7)	21 (5.7)	111 (30.2)	193 (52.6)	32 (8.7)	3.59	0.83
7.	Mendapatkan maklumat daripada pemerhatian persekitaran secara kritis dan kreatif	2 (1.4)	22 (6.0)	80 (21.8)	221 (60.2)	39 (10.6)	3.73	0.78
8.	Menilai idea mengikut situasi dan keperluan dalam konteks keusahawanan digital	55 (1.4)	22 (6.0)	101 (27.5)	206 (56.1)	33 (9.0)	3.65	0.78
9.	Mengaplikasikan idea dalam bentuk produk atau teknologi bersesuaian dengan keusahawanan digital	3 (0.8)	23 (6.3)	101 (27.5)	204 (55.6)	36 (9.8)	3.67	0.77
10.	Menambahbaik kualiti idea secara berterusan	4 (1.1)	22 (6.0)	82 (22.3)	217 (59.1)	42 (11.4)	3.74	0.78
11.	Asas keadilan dalam keusahawanan digital	4 (1.1)	15 (4.1)	97 (26.4)	214 (58.3)	37 (10.1)	3.72	0.74
12.	Asas hak kemanusiaan dalam keusahawanan digital	4 (1.1)	18 (4.9)	88 (24.0)	217 (59.1)	40 (10.9)	3.74	0.75
13.	Asas kejujuran dalam keusahawanan digital	5 (1.4)	13 (3.5)	77 (21.0)	224 (61.0)	48 (13.1)	3.81	0.75
14.	Asas autonomi dalam keusahawanan digital	5 (1.4)	15 (3.5)	108 (21.0)	205 (61.0)	34 (13.1)	3.68	0.75
15.	Asas kesejahteraan sosial dalam keusahawanan digital	4 (1.1)	17 (4.6)	82 (22.3)	225 (61.3)	39 (10.6)	3.76	0.74
16.	Asas pengetahuan silang budaya dalam keusahawanan digital	4 (1.1)	18 (4.9)	97 (26.4)	211 (57.5)	37 (10.1)	3.71	0.75
17.	Perancangan projek keusahawanan digital	4 (1.1)	23 (6.3)	106 (28.9)	202 (55.0)	32 (8.7)	3.64	0.77
18.	Pelaksanaan projek mengikut langkah keusahawanan digital	4 (1.1)	21 (5.7)	101 (27.5)	212 (57.8)	29 (7.9)	3.66	0.75

19.	Pemantauan projek keusahawanan digital	5 (1.4)	21 (5.7)	105 (28.6)	206 (56.1)	30 (8.2)	3.64	0.76
20.	Penilaian projek keusahawanan digital	6 (1.6)	20 (5.4)	106 (28.9)	207 (56.4)	28 (7.6)	3.63	0.77
21.	Penghasilan produk atau teknologi yang bersesuaian dengan keusahawanan digital	5 (1.4)	19 (5.2)	90 (24.5)	212 (57.8)	41 (11.2)	3.72	0.78
22.	Keupayaan mempelbagaikan teknologi untuk menghasilkan produk keusahawanan digital	6 (1.6)	15 (4.1)	92 (25.1)	207 (56.4)	47 (12.8)	3.75	0.79
23.	Memanfaatkan pelbagai sumber untuk menghasilkan produk keusahawanan digital	5 (1.4)	18 (4.9)	78 (21.3)	218 (59.4)	48 (13.1)	3.78	0.78
24.	Berupaya mengenalpasti pelanggan sasaran secara kreatif dan inovatif	4 (1.1)	21 (5.7)	94 (25.6)	209 (56.9)	39 (10.6)	3.70	0.77
25.	Mereka bentuk dan menawarkan barangan serta perkhidmatan secara kreatif dan inovatif	6 (1.6)	21 (5.7)	82 (22.3)	214 (58.3)	44 (12.0)	3.73	0.80
26.	Menjana pendapatan secara kreatif dan inovatif	6 (1.6)	17 (4.6)	75 (20.4)	225 (61.3)	44 (12.0)	3.77	0.77
27.	Mencipta peluang baru keusahawanan digital melalui kerjasama dan rakan niaga	5 (1.4)	16 (4.4)	81 (22.1)	220 (59.9)	45 (12.3)	3.77	0.76
28.	Mengetengahkan nilai sosial budaya tempatan dalam produk keusahawanan digital	5 (1.4)	19 (5.2)	90 (24.5)	211 (57.5)	42 (11.4)	3.72	0.78
29.	Menerapkan elemen budaya setempat dalam produk keusahawanan digital	6 (12.6)	17 (4.6)	81 (22.1)	217 (59.1)	12.5 (12.5)	3.76	0.79
30.	Menghormati sensitiviti budaya setempat dalam produk keusahawanan digital	4 (1.1)	19 (5.2)	81 (22.1)	211 (57.5)	52 (14.2)	3.78	0.78
31.	Keperluan dan kemahuan	5 (1.4)	12 (3.3)	63 (17.2)	236 (64.3)	51 (13.9)	3.86	0.73
32.	Pengenalan pada wang	5 (1.4)	13 (3.5)	44 (12.0)	232 (63.2)	73 (19.9)	3.97	0.76
33.	Urusniaga	6 (1.6)	15 (4.1)	65 (17.7)	224 (61.0)	57 (15.5)	3.85	0.78
34.	Operasi dan nilai wang	5 (1.4)	9 (2.5)	49 (13.4)	229 (62.4)	75 (20.4)	3.98	0.74

Nota: 1- sangat tidak setuju; 2- tidak setuju; 3- tidak pasti; 4-setuju; 5-sangat setuju

Jadual 4 menunjukkan keperluan kandungan model pendidikan keusahawanan digital kanak-kanak tadika. Operasi dan nilai wang adalah mencatat nilai min tertinggi iaitu sebanyak 3.98. Maklumbalas yang diberikan oleh guru adalah (62.4%) setuju, (20.4%) sangat setuju, (13.4%) tidak pasti, diikuti (2.5%) tidak setuju dan selebihnya 1.4% sangat tidak setuju. "pengenalan pada mata wang mencatat nilai min kedua tertinggi iaitu sebanyak 3.97. sebanyak (63.2%) guru setuju, (19.9%) sangat setuju, (12.0%) tidak pasti, (3.5%) tidak setuju dan selebihnya (1.4%) sangat tidak setuju.

Keperluan dan kemahuan mencatat min sebanyak 3.86. didapati (64.3%) setuju, (17.2%) tidak pasti, (13.9) sangat setuju dan selebihnya (3.3%) tidan setuju dan (1.4%) sangat tidak setuju. Seterusnya pernyataan urusniaga mencatat min sebanyak 3.85. sebanyak (61.0%) setuju, diikuti (17.7%) tidak pasti, (15.5%) sangat setuju, (4.1%) tidak setuju dan (1.6%) sangat tidak setuju. Asas kejujuran dalam

keusahawanan digital juga didapati, (61.0%) setuju, (21%) tidak pasti, (13.1%) sangat setuju, hanya (3.5%) tidak setuju dan (1.4%) sangat tidak setuju.

PERBINCANGAN

Dapatan kajian secara keseluruhan menunjukkan analisis keperluan pembangunan model pendidikan keusahawanan digital kanak-kanak tadika adalah tinggi dari aspek "kanak-kanak memahami kelebihan menyimpan wang" majoriti guru setuju (61.9%), sangat setuju (18.8%) dengan mencatat nilai min tertinggi sebanyak 3.93. Dapatan ini bersamaan dengan kalian Yu Kin Len (2016) dari Pusat Penyelidikan dan Sumber Pengguna (CRRC), yang mendapati ibubapa berbincang dengan anak-anak cara mereka dapat menyimpan wang dengan menyimpan sebahagian wang daripada wang saku harian mereka dan mengaitkan simpanan dengan benda yang mereka hendak membeli. Ini akan mendorong mereka untuk menyimpan.

Kajian ini juga bersamaan dengan kajian yang dijalankan oleh Mokhtar, Nurul 'Alyaa Adillah (2015) Pengurusan kewangan dalam kalangan kanak-kanak sekolah rendah di Malaysia. Jika sejak kecil kanak-kanak telah diajar dengan pengurusan kewangan yang berhemah, ianya mungkin boleh mengurangkan masalah kewangan termasuk isu muflis pada masa hadapan. Kompeten dalam menguruskan kewangan merupakan salah satu komponen yang penting kepada kanak-kanak bagi memastikan kanak-kanak menjadi pengurus kewangan yang bijak apabila dewasa kelak.

Maklumbalas "Kemahiran digital sesuai diperkenalkan untuk kanak-kanak (pembelajaran abad ke-21)" mencatat min kedua tertinggi dengan nilai min sebanyak 3.79. Ini bersamaan dengan kajian Dayang Tiawa Awang Hamid (2006) menunjukkan penggunaan multimedia dalam kalangan kanak-kanak dapat menjadikan komunikasi atau interaksi dalam kalangan mereka lebih berkesan sekaligus teknik pengajaran yang berunsurkan multimedia seperti ini akan lebih menambahkan minat kanak-kanak untuk belajar dan juga yang paling penting dapat memudahkan kanak-kanak ini menangkap dan memahami setiap perkara yang telah diajar kepada mereka. Bagi permainan digital, kajian telah dijalankan dan mendapati bahawa seorang pelajar akan mempelajari sesuatu konsep tanpa mereka sedari dengan menggunakan permainan digital (AbRahman Ahmad et al. 2003). Begitu juga dengan kajian (Smaldino et al., 2005) dan permainan digital ini sebenarnyameransang pemikiran pemain untuk mengaplikasi juga kemahiran yang dipelajari (Siti Fatimah 2001). Kajian Abdul Halim (2007), sebanyak 72.4% kanak-kanak mempunyai komputer dirumah. Dan sebanyak 41.4% kanak-kanak yang mempunyai komputer di rumah diperkenalkan kepada komputer ketika berusia empat tahun lagi oleh ibu bapa mereka. Jadi, kajian ini dijalankan sesuai untuk kanak-kanak kini yang sudah tahu serba sedikit untuk menggunakan teknologi kini.

Bagi maklumbalas guru "kanak-kanak sesuai berkomunikasi dengan permainan digital berasaskan keusahawanan (contoh: Bread Barber Shop) didapati majoriti guru setuju (59.4%), mencatat nilai min 3.76. Ini bersamaan dengan kajian Pembelajaran berasaskan Permainan Digital (PBPD) adalah satu proses pembelajaran yang dinamik yang menghubungkan elemen permainan dan motivasi pelajar (Chung & Chang, 2017; Putra & Iqbal, 2016). Kajian-kajian lepas telah menunjukkan PBPD berkesan dalam meningkatkan motivasi pelajar dan pencapaian pelajar (Alsawaier, 2019; Lizawati et al., 2017; Tangkui & Tan, 2020). Penggunaan PBPD dalam pembelajaran sesuai digunakan untuk semua peringkat sama ada sekolah rendah, sekolah menengah atau peringkat yang lebih tinggi. Apa yang penting ialah bagaimana PBPD diintegrasikan dalam pembelajaran (Muhamad et al., 2015). Penglibatan secara aktif oleh pelajar dalam permainan dilakukan di samping interaksi bersama rakan dapat membantu mereka membina idea dan pengetahuan masing-masing (Mad Noor & Harun, 2019).

RUMUSAN

Kajian ini memberi sumbangan bermakna terhadap elemen keusahawanan terutamanya keperluan dalam pembinaan Model Pendidikan Keusahawanan Digital Kanak-kanak Tadika berdasarkan persepsi guru. Ini memandangkan kajian tentang keusahawanan di Tadika masih tidak banyak dijalankan. Kajian ini juga memberi pendedahan dan penjelasan tentang keperluan pembangunan model pendidikan keusahawanan digital kanak-kanak tadika. Ia juga membantu meningkatkan kepentingan pengetahuan keusahawanan untuk kesediaan penerapan elemen keusahawanan dalam kalangan murid. Dapatan kajian menunjukkan majoriti guru-guru sebagai pembimbing dalam pembelajaran awal kanak-kanak bersetuju kanak-kanak akan memahami kelebihan menyimpan wang dengan menggunakan permainan digital. Malahan kemahiran digital juga sesuai diperkenalkan untuk kanak-kanak seiring dengan perkembangan terkini pembelajaran yang menerapkan penggunaan digital. Hasil kajian juga menunjukkan kanak-kanak sesuai berkomunikasi dengan permainan digital berasaskan keusahawanan yang akan diintegrasikan dalam pembelajaran kelak. Tiga keperluan utama yang dipersetujui untuk kandungan modul adalah berkaitan operasi dan nilai wang, keperluan dan kemahuan serta pernyataan urusniaga.

Justeru itu, suatu medium baru dalam membentuk model asas keusahawanan dalam bentuk digital terhadap kanak-kanak Tadika adalah sangat penting bagi tujuan merangka amalan terbaik dan melaksanakan penambahbaikan yang bersesuaian. Pendedahan asas keusahawanan golongan berkait rapat dengan maklumat kewangan dan boleh memberi kesan positif kepada amalan jangka masa panjang (Syahrin et al. 2020). Strategi di peringkat kebangsaan ini turut menyokong kerjasama dalam bidang penyelidikan dan memandu inisiatif penggubalan dasar pada masa hadapan untuk meningkatkan kesedaran masyarakat tentang kepentingan literasi kewangan (Financial Education Network, 2019). Di samping itu, program ini dapat membantu ibu bapa, masyarakat dan pihak berkaitan dengan menerima manfaat berdasarkan gagasan Transformasi Nasional 2050 dalam membentuk kesejahteraan kanak-kanak melalui ekonomi Malaysia yang seimbang.

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IMPROVING YEAR 4 PIRUS PUPILS' USE OF PREPOSITIONS OF TIME (PoT) 'AT', 'ON' AND 'IN' THROUGH MELODIFOLD^{GW+}

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ABSTRACT

Mastering grammar rules, including prepositions of time (PoT), is vital as it affects language productive skills. Prepositions of time act as function words that connect with other words and are needed to enable meaning to be conveyed adequately in various English-language contexts. During my second practicum in school in the Besut district, I noticed that my class, 4 Pirus, faced issues in using prepositions of time. They are confused when identifying whether to use 'at', 'on', or 'in' in sentences because of their unfamiliarity with rule restrictions and first language (L1) interference. This research aims to improve the pupils' use of prepositions of time by implementing Melodifold$^{GW+,}$ an innovative learning tool combining three-dimensional material, a foldable paper accompanied by digital materials that include a music video, game-based practices, and an online writing challenge. This research employed an action research methodology and was conducted on five Year 4 Pirus pupils at SK Permaisuri Nur Zahirah, Besut, Terengganu. The data were collected through pre-test and post-test, observation, and interview. The quantitative data was analysed using descriptive statistics, while thematic analysis was used for qualitative data. Based on the post-test scores, the findings show significant improvement in the pupils' use of PoT. The interview results also reveal that Melodifold^{GW+} is helpful for the pupils in understanding the rules of using each PoT and applying them correctly in varied contexts. Additionally, observation and interview data indicated the pupils' interest in using Melodifold^{GW+} because of its fun learning elements, novelty, and effectiveness in improving their PoT use. This research concludes that Melodifold^{GW+} is an effective learning tool to improve Year 4 Pirus pupils' use of prepositions of time 'at', 'on', and 'in'. The success of this method indicates its potential for broader use in ESL classrooms to ensure pupils' mastery of prepositions of time.

Keywords: *ESL classrooms, digital materials, Melodifold^{GW+}, prepositions of time, three-dimensional material*

INTRODUCTION

Learning English as a second language is challenging for non-native speakers, especially in grammar. Mastering grammar is a complex process that requires deciding when and why to choose one form over another (Celce-Murcia, 2002 in Tibus et al., 2017). Based on the Assessment and Curriculum Standard Document (DSKP), studying English in Year 4 is to expand upon the grammar and functions introduced at the A1 level in Years 1 to 3 (Ministry of Education Malaysia, 2018). The MOE (2018) has added grammar to the Standard-Based English Language Curriculum (SBELC), which will also be given due focus during the teaching and learning process. The MOE has emphasised the need to infuse grammatical elements while teaching language skills to develop pupils' awareness of the underlying conventions of language use. Hence, despite the difficulty in mastering grammar, learning grammar rules, including prepositions, is indispensable. Prepositions are words that govern nouns or pronouns, usually placed in front of, expressing a relation to another word or element (Sapian & Choo, 2011). Prepositions of time (PoT) are one type of them. A preposition of time indicates when something occurs over an extended period or at a single point. It locates nouns in time to answer the question 'when?'

(Chriastiani, 2019). "At", "on" and "in" are examples of PoT. "At" is used for a precise time (more specific time), while "on" is used for days and dates (specific time). For "in", it is used for seasons, months, years, centuries, and long periods (general time).

One of the objectives of the English Language Curriculum for primary schools, as stated by the MOE (2018), is that by the end of Year 6, pupils should be able to use correct and appropriate grammar rules in speech and writing. Plus, one of the cross-curricular elements that are embedded into the teaching and learning process and are concurrent with the Content and Learning Standards in the SBELC is language, in which the focus on the correct use of grammar has been emphasised in order to help pupils develop ideas and communicate effectively (MOE, 2018). Hence, understanding the rules of using prepositions of time is crucial because it affects language productive skills. When using the correct prepositions of time, it clarifies timeframes by indicating the exact precise moments, days, months, or periods when an event occurs. This enables precision in spoken and written communication as choosing the correct prepositions of time allows one to specify the exactness of timelines, thus, avoiding ambiguity in delivering temporal information. It also enables one to provide temporal context, allowing the placement of events within a logical sequence, especially for narrative flow. Prepositions of time act as function words that connect with other words, and it is needed to convey meaning appropriately. Language experts also agree that one of the grammatical aspects that EFL learners must master is prepositions to become native-like fluent in English (Zaabalawi, 2021). This is because understanding the rules of using prepositions of time aids in using accurate sentence structure and correctly conveying time-based information, enabling one to communicate in various English-language contexts. It allows for effective communication, comprehension, and accurate language structure in speaking and writing. This helps to further improve pupils' speaking and writing skills apart from possessing sufficient knowledge of grammatical rules. This is vital, as emphasised in the Malaysia Education Blueprint 2013-2015 under students' aspirations to possess various knowledge and master critical cognitive skills (MOE, 2013).

Reflection on Teaching and Learning

The previous year, I was assigned a three-month practicum at a rural school in Besut, Sekolah Kebangsaan Permaisuri Nur Zahirah. I taught Year 4 pupils, a non-streaming class that includes pupils from the LINUS programme. Most of the pupils needed help in English as very few could understand the language or even use it proficiently. From my teaching experiences, I observed that the pupils face several issues related to English learning, especially grammar. It is undeniable that grammar is one of the most challenging elements of a foreign language to master (Tibus et al., 2017). It was observed that the pupils faced issues in using prepositions of time. They do not know how to correctly use each preposition of time 'at', 'on', and 'in'. Some admit it by saying "kito tok reti teacher" in the Kelantanese dialect, denoting their unfamiliarity with the correct PoT usage. They are confused about when to use 'at', 'on', and 'in'; in other words, they have difficulty identifying which one to use in specific contexts. They said*, "Kito paka buat jah teacher",* meaning they randomly answered the questions on the PoT given.

An early data collection was carried out through a pre-test, which consisted of 20 close-ended questions. The questions were constructed in the form of fill-in-the-blank questions where the PoT "at", "on", or "in" were given as answer choices. The test was administered to 18 Year 4 Pirus pupils to assess their understanding of the PoT and identify those struggling to use the PoT correctly. Among 18 pupils in Year 4 Pirus, excluding those from the LINUS programme, only five were selected as the research participants because they struggled the most with using PoT. They scored the lowest mark on the test, signifying that their problem was more critical than the others. The results of the five participants are shown in Table 1.

Table 1 Pre-test results of the five participants

Participant	Pre-test	
	Marks (/20)	**Percentage (%)**
A	8	40
B	8	40
C	7	35
D	6	30
E	3	15

Based on the pre-test results, it is confirmed that the participants have problems using the PoT correctly. The participants are regarded as Participant A (PA), Participant B (PB), Participant C (PC), Participant D (PD) and Participant E (PE). PA and PB managed to get eight out of twenty questions correctly; meanwhile, PC answered seven questions correctly. PD got six questions correct, while the last participant, PE, obtained the lowest mark, which was three out of twenty marks. All of the participants scored below fifty per cent of the total marks. Based on that, the researcher concluded that all the participants had issues using prepositions of time.

Problem Statement and Research Focus

Based on the reflection of teaching and learning, it was found that the pupils faced issues in the use of prepositions of time "at", "on", and "in". The possible cause identified is the intralingual transfer. According to Kusmaryani and Fitriawati (2023), intralingual transfer includes ignorance of rule restrictions. It means that pupils are unfamiliar with the rules and cannot grasp the specific functions and distinctions of the prepositions (Tulabut et al., 2018), as evident in the case of the participants who are not familiar with the different rules of using PoT reflected through their confusion and inability to answer the questions given. This is because English has many prepositions, and making decisions about which to choose and remember the functions often stumps the pupils (Nentis & Syafei, 2020). They might have only the general idea of the prepositions of time but could not specify each "at", "on", and "in" distinct rule and function. They even asked in the Kelantanese dialect*, "Nok wak gano ni teacher?"* after they were given the questions on PoT, indicating that they did not know how to answer with the correct use of PoT in the sentences.

Moreover, the interference of the pupils' first language (L1) is another possible cause of this issue. In the Malay language, the word "*pada*" is frequently used to indicate "when?" contradicting the English language that has several prepositions of time to be used for the same purpose, which are "at", "on", and "in". According to Malay grammatical rules, temporal nouns are preceded by "*pada*", such as "*pada pukul 8*", "*pada hari Ahad*", and "*pada tahun 2020*". However, in English, "at", "on", and "in" are used before temporal nouns, and each has specific rules of use, although they serve the same meaning and purpose. For example, "at 8 o'clock", "on Sunday", and "in 2020". Because of the pupils' unfamiliarity with the different rules, they produce deviant structures of sentences with the assumption that there is only one English preposition for temporal nouns, much like in their first language (Kim et al., 2017). They might be confused when they find out that there are several prepositions of time in English and, therefore, are erred by incorrect prepositions in varied contexts.

Hence, this research focuses on improving Year 4 Pirus pupils' use of prepositions of time "at", "on", and "in" by using Melodifold^{GW+}. The rule scope under the PoT focused in this research is "at",

which is used for precise time, precisely the clock time; "on", used for days and dates; and "in", used for seasons, months, years, decades, and centuries. The rules exception for specific time scopes, including parts of the day such as "at night", "in the morning", and "at noon", are excluded from this research focus. This is because, according to Larsen-Freeman (2014), one option is to use the garden path technique to promote awareness among pupils of grammatical rules. It means providing them with information about construction without giving them the whole picture, making it appear more accessible. This is because they are more likely to learn about the rule exceptions when over-generalisation errors are rectified in real time instead of being given a lengthy list of "exceptions to the rule" to memorise beforehand (Larsen-Freeman, 2014, p. 266). The need for this research is further justified through the following:

(i) Relevance

This research is relevant as the focused grammar meets the requirements in DSKP and English textbooks. Based on the English DSKP of Year 4, one of the leading language functions pupils should learn is "telling the time". One of the objectives for speaking in Year 4 is that by the end of the year, pupils should be able to narrate short essential stories and find out about and describe experiences in the past (MOE, 2018). They have also been set as the Learning Standards the pupils should achieve. Moreover, the learning standards and objectives for writing in Year 4 also include that pupils should be able to describe basic everyday routines. These indicate the need for pupils to understand how to use prepositions of time correctly, as the standards and objectives set involve temporal context. Moreover, the Year 4 English textbook, Get Smart Plus Four, also includes learning about time in Unit 6. Hence, to master the content or topic, pupils should be able to use prepositions of time to communicate effectively about the temporal information. The Year 3 textbook also emphasises learning prepositions of time in Unit 4, which must be continuously learned and used in further years, especially Year 4.

(ii) Importance

Teaching prepositions of time is vital because prepositional phrases expressing time and location are typically the first to occur in young children's language (Christiani, 2019). It enables proper communication when pupils know how to use the PoT correctly because speaking properly involves applying function words correctly to convey grammatical relations. It also enables accuracy in written work with the correct application of PoT in the correct contexts. As prepositions are highly fundamental to communication, adherence to accurate prepositional usage is crucial, especially when writing or speaking in academic settings, and learners must master prepositions to become native-like fluent in English (Zaabalawi, 2021), and at the same time, fulfilling the objectives and standards in the English DSKP.

Objectives and Research Questions

Based on the research focus, the general objectives of the study are to improve Year 4 pupils' use of prepositions of time, explain the pupils' interest, and explain how the intervention improves the pupils' use of prepositions of time.

While the specific objectives formulated are as follows:

i. To improve Year 4 Pirus pupils' use of prepositions of time using Melodifold$^{GW+.}$
ii. To explain Year 4 Pirus pupils' interest in using Melodifold^{GW+} to improve their use of prepositions of time.
iii. To explain how Melodifold^{GW+} improves Year 4 Pirus pupils' use of prepositions of time.

Based on the set research objectives, three research questions have been formulated as follows:

i. Does Melodifold^{GW+} help to improve Year 4 Pirus pupils' use of prepositions of time?
ii. Are Year 4 Pirus pupils interested in using Melodifold^{GW+} to improve their use of prepositions of time?

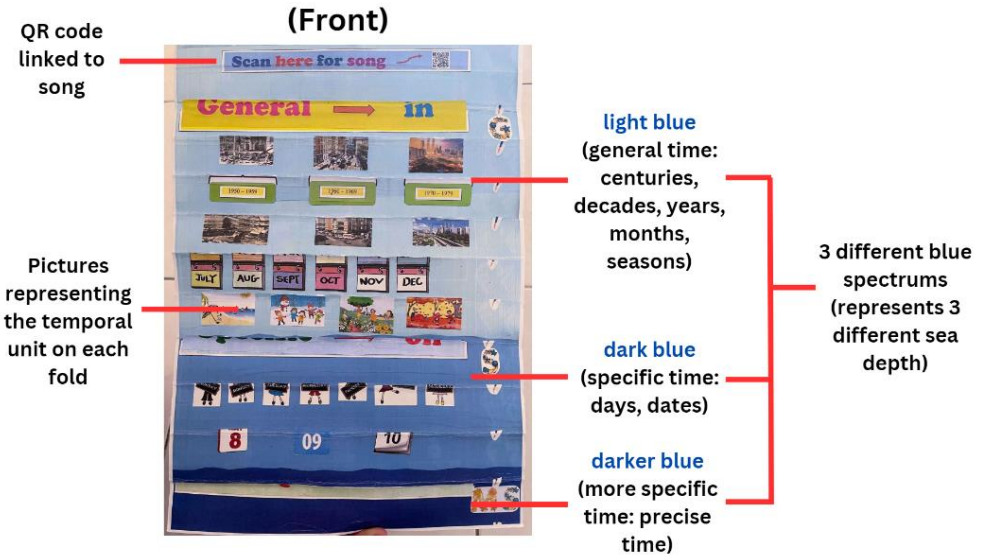
iii. How does Melodifold^{GW+} help to improve Year 4 Pirus pupils' use of prepositions of time?

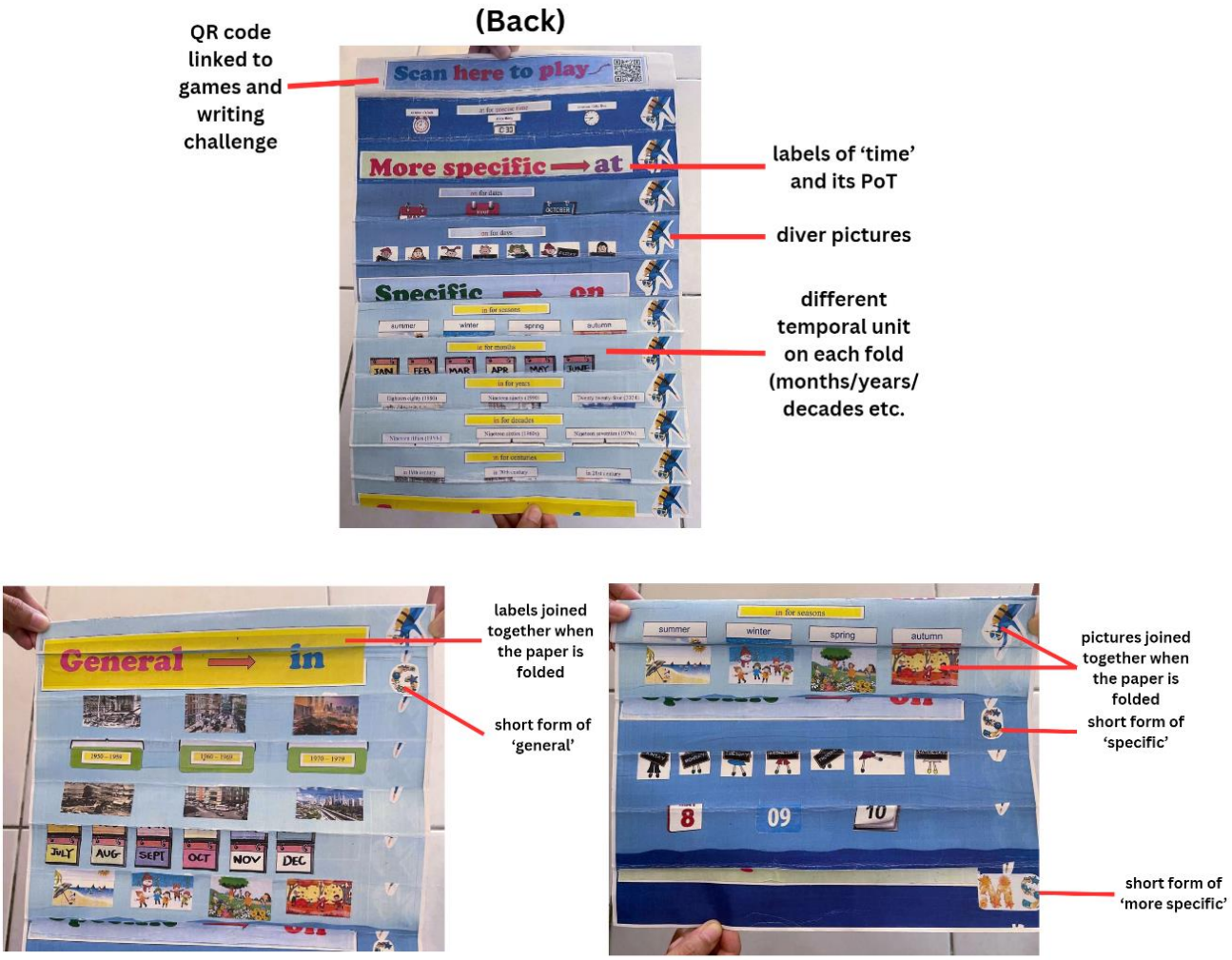
RESEARCH METHODOLOGY

Intervention

The action proposed in this research is called Melodifold^{GW+}, which aims to improve Year 4 Pirus pupils of SK Permaisuri Nur Zahirah's use of prepositions of time 'at', 'on', and 'in'. From the intervention's name, 'Melodi' stands for melody or song, and 'fold' represents a foldable paper. Meanwhile, GW+ stands for additional features: games and a writing challenge'. It represents the idea of singing while folding the paper, added with games for practice and a writing challenge for the purpose of applying in different contexts. The intervention combines 3D and digital materials and fulfils three learning phases: understanding rules, practising using the rules, and applying the rules in different contexts. The detailed view and description of the intervention are as follows:

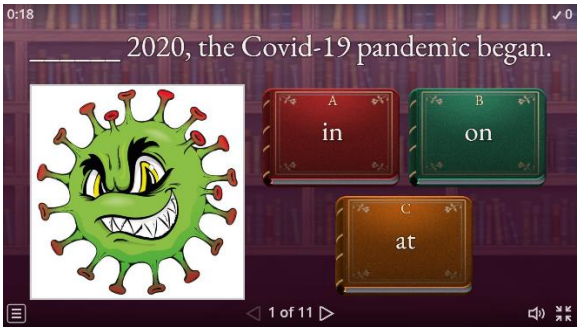
Figures 1 to 2 A song composed in the form of a video



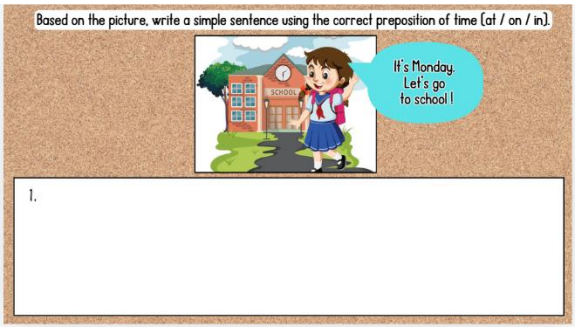


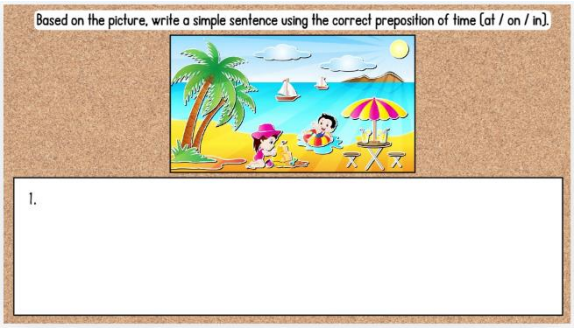
Figures 3 to 6 A foldable paper

Figures 7 to 8 Game-based drills and writing challenges compiled in one Padlet.



Figures 9 to 10 Some of the types of game-based drills





Figures 11 to 12 Writing Challenge

Table 2 Description of Melodifold^{GW+}

Learning phases	Parts of intervention
Understanding of the concepts/ rules	*Digital material (Fig. 1 to 2):* A song on prepositions of time, 'at', 'on', and 'in', is composed as a video using CapCut. It displays the lyrics about the rules of using PoT and is uploaded on YouTube. It is pasted on the top of the paper as a QR code. The song has to be sung while folding the paper. *3D material (Fig. 3 to 6):* A paper is divided into three parts using three different blue spectrums (light blue, dark blue, darker blue). The paper's upper part (light blue) contains the 'general time', which includes centuries, decades, years, months and seasons. The paper's middle part (dark blue) has the 'specific time', which encompasses days and dates. The bottom part (darker blue) contains the 'more specific time', which is the precise time involving clock time. Each part is labelled with 'general', 'specific', or 'more specific' and its preposition of time (general – in, specific – on, more specific – at). Moreover, the paper is folded into several folds, each representing a different temporal unit. The general time part (upper part) has five folds, each representing centuries, decades, years, months, and seasons, respectively. For the specific time part (middle part), there are two folds, each representing days and days respectively, while for the more specific time part (bottom part), there is one fold, representing precise time, which is clock time. Each fold contains images representing the temporal unit; for example, in the seasons part, pictures of winter, autumn, summer, and spring seasons are pasted on the paper together with the words. These pictures will be joined to form complete pictures when the paper is folded, similar to the

	labels of general, specific, and more specific time and PoT. Besides, the paper is coloured with three different blue spectrums to represent different sea depths, meaning the concept of general to a more specific time (light blue = general, dark blue = specific, darker blue = more specific). There is also a series of pictures of a diver on the right side of the paper, which will animate the event of diving down to the bottom of the sea when the pupils fold the paper. It represents the idea of going deeper, which means going from general to specific to more specific time to understand the three different rules in using prepositions of time. The paper is folded according to the song lyrics. (For a clear view of the paper.)
Practice using the concepts/ rules	*Digital material (Fig. 9 to 10):* On the paper's last fold, a QR code image is pasted that links to digital game-based drills created using WordWall and Genially. They are compiled in one online platform, Padlet, and pupils can choose any game they want to practice using prepositions of time. The games have immediate feedback and can be accessed by many users, allowing collaborative learning. They can also be repeated infinitely as they have no expired access. Plus, the researcher can constantly update the platform with new game-based exercises, allowing pupils to drill on different questions.
Applying the concepts/ rules in different contexts	*Digital material (Fig. 11 to 12):* In the same QR code and Padlet above, a writing challenge also encompasses several writing tasks created using Canva. The tasks require creating simple sentences based on pictures using the correct prepositions of time. Multiple users can access this writing challenge, which can be repeated infinitely. The researcher can also continually update it with new writing challenges.

Table 3 Steps to use Melodifold^{GW+}

No.	Steps
1	Pupils are ready with the paper.
2	Scan the QR code on the top of the paper. The song will be played in the form of a YouTube video.
3	Pupils sing the song while folding the paper according to the song lyrics.
4	Steps 2 and 3 are repeated (optional: for familiarisation purposes).
5	Pupils are explained with the concepts of general, specific and more specific (the rules of using prepositions of time 'at', 'on' and 'in) using the paper.
6	Steps 2 and 3 are repeated (optional: for familiarisation purposes) Scan the QR code on the last fold of the paper.
7	Choose any game-based exercise. Complete the questions and the writing challenge.

Research Participants

This research was conducted on five Malay pupils of the Year 4 Pirus class in Sekolah Kebangsaan Permaisuri Nur Zahirah, Besut, Terengganu. Two of them are boys, and three of them are girls. They were chosen as the research participants based on the pre-test, where they scored the lowest marks in the test, depicting their critical problem in using prepositions of time.

Instruments

Data triangulation has been used because it increases the credibility and validity of research findings (Noble & Heale, 2019). Thus, the researcher implemented three data collection methods: pre and post-test, observation and interview. The collected data from the test were analysed using descriptive analysis to see pupils' improvement in their use of prepositions of time. The observation data were analysed to see pupils' interest in using Melodifold^{GW+}. Meanwhile, for the interview data, thematic analysis was done to explore their interest and how the intervention improves their use of prepositions of time.

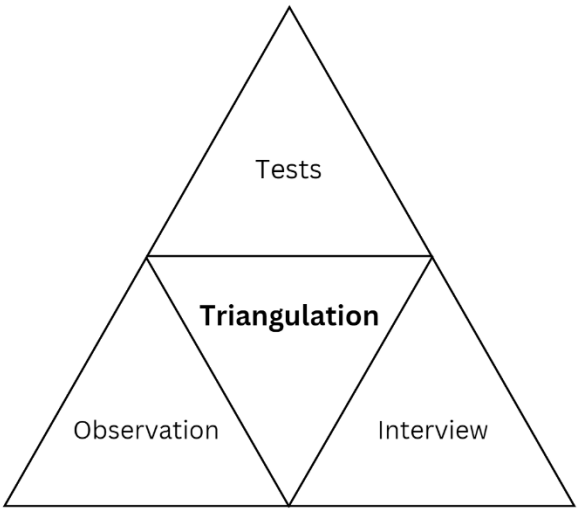


Figure 13 Data triangulation

Table 4 Instruments for data collection

	Research Questions	Instruments used
1.	Does Melodifold^{GW+} help to improve Year 4 Pirus pupils' use of prepositions of time?	• Pre and post-tests
2.	Are Year 4 Pirus pupils interested in using Melodifold^{GW+} to improve their use of prepositions of time?	• Observation • Interview
3.	How does Melodifold^{GW+} help to improve Year 4 Pirus pupils' use of prepositions of time?	• Interview

Action Plan

For this research, Kemmis and McTaggart's (1988) model was applied as a framework for every step made. This model was chosen because it outlines a comprehensive framework that is simple to follow, encompassing four steps, namely planning the action (plan), implementing the action (act), observing the action (observe), and reflecting (reflect), as well as the model allows to go to the next cycle until the problem is solved.

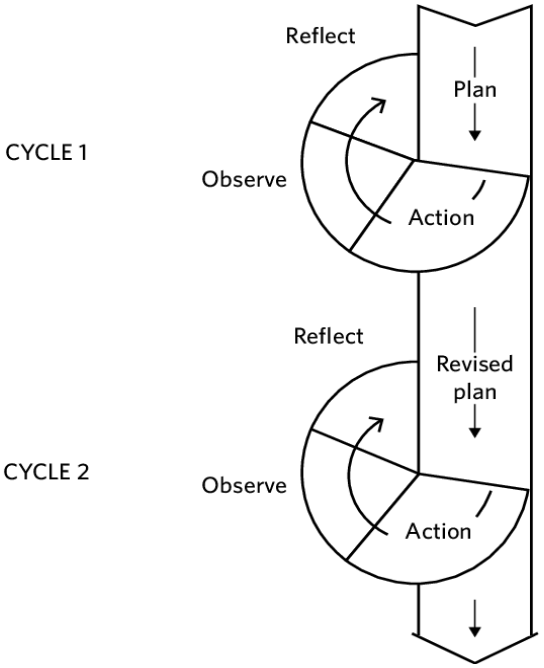


Figure 14 The Kemmis and McTaggart (1988) Action Research Model

Before planning, initial data collection was done at the earliest stage to investigate the existence of the issue in the use of prepositions of time. Five Year 4 primary school pupils were purposively chosen as the research participants because they scored the lowest in the pre-test.

1. Plan

The planning process began with a systematic literature review of relevant articles published by scholars. It was concluded that one of the struggles experienced by ESL pupils is in grammar, specifically the prepositions of time. Several of the possible factors are intralingual transfer and first language interference. Through a careful analysis of this issue, the researcher agrees that the pupils need practice and transparent exposure to the rules of using "at", "on", and "in" that suit their needs and cognitive ability.

2. Act

Melodifold^{GW+} was designed and developed by combining 3D and digital materials. The intervention was produced by integrating musical and visual elements, concrete representation of rules, and gamification, as well as fulfilling the three phases in the learning process: understanding the concepts, practising using the concepts, and applying the concepts in different contexts. At this stage, the intervention was implemented with the participants as well. The implementation process was recorded as a video to be shown to their English teacher for further data collection. The implementation process is shown in Table 5.

Table 5 The implementation process of Melodifold^{GW+}

Num.	Activity
1	The researcher explained how to use Melodifold^{GW+} to the participants.
2	The researcher asked the participants to scan a QR code on the paper linked to the song and practice singing the song together with the participants.
3	After the participants had familiarised themselves with the song, the researcher guided them in singing while folding the paper according to the lyrics. This process was repeated until they were used to it.
4	Using the features of the paper, the researcher explained the rules for using prepositions of time through the concept of general to more specific time.
5	Once the participants understood the concept, they were asked to sing without guidance while folding the paper.
6	They were asked to scan a QR code on the paper linked to the game-based drills and writing challenge.
7	They collaboratively played the games for practice and individually completed the writing challenge.

3. Observe

At this stage, the researcher conducted a quantitative method, a post-test administered to the five participants after they used the intervention to measure their improvement in using prepositions of time to answer the first research question (RQ1). Meanwhile, the participants' interest in using Melodifold^{GW+} was observed during the implementation process to answer the second research question (RQ2). An observation checklist, which consists of four constructs: willingness, attention, happy or joyful feelings, and active participation, was used to collect the data, as adapted from Slameto (2003). Besides, the researcher conducted a semi-structured interview with the participants involving the theme of interest to answer RQ2 and eight intervention features that help improve pupils' use of PoT to answer the third research question (RQ3). A semi-structured interview was also conducted with an English teacher to answer RQ3, in which their responses were recorded as audio. Meanwhile, additional cues involving their body language were recorded in the interview sheets.

4. Reflect

All the data collected were analysed and interpreted. The findings were reflected upon regarding the effectiveness of Melodifold^{GW+} on the participants' use of prepositions of time. A conclusion was reached that the second cycle was unnecessary for this research as the results from the first cycle were highly satisfactory.

FINDINGS

Research Question 1 (RQ1): Does Melodifold^{GW+} help to improve Year 4 Pirus pupils' use of prepositions of time 'at', 'on', and 'in'?

To answer the first research question (RQ1), a pre-test and post-test were conducted on the five participants to assess the effectiveness of Melodifold^{GW+} in their use of prepositions of time. An analysis was done by comparing the scores from the pre-test with the results from the post-test. To determine the effectiveness, the researcher observed if the participants demonstrated progress in the marks obtained in the post-test compared to the pre-test. The table below shows scores for each participant's pre-test and post-test and the percentage of improvement.

Table 6 Score analysis for pre-test and post-test

Participant	Pre-test		Post-test		Improvement (%)
	Marks (/20)	Percentage (%)	Marks (/20)	Percentage (%)	
A	8	40	20	100	60
B	8	40	18	90	50
C	7	35	19	95	60
D	6	30	19	95	65
E	3	15	20	100	85

Based on the analysis of the scores, each participant's use of prepositions of time has improved positively after using Melodifold^{GW+}. It is indicated by the increased marks (out of 20) and percentages (converted to %) from the pre-test to the post-test. PA has improved from 8 to 20 marks or 40% to 100%, showing an improvement of 60%. PB has improved by 50%, from 8 to 18 marks or 40% to 90%. Meanwhile, PC has improved by 60%, from 7 to 19 marks or 35% to 95%. For PD, marks are increased from 6 to 19, with the increased percentage from 30% to 95%, signifying an improvement of 65%. Lastly, the result for PE shows the highest improvement, which is 85%, with the increased marks from 3 to 20 marks or 15% to 100%. Moreover, two of them (PA and PE) scored full marks during the post-test, indicating their high level of understanding and ability to use prepositions of time correctly. The post-test results indicate that the intervention has significantly improved the pupils' use of prepositions of time.

Research Question 2 (RQ2): Are Year 4 Pirus pupils interested in using Melodifold^{GW+} to improve their use of prepositions of time 'at', 'on', and 'in'?

Research question 2 (RQ2) explores the participants' interest in using Melodifold^{GW+} to improve their use of prepositions of time. Two instruments, an observation checklist and a semi-structured interview with the participants, were implemented to answer this research question. Firstly, eight items adapted from Slameto (2003) with four constructs, namely willingness, attention, happy or joyful feelings, and active participation, were structured in the observation checklist to gauge the participants' behaviour during the implementation of Melodifold^{GW+}. Data from the observation checklist is shown in Table 7 below.

Table 7 Data from an observation checklist

Items		Participants				
	Behaviour	PA	PB	PC	PD	PE
A) Willingness						
A1	Is willing to learn using the intervention	/	/	/	/	/
A2	I am excited to learn how to use the intervention.	/	/	/	/	/

B) Attention						
B1	Focuses while the teacher explains the material/ intervention	/	/	/	/	/
B2	Maintains concentration during the activity using the intervention	/	/	/	/	/
C) Happy/ joyful feelings						
C1	Enjoys doing the activity using the intervention (e.g., smiling, laughing, clapping)	/	/	/	/	/
C2	Always enthusiastic to follow the activity/ lesson using the intervention	/	/	/	/	/
D) Active participation						
D1	Completes the activity given by the teacher using the intervention	/	/	/	/	/
D2	Responds to the teacher's questions while using the intervention	/	/	/	/	/

Based on the observation data, all participants displayed positive behaviour while using Melodifold^{GW+}. They all responded positively to the first construct (A1 and A2), indicating their willingness to use Melodifold^{GW+} to learn prepositions of time. For A2, PC and PE were amazed when receiving the paper and demonstrated curiosity to explore it. PA, PB, and PD also explored the paper by folding and looking at all the features contained. Furthermore, all participants also demonstrated good attention during the implementation, with them being focused while the researcher explained the rules of PoT using the intervention (B1). In addition, all participants responded very positively to item B2, where it could be seen that they maintained concentration during the implementation. For example, they concentrated on the lyrics displayed and focused on matching the song while folding the paper. They also paid good concentration while explaining the PoT rules through the paper and when doing the game-based drills and writing.

Moreover, all participants also demonstrated joyful feelings while using Melodifold^{GW+}, which could be seen from their enjoyment while doing the activity through positive body language, especially while singing and playing the games, as they smiled and laughed (C1). PE even moved while singing, demonstrating her enjoyment of the song. For item C2, the participants demonstrated enthusiasm in following the activity using Melodifold$^{GW+,}$ especially while singing while folding and completing the games. Additionally, all participants showed active participation as they responded positively to item D1, where the researcher observed that they completed the activity using the MelodifoldGW+, starting from repetitive singing to the last task, the writing challenge. They even completed multiple types of game-based drills collaboratively without skipping. All participants also showed active participation through item D2, in which they responded actively to the researcher's questions regarding the rules using the features on the paper. They enthusiastically gave their answers to what they understood about the rules based on the paper, and surprisingly, each of them gave the correct ones. Overall, the observation data indicates the participants' interest in using the intervention.

Secondly, the participants were asked five main questions in the interview, and further questions were posted to explore reasons for their interest in Melodifold^{GW+}. Table 8 below summarises the participants' responses, and Table 9 analyses their answers using thematic analysis to answer further questions regarding the reasons for their interest.

Table 8 Summary of participants' responses to the interview

	Interview Questions	Participants' responses (summary)	Sub-themes
1.	Do you enjoy using Melodifold^{GW+}?	Enjoy.	Enjoy
2.	Do you feel excited about using Melodifold^{GW+}?	Yes.	Feeling excited
3.	Are you motivated to use Melodifold^{GW+} to learn prepositions of time 'at', 'on', and 'in'?	Yes.	Feeling motivated
4.	Do you experience fun learning using Melodifold^{GW+}?	Yes.	Experience fun learning
5.	Will you recommend Melodifold^{GW+} to your friends?	Yes.	Recommend

Table 9 Analysis of interview transcription with the participants

Num.	Themes	Sub-themes	Participant/ Teacher	Interview extract (translated)
1.	Reasons for enjoyment	Learning while playing	PA	We get to learn and play at the same time. Learning while playing.
		Understand quickly	PB	Because I can understand quickly…through the song and paper.
		Fun activities	PD	Because it's best!..the writing part.
			PE	…because everything is not boring.
		Easy to memorise	PC	Because it's easy to remember…through the paper.
		Collaborative activity	PD	…collaboration. Can play games with friends.
2.	Reasons for excitement	Diver pictures	PA	Because it has a story behind it…like this man (diver).
		Understand quickly	PB	Because I can understand quickly.
		Song	PD	Because...it has singing…can remember in my head.
		Technology	PE	…you use laptops...
3.	Reasons for motivation	Fun	PA, PD	Because it's fun.
		Easy to understand and memorise	PB	Because I feel it is easy with what you taught…you gave the paper…It's easy because I can memorize it…The paper..which I understand more.
			PE	Helps to understand.
		New way of learning	PC	I've never done this before…can learn in a new way.
			PE	Because no teachers are teaching like this.
4.	Reasons for fun learning	Games	PA	Because it has games…
		Diver pictures and sea depth	PA	…and a story.
			PE	When you explain the sea…
		Understand quickly	PB	...I can understand it all…quickly through the song and paper.

		Learning while playing	PC	Because...I can learn while playing, I can play games…
		Song	PB	Because I can sing with friends.
			PD	…it's like fun because of the singing part.
			PE	…the singing part.
		Online activities	PC	…I can answer questions online.
5.	Reasons for recommendation	Fun	PA	Because it's fun…
		Easy to understand and memorise	PA	Because it's good for people to learn easier.
			PB	Because I think my friends can understand this very quickly like me.
			PD	I think this thing is easy for them to understand, for them to remember.
			PE	This thing is easy to help them understand.

For the first question, all the participants said they enjoy using Melodifold^{GW+} to learn PoT because it allows them to learn while playing, as PA mentioned. The intervention also helps the pupils to understand the song and the paper quickly, as PB said, and makes it easier for them to remember the rules of PoT through the paper, as clarified by PC. PD and PE also find that the intervention involves learning through fun activities, especially the writing challenge for PD. Meanwhile, PE admits that every activity encompassed in the intervention does not cause boredom to them. PD also adds that Melodifold^{GW+} allows collaborative learning, especially when playing games.

Secondly, all the participants felt excited about using Melodifold^{GW+} because of its features, which can tell an implicit story related to the rules of PoT, primarily through the diver pictures placed on the paper, as mentioned by PA. PB also states that the intervention helps him to understand quickly, which is why he feels the excitement. Moreover, the intervention incorporated a song that helped them memorise the PoT rules, as PD said. Meanwhile, PE emphasised the use of technology that excites her and encouraged her to use Melodifold^{GW+}.

Additionally, all the participants felt motivated to use MelodifoldGW+ to learn because of its fun learning method, as PA and PD stated. The participants also feel it is easy to understand and memorise the PoT rules through the features in the intervention, especially the paper, as clarified by PB and PE. PC and PE also add that it is a new way of learning for them, indicating the novelty of the intervention, which motivates them to use Melodifold^{GW+} in learning PoT.

For the fourth question, all the participants responded that they experience fun learning using Melodifold^{GW+} because it has games that allow them to learn while playing, as well as the features on the paper, especially the diver pictures and sea depth that help in understanding the PoT rules quickly apart from the song. PB, PD, and PE also add that the song part is fun because they can sing with their friends. Besides, the online activities incorporated through the game-based drills and writing challenges also become one of the reasons for them experiencing fun learning, as PC mentioned that she can answer questions online. Lastly, all the participants said that they would recommend Melodifold^{GW+} to their friends because of its fun learning method, as PA mentioned. They also think the intervention is easy for their friends to understand and memorise the PoT rules.

Research Question 3 (RQ3): How does Melodifold^{GW+} help to improve Year 4 Pirus pupils' use of prepositions of time 'at', 'on', and 'in'?

To answer the third research question (RQ3), the researcher interviewed the participants and an English teacher and analysed the data using thematic analysis. The interview data shows that Melodifold^{GW+} has

eight aspects that contribute significantly to the participants' improvement in using prepositions of time. Table 10 below shows the analysis of the participants' and teacher's responses during the interview.

Table 10 Analysis of interview transcription with the participants and an English teacher

Num.	Themes	Sub-themes	Participant/ Teacher	Interview extract (translated)
1.	Understanding concepts/ rules through song	Easy learning	PA	Because the song is easier to learn, it has much meaning behind it.
		Fun	PA	… it is more fun to learn.
		Catch up with rules.	PB	…you rewind many times, so the song is slow, so I can understand it slowly…can catch up on what is being conveyed about the rules.
		Examples	PC	Because…it has examples.
		Memorisation	PD	I remember.
		Clarify rules	PE	Because it explains clearly.
			Teacher	…the song says when to use it.
2.	Understanding concepts/ rules through colours representing sea depth	Imagine and relate to the concept	PA	Because…it has meaning. For example, the sea is big...it's big outside the sea...if going deeper means getting smaller (specific).
			PB	…I can see..can imagine that, in the sea the deeper it gets, the more specific it gets.
			PE	Because I can understand that the deeper we go in the sea, the narrower the oxygen we get.. so like more detailed.
		Relation to prior knowledge and experience	Teacher	Because they have knowledge, so they can imagine. They have previous knowledge, they have experience…this thing they has experienced.
3.	Understanding concepts/ rules through diver pictures	Imagine and relate to the concept	PA	Because it's like going deeper… meaning it becomes even smaller.
			PB	I see it like diving...deeper..so it makes sense..because the sea is getting deeper, so this diver is diving. He wants to see what the bottom is like. He wants to know more.
			PC	Because...he wants to know deeper, he dives down.
			PD	...he seems to be going down and down..until the clock time.
			PE	Can imagine.
			Teacher	…the more the diver goes inside means the more specific.
4.	Understanding of concepts/ rules through folding action	Clarify rules	PB	…when we fold, we know what is said in the song.
		Increase focus	PC	Because... can improve focus, not sleepy. Because if I sit still, I get

				bored and sleepy. So if it's movement, I understand quickly.
		Change of colours	PD	The colour is getting darker.
		Relation to concept	PE	…the further down, the more detailed
		Proper order of rules	Teacher	…because it follows the order of the concept.
5.	Allow practice through games	Immediate feedback	PA	…if there is a mistake, I can learn from it.
			Teacher	Because the games provide instant response to the pupils' answer... whether it is correct or wrong. If they got it wrong they were given the correct answer immediately or they were given a chance to rethink and try another answer. So, this helps the pupils to keep track of the use of the prepositions learned correctly.
6.	Retain rules through games	Challenge thinking	PB	...they show the answers, so it's fifty-fifty…So we have to think, really focus.
			PC	Because it can test the mind and help us understand better.
		Immediate feedback	PA	…because I can remember from the mistakes done.
			PB, PD	It gives the right answers.
			Teacher	…immediate response..immediate checking, meaning they know what the correct answer is or what they already got right.
		Recall rules	PE	…the game is like asking to recall what's for this one..after that we have to choose an answer.
		Drilling	Teacher	…when doing quizzes over and over again, so he will be more clear about the differentiation.
7.	Reinforce understanding through writing challenge	Contextual practice	PB	I can understand because in the writing part, there is writing (small dialogue), I take a few words and change a little. For 'on', 'in', 'at', I figured out how to use them.
			Teacher	Writing sentences using the prepositions learned would allow them to distinguish the prepositions according to the different context.
		Independent learning	PC	Because I can write sentences by myself.
			PE	…asks to do it by myself, so it reinforces my understanding.
8.		Confidence building	PB	…because I've already sung the song, I've understood the paper,

Use proficiently through writing challenge			and all this scuba diving, so I think...when I'm creating that sentence, I'm confident... I'm confident... because I have memorized all this. I am confident I am right.
	Complete learning process	Teacher	The intervention provides understanding phase, practicing phase...These stages in learning would provide adequate knowledge and practice to use the prepositions. So, when it comes to the next phase, which is the use in different contexts, which is the writing part, the question is a little bit challenging because they have to write sentences. So, here the pupils can use prepositions proficiently because they have developed understanding, have practiced…. When they can write correctly, it means they are confident that they have used it correctly.

Based on the interview data, there are eight aspects or features of Melodifold^{GW+} that help to improve the participants' use of prepositions of time. Firstly, the intervention's effectiveness lies in the song which helps in understanding the rules of PoT. Apart from its fun element and ability to help them memorise the rules, the song also helps them learn more quickly because it conveys meaning regarding the PoT rules. It explains in detail the three different rules in using "in", "on", and "at", clarifying when to use each of the PoT correctly. It is also because of the many examples given in the song that helps to understand the rules clearly. PB also mentions that he can catch up with the rules when the researcher rewinds the song repeatedly.

The second significant aspect is the colours representing sea depth, which helps the pupils to imagine and understand its relation to the concept of general to a more specific time. They can understand the context of going deeper into the sea, which means the more detailed the time, the more specific it is. The teacher also clarifies that this feature relates to the pupils' prior knowledge and experience, which helps them imagine abstract concepts. The third feature complements the diver pictures, which also help in the imagination and relation to the concept. Using diver pictures helps them to imagine the diving event that happens in real life and connect it with the concept that the more profoundly the diver dives into the sea means that he wants to see and know more, thus representing the concept of general to a more specific time, to help them differentiate the different rules (general – in, specific – on, more specific – at). This is aligned with Piaget's theory of children's cognitive development, which states that using concrete events helps children understand abstract information (Wah et al., 2016). Moreover, the fourth feature is the folding action which helps to clarify rules as mentioned by PB that "when we fold, we know what is said in the song". It also helps in the pupils' understanding of the concept because the action of folding from the top to the bottom relates to the concept of general to more specific time which it can be understood that the further they fold down, the more detailed the time is, as clarified by PE. It is complemented by PD's response that the folding action changes the colour into darker colours, thus representing the concept of general to a more specific time. The teacher also adds that the folding action helps the pupils to understand the concept because it demonstrates a proper order of the three different rules, which start from folding the general part, going

to the middle, which is the specific time part, and lastly, to the bottom which is the more specific time. On the other hand, PC's response is unique; she says that the folding action increases focus because of its kinesthetic element that allows movement and avoids sleepiness. This way of learning leads to a quick understanding of the PoT rules because she can focus on the learning process.

Furthermore, Melodifold^{GW+} is equipped with gamification that allows the participants to practice using PoT correctly because of its immediate feedback, which enables them to learn from the errors made. The games provide correct answers immediately to the participants' responses, allowing them to understand whether they have used the rules correctly and keep track of their use of PoT, as clarified by the teacher. In addition, gamification is admitted by the participants and the teacher to help retain the rules of PoT. This is because, apart from its immediate feedback that allows the participants to memorise the rules from the errors made, the games challenge their thinking to identify the correct PoT according to the temporal context provided in the questions. It allows them to be involved in deeper cognitive engagement that requires more mental effort, which helps encode the rules more deeply into long-term memory. Moreover, the games require the participants to recall the rules of PoT to answer the questions, which helps strengthen their memory. This is because they are prompted to remember the rules, which engages them in active retrieval that is good for their retention. Plus, the games function as drills that help the pupils become more transparent about the different rules of PoT because of its repeated process, as mentioned by the teacher, which corresponds to Thorndike Stimulus-Response Theory that pupils tend to memorise repeated data (Nazir, 2018; Karadut, 2012). This helps them retain the rules because they encounter the same rules multiple times, aiding in consolidating the rules in their memory.

The next significant aspect of Melodifold^{GW+} is the writing challenge that reinforces the pupils' understanding of the PoT rules. This feature allows contextual practice for the participants to learn how to apply the rules in the correct contexts, as mentioned by PB. The teacher also clarifies that it allows the participants to distinguish the PoT according to the different contexts, enabling them to recognise how each PoT should be used in various situations, thus strengthening their understanding of the rules. Additionally, the writing challenge provides independent learning for the participants, as PE and PC's responses demonstrated that they can write sentences without guidance. This can reinforce their understanding of the PoT rules because they are encouraged to take an active role in their learning process, fostering critical thinking in figuring out the correct usage of the rules to promote deeper comprehension. The last aspect that contributes significantly to the participants' improvement in their use of PoT is the opportunity to use PoT proficiently through the writing challenge. This writing task builds confidence in applying the PoT rules in different contexts as it allows them to use the memorised and understood concepts. It completes the participants' learning process from the previous phases: the understanding and practising phase. Hence, the writing task is the final phase of the pupils' learning. It involves them applying the rules in different contexts that require them to utilise their developed understanding, thus confidently writing sentences with correct PoT.

DISCUSSION

The research's findings demonstrate an improvement in the participants' use of prepositions of time 'in', 'on', and 'at'. All five participants could not use each preposition of time correctly before they were introduced to Melodifold^{GW+}; nevertheless, following the intervention, they can now use PoT correctly, as demonstrated in the post-test, signifying a remarkable discovery. Not only that, PA and PE have also obtained perfect scores on the post-test. These findings prove that Melodifold^{GW+}, which integrates musical and visual elements, concrete representation of rules, and gamification, as well as the fulfilment of three phases in the learning process, which are understanding the concepts, practising using the concepts, and applying the concepts in different contexts is a successful method in improving the pupils' use of prepositions of time.

The selection of sea depth and diver pictures features in Melodifold^{GW+} underscores the significance of the concrete representation of rules in aiding the pupils to understand the abstract

concepts of using prepositions of time. The pictures of a diver animating a diving event to the bottom of the sea assist the pupils in imagining and connecting it with the concept of general to a more specific time. This representation is complemented by the paper coloured with three different blue spectrums representing different sea depths to mean different PoT rules (light blue – general, dark blue – specific, darker blue – more specific). These features convey a concrete idea that the more profound the diver dives into the sea means that he wants to see and know more, representing the more detailed time, thus the more specific the time is. It aims to aid the pupils to differentiate that 'in' is applied to general time, 'on' is applied to specific time while 'at' is to a more specific time. The rationale for representing the rules through a concrete approach is that children aged seven to eleven experience a concrete operational stage based on Piaget's theory of children's cognitive development where at this stage, children are confused if the information is presented abstractly because they are in the phase of logical reasoning in which concrete events or objects should be used (Wah et al., 2016). It helps pupils grasp the functions and distinctions of the PoT better because they can imagine what the rules or concepts mean by relating them to their real-life contexts.

Moreover, integrating a song in Melodifold^{GW+} signifies its significance in helping the pupils grasp and memorise the rules of PoT and bringing enjoyment to the learning process. This corresponds with Stephen Krashen's affective filter hypothesis, which posits that language input will likely be ingested if the affective filter is low, that is, when motivation is high (Jadhav, 2015). Affective filters obstructing language acquisition are significantly reduced by song because it creates a comfortable learning atmosphere that relaxes the pupils and puts them in a non-threatening environment. It assists them in feeling less anxious and letting go of their inhibitions when using English. This allows the pupils to experience better learning of the PoT and obtain the input effectively due to motivation boost and stress elimination. The significance of integrating a song is also supported by a study stating that songs aid in language comprehension and acquisition of new rules, automatic recognition and use of language patterns, and language improvement (Bsharat et al., 2021). Its repetition and rhythm also cause it to remain in listeners' brains long after the listening activity has ended (Jadhav, 2015), which helps pupils retain the rules in memory.

Furthermore, the intervention also highlights the effectiveness of gamification in allowing pupils to practice and retain the rules of PoT. The gamification element is incorporated into this intervention to act as drills for the pupils to fulfil the practice phase of the learning process. According to the Law of Exercise in Thorndike Stimulus-Response Theory, language is acquired from repeated processes, and pupils tend to memorise repeated data (Nazir, 2018; Karadut, 2012). This means that when the grammatical knowledge of PoT is applied frequently through the game-based drills, they can grasp the rules and remain in their memorisation, as supported by Monokaran et al. (2023), that games can enhance pupils' understanding of grammatical rules beyond memorisation. In addition, the games featuring fun learning elements help acquire the rules better. Stephen Krashen's affective filter hypothesis asserts that highly motivated pupils acquire a second language better because it avoids the activation of the affective filter (Sari, 2019) that blocks comprehensible input from being used for acquisition (Hoque, 2017). Having games to practice the grammatical rules of PoT evokes excitement among the pupils as they learn by playing, as proved by the interview data. Plus, technology-based learning is recommended as one of the Curriculum Principles in the DSKP (MOE, 2018), and the leverage of Information and Communication Technology (ICT) is stated as the seventh shift of Malaysia's education system transformation in Malaysia Education Blueprint 2013-2025 (MOE, 2013).

Additionally, Melodifold^{GW+}, featuring the integration of visual, auditory, and kinesthetic (VAK) learning, also underscores the significance of alignment to pupils' different learning styles in improving the pupils' use of prepositions of time. This is demonstrated from the interview data, which indicates that they can understand and memorise the rules of PoT, which they learned through the visuals on the paper, the song, the folding action, and the games. This corresponds with Dunn and Dunn's theory that VAK learning styles are tremendously effective for memory retention (Wah et al., 2019), and having activities matched with pupils' learning styles helps them learn better (Awla, 2014).

The combination of different learning styles also means that the pupils engage in multisensory activity, which helps them process information regarding the PoT rules in different ways, reinforcing their understanding and retention. A study also shows that pupils involved in multisensory activity use their left and right brain hemispheres, which help engage them throughout the learning process (Elfiky, 2022). Thus, the balanced approach incorporated in Melodifold^{GW+} can help the pupils develop a well-rounded understanding and retain information about the rules of PoT more effectively.

REFLECTION

As I reflect on my journey to improve the Year 4 Pirus pupils' use of prepositions of time, I realise how much both my pupils and I have grown through the process of this action research. The pupils' struggle in using prepositions of time, as well as their unawareness of the subtle differences between 'in', 'on', and 'at', has inspired me as a trainee teacher to seek creative, innovative, and effective ways to help them grasp the different rules of using each preposition of time. Introducing a concrete way to represent the rules, multisensory activities, and game-based learning brought an exciting shift to the classroom. I could see how the combination of these strategies engaged them in enjoyable and meaningful learning, and it felt rewarding to witness their notable and satisfactory improvement in their use of prepositions of time. What truly stood out to me was how effective the intervention was in helping them to understand all three rules of PoT in such a short time because, at first, I thought they might be confused about what I tried to convey through the song and the paper. However, over time, as they practised singing while folding the paper, listened to explanations of the rules using the features on the paper, received feedback from the game-based drills, and challenged themselves in writing tasks, I saw their confidence grow. This experience taught me that teaching grammar does not necessarily have to be dry or mechanical. By making it engaging and integrating multiple teaching techniques corresponding to the multiple learning process theories, my pupils learned the rules and felt empowered to use them correctly. This research has brought meaningful insight regarding the suitable and practical approach to teaching grammar.

SUGGESTIONS FOR FURTHER ACTION

For future research, it is highly recommended that this study be conducted with more research participants from multiple schools. This will provide more comprehensive feedback on how the intervention works across different demographic groups and learning environments. Moreover, the researcher may observe the long-term impact of Melodifold^{GW+} by conducting a longitudinal study to track pupils' progress over a more extended period. It assesses the lasting effects of the intervention, allowing the researcher to obtain a more nuanced observation of whether it retains the pupils' ability to use prepositions of time correctly. Ultimately, these enhancements will contribute to a more thorough evaluation of the intervention's overall success and sustainability in improving grammatical proficiency.

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PREVALENCE OF POLYPHARMACY AND SOCIODEMOGRAPHIC FACTOR CONTRIBUTED TO MALNUTRITION AMONG HOSPITALIZED ELDERLY PATIENT WITH MULTIMORBIDITY

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ABSTRACT

Introduction*: Elderly people have more long-term health problems, and the number of medications they take goes up as they get older. Concerns about this group are malnutrition. Sociodemographic factors, polypharmacy, and multimorbidity may be related with or cause nutritional status disturbances in the elderly.* ***Aim****: This study aims to determine the factors associated with malnutrition among hospitalized elderly patients with multimorbidity.* ***Method****: Quantitative, cross-sectional research method was used in this study. The samples are from patients who were admitted to the Medical and Surgical ward Hospital Al-Sultan Abdullah, UiTM. This study estimates prevalence of polypharmacy and sociodemographic associated factors contributed to malnutrition in hospitalised elderly patients with multimorbidity. Interviewer-administered surveys were conducted to collect data in this study. Data collection began from November until December 2022. A total of 247 elderly patients aged 60 years and above were examined. The validated Mini Nutritional Assessment short form (MNA-SF) was used to assess level of nutritional status. All data were analysed using IBM SPSS 26.* ***Result*** *:The prevalence of polypharmacy was reported high among elderly patients in HUiTM 98.4%, (243) patients using at least five medications and only 1.6% (4) of 247 patients consuming fewer than five medications. The level of nutritional status was reported that half, 131 (52.7%), were at risk of malnutrition, about 83 (33.6%) were malnutrition, and only 33 (13.4%) are normal nutrition. Sociodemographic characteristics such as age, educational level, hospitalizations in the past one year, and emergency room visit in the past six months were significant associated with the malnutrition ($p<0.001$). Other variables are also significantly associated with malnutrition, including gender ($p = 0.019$), marital status ($p = 0.02$), working status ($p = 0.002$), and recent doctor visit in the past six months ($p = 0.012$). Meanwhile ethnicity were found not to be associated with the malnutrition ($p=0.812$).* ***Conclusion :*** *The role of polypharmacy on nutritional status among elderly people is unclear. Some diseases promote malnutrition; the independent role of drugs for nutritional status is challenging to determine. There are several factors associated with malnutrition among the population derived from this investigation of a representative sample of the elderly hospitalized in HUiTM hospitals. These findings could have major importance for the planning of policies and programs to enhance health outcomes related to malnutrition and polypharmacy in elderly patients.*

Keywords*: Malnutrition, Polypharmacy, Socio-demographic Factors, Elderly.*

INTRODUCTION

In wealthy nations, an average of over fifty percent of the elderly have numerous chronic diseases (Tan et al.,2019). An elderly is referred to as a person who is sixty years of age or older, generally assessed by chronological age, undergoing the aging process (Singh & Bajorek, 2014). The aging population is increasing in all developed countries because of rising life expectancy. Even though Malaysia is a developing country, Malaysia will become an older nation by 2030 as the number of senior citizens

(those 60 and older) rises. Malaysia's aged (senior) population had grown dramatically since the 1970s, when there were 0.5 million, to around 2.3 million in 2010, and this figure continues to rise every year (Hamid et al., 2013; Sulaiman, 2011). The prevalence of polypharmacy,Sociodemographic factors, and multimorbidity may be related with or cause nutritional status disturbances in the hospitalised elderly.

Multimorbidity was the coexistence of multiple health conditions in an individual. In other words, for those with two or more diseases,it reduces health status and increases clinical management complexity and healthcare expenses. Multimorbidity is the coexistence of multiple health conditions in an individual. In other words, it is referring to those with two or more diseases. Commonly, multimorbidity results from the causal connection between a few diseases and common pathogenic causes (Zhang et al., 2019).). As a result, it will reduce health status while increasing clinical management complexity and healthcare costs. According to research, comorbidity is frequent in the senior population, with prevalence rates ranging from 55 to 98 %. Also, there is a 76% chance that patients may develop three or more chronic illnesses (Maung et al., 2018). As a result of multimorbidity, elderly patients often require multiple medications known as polypharmacy to adequately and appropriately treat their morbidities.

Polypharmacy is defined as the consumption of 5 or more concomitant drugs (Doheny et al., 2021). Polypharmacy may cause deterioration in nutritional status such as digestive system problems that lead to reduced appetite, which is frequently seen in older adults (Kose et al., 2020; Ortolani et al., 2013). Polypharmacy increases the cost and complexity of therapeutic regimens and puts patients at risk for adverse drug reactions and drug to drug interactions. Besides that, using many medications among the elderly can lead to nutritional deficiency or malnutrition by decreasing appetite, producing gastrointestinal issues, and altering other bodily functions (Kose et al. 2020). As the number of prescriptions for pharmaceutical drugs increases, nutritional status may suffer. However, it is not clear how polypharmacy affects malnutrition.

This research sought to identify the factor associated with malnutrition among hospitalized elderly patients with multimorbidity by determine the prevalence of polypharmacy, explore the sociodemographic factor which associated to malnutrition in elderly with multimorbidity. This study also aims to enhance the knowledge and awareness of nurses regarding the importance of nutrition for older patients, as well as to improve future health outcomes related with polypharmacy among elderly patients with many diseases.

LITERATURE REVIEW

Prevalence of polypharmacy among elderly

The elderly population was increasingly using multiple medications and supplements. Chronic diseases such as cardiovascular disease, chronic obstructive pulmonary disease, cancer, and diabetes are closely associated with polypharmacy among the elderly. The prevalence of polypharmacy and malnutrition was reported to be high (Peter et al., 2017). In a population-based study of elderly people aged 75 and up, the following medication categories were identifified: cardiovascular medication (82%), nervous system (62%), blood and blood-forming organ drugs (63%), and alimentary tract and metabolism medications (60%).

A study from Universiti Sains Malaysia conducted by Saniah et al. (2006) on 238 (85%) elderly patients who received treatment at the Family Medicine Clinic at HUSM found that the prevalence of polypharmacy was high at 45.8% at index time and 55% after one month. This was in line with the study by University Malaya Malaysia conducted by Lim et al. (2017) on 1256 participants in three representative urban parliamentary constituencies (Petaling Jaya South, Petaling Jaya North, and Lembah Pantai), whose study found that the prevalence of polypharmacy was also high at 45.9%, while

56.9% were users of supplements. The results of this study were in contrast to the study conducted in Singapore by Tan et al. (2019), which stated that the prevalence of polypharmacy in Singapore is low compared to other countries and was 14.5% out of the 1499 total participants involved in the study.

Association of sociodemoghraphic, polypharmacy and nutritional status

The aging process was associated with physiological and pathological changes related to nutrition, social, psychological, and physical variables, including weight loss, decreased appetite, depression, and functional impairment (Liu et al., 2020). Malnutrition and polypharmacy became more prevalent as health issues among elderly individuals in hospitals, communities, and nursing homes. Studies show that nutritional status and polypharmacy are associated with gender, education level, age, and race. Polypharmacy was shown to be more prevalent among individuals aged 65–74 and continued until later in the previous study (Doheny et al., 2021).

According to a study by Doheny et al. (2021), primary education levels, female sex and old age increase the rate of polypharmacy. Similarly, the study conducted by Saniah et al. (2006) found that polypharmacy occurs among older individuals, women, those who use over-the-counter medications, and those who are treated in tertiary hospitals. The study conducted by Poda et al. (2019) among the elderly in Taiwan also revealed sociodemographic factors such as age > 70 years, gender, poor education level, single status, and low income were shown to be positively related to undernutrition in older people.

Polypharmacy and nutritional status among elderly with multimorbidity

Polypharmacy and medication therapy frequently lead to nutritional deficiency. Several factors contributed to malnutrition among the elderly, including changes in metabolic rate caused by aging, various chronic diseases (multimorbidity), polypharmacy, and social problems such as loneliness and lack of financial resources. Malnutrition has been linked to polypharmacy in studies due to drug-drug interactions and drug- nutrient interactions. Loss of appetite, nausea, diarrhoea, weight changes, taste changes, decreased saliva production, lipid profile changes, electrolyte balance changes, and changes in glucose metabolism are all examples of how drug therapy can lead to poor nutritional status. According to research by Kose et al. (2020), malnutrition and polypharmacy increase with age and multimorbidity. The link between malnutrition and polypharmacy was mainly based on the effects of both on the gastrointestinal tract and the central nervous system.

The study by Griep et al. (2000) discovered a strong negative connection between the number of drugs consumed and the MNA score ($r = -.34$, $p < .001$), When individuals at risk of Malnutrition (MNA > or = 24) were compared to those at risk (MNA = 17-23.5), the number of medicines taken was substantially different (4.5, SD = 2.9; and 7.0, SD = 2.6; p.0005, respectively). This study demonstrated that elderly people at risk of malnutrition used more medicine than those who were not at risk. Furthermore, research by Nakamura et al. (2021) also revealed that polypharmacy was associated with malnutrition independently. The study result showed that 49 (47.6%) out of the 103 individuals that completed MNA-SF screening were determined to be malnourished or at risk of malnutrition. The well-nourished group had a polypharmacy rate of 47.1 percent. In contrast, the malnourished group had a polypharmacy rate of 75.8%, suggesting that the polypharmacy rate in the malnourished group was substantially higher (P=.005)

RESEARCH METHODOLOGY

A cross-sectional descriptive design was chosen as it is relevant to the research objectives. The sample populations are among the hospitalized an elderly with multimorbidity patients at Medical Surgical ward of Hospital Al-Sultan Abdullah, UiTM Puncak Alam. For this study, a convenience non-probability sampling method was used. The sample size was calculated using Raosoft Sample Size Calculator. Total sample size for this study was 247.

Interviewer administered questionnaire was used to collect data in this study. The questionnaire is available both in Bahasa Malaysia and English and consists of three parts. Part 1: Sociodemographic characteristics such as age, gender, race, education level, number of medicines taken, number of chronic diseases diagnosed, marital status, admission to the ward within the past year ago, admission to the emergency department within six months ago, and job status were collected as self-reported data during the interview. Part 2: Polypharmacy characteristics is defined as taking five or more medications regularly (Silveira et al.,2014). Medications prescription chart and self-reported question: "How many medicines (prescription by the doctor) do you (subject) take regularly?" was used to identify polypharmacy and will be labelled as YES = Medications ≥ 5, NO = Medications < 5. In addition, health supplements that are not prescribed by a doctor or traditional medicines were excluded. Part 3: Nutritional status. An adapted Malay version of the Mini Nutrition Assessment-Short Form (MNA-SF) was used to assess nutritional status, its adapted from the previous study by Ahmad et al. (2021). It consists of six questions: Anthropometric measurements (body mass index, weight loss), global assessment (mobility), dietary questionnaire and subjective assessment (food intake, neuropsychological problems, acute disease). The total scores of MNA-SF are ranging from 0 to 14. The range of overall score below 8, 8 to11, and above 11 indicates malnutrition, risk of malnutrition, and no malnutrition or normal. The level of nutritional status was scored as follows: below 8 = malnutrition 8 to 11 = risk of malnutrition 11 to 14 = no malnutrition or normal. All data were analysed using IBM SPSS 26.

Analysis Sociodemographics of Respondent

This section reports the background analysis of the respondents which consists of age, gender, ethnicity, marital status, educational level, working status, hospitalization in the past one year, emergency room visit in the past six months, doctor visits in the past six months and number of medication taken. Frequency and percentage methods were used to analyze the background of the respondents. The background data analysis of the study is as shown in Table 1.

Table 1 Sociodemographic characteristics of the elderly patient (n = 247).

Sample Characteristic	Frequency (n)	Percentage (%)	Mean	SD
Age (Mean: SD)				
60-70	133	53.8		
71-80	94	30.05	70.91	6.315
81-90	19	7.6		
>90	1	0.4		
Gender				
Female	149	60.3		
Male	98	39.7		

Ethnicity		
Malay	214	86.6
Chinese	15	6.1
Indian	18	7.3
Marital Status		
Single/divorced/widowed	29	11.7
Married	218	88.3
Educational Level		
No formal education	8	3.2
Primary school	58	23.5
Secondary school	105	42.5
Tertiary (Colledge/University)	76	30.8

Working Status	
Unemployed	12450.2
Pensioner	10441.3
Employed	218.5
Hospitalizations in the past one year	
Yes	7229.1
No	17570.9
Emergency room visit in the past six months	
Yes	10040.5
No	14759.5
Doctor visit in the past six months	
Yes	124.9
No	23595.1
How many medicines (prescription by the doctor) do you take on a regular basis?	
1-5	8.010.9
6-10	16265.6
11-15	6727.1

Table 1 shows the distribution of the number and percentage of respondents by age, gender, ethnicity, marital status, educational level and working status. The total number of respondents is 247 people. Of this total, 149 patients (60.3%) were female while 98 patients (39.7%) were male. Most of the

participants were Malay (214; 86.6%) and fewer were Chinese (15; 6.1%) and Indian (18; 7.3%). There were 88.3% of the participant married (n=218). However, other 29 (11.7%) person was either single, divorced or widowed. Most patients were relatively highly educated where 30.8% from tertiary education from College or University (n=76),105(42.5%) passed their secondary education. 58 patients (23.5%) study for primary school and only eight people had primary education (3.2%). Since the patients age were more than 60 years old, most of them were unemployed (n=124;50.2%) and pensioner (n=104;41.3%). 8.5% of the rest were employed (n=21)

Levels of Nutritional Status among Hospitalized Elderly in HUiTM

Table 2 The frequency of level of nutritional status among elderly in HUiTM

Nutritional Status	Frequency	Percent
0-7 Malnutrition	83	33.6
8-11 Risk for malnutrition	131	53.0
12-14 Normal Nutrition	33	13.4
Total	247	100.0

Table 2.0 shows the level of nutritional status among elderly in HUiTM. Based on table 2, 83 (33.6%) patients were malnourished, 131 (53.0%) patients were at risk of malnutrition and only 33 (13%) patients have normal nutrition.

Prevalence of polypharmacy among elderly

Table 3 The prevalence of polypharmacy among elderly in HUiTM (n=247)

Polypharmacy	Frequency (n)	Percentage (%)
Less than 5 medications	4	1.6
More than 5 medications	243	98.4
Total	247	100.0

Table 3 shows the prevalence of polypharmacy among hospitalized elderly patients at HUiTM. The results of the study indicate that (n=243, 98.4%) of patients were having polypharmacy, while only 4 patients (1.6%) were not polypharmacy.

OBJECTIVES

General objective is to determine the prevalence of polypharmacy in hospitalised elderly with multimorbidity. Specifically this study aims:

1. 1. To determine the prevalence of polypharmacy among the hospitalized elderly patients at Hospital Al- Sultan Abdullah, UiTM.
2. 2.To determine levels of nutritional status among hospitalized elderly with multimorbidity.
3. 3.To examine the relationship between sociodemographic factors (such as age, gender, ethnicity, level of education, employment status, and history of admission to the hospital) with multimorbidity and the nutritional status of the elderly patients.

FINDINGS

Table 4 Relationship of sociodemographic and nutritional status for elderly patient at HUiTM

		Nutritional Status			
		0-7 Malnutrition	8-11 Risk for malnutrition	12-14 Normal Nutrition	p-value
Age	60-70	27	76	30	<0.001*
	71-80	39	52	3	
	80-90	18	3	0	
	>90	1	0	0	
Gender	Men	41	83	25	0.019*
	Women	42	48	8	
Ethnicity	Malay	72	112	30	0.812
	Chinese	4	10	1	
	Indian	7	9	2	
Marital Status	Single/Divorced/widower	16	12	1	0.020*
	Married	67	119	32	
Educational Level	No formal education	5	3	0	<0.001*
	Primary school	26	32	0	
	Secondary school	36	59	10	
	Tertiary(College/University)	16	37	23	

Continue table 4

Nutritional Status		0-7 Malnutrition	8-11 Risk for malnutrition	12-14 Normal Nutrition	p-value
Working Status	Unemployed	50	64	10	
	Pensioner	32	54	16	0.002*
	Employed	1	13	7	
Hospitalizations in the pastone year	No	7	44	21	<0.001*
	Yes	76	87	12	
Emergency room visit in thepast six months	Yes	20	63	17	<0.001*
	No	63	68	16	
Doctor visit in the past sixmonths	Yes	3	4	5	0.012*
	No	80	127	29	

*P< 0.05

Table 4 is the relationship between sociodemographic factors with levels of nutrition among the hospitalized elderly with multi-morbidity. The result revealed that advancing age, educational level, hospitalizations in the past one year and emergency room visit in the past six months were significant to nutrition status among the elderly. However, for polypharmacy, only having a doctor visit in the past six months was significant.

Reduced nutritional status were all associated with excessive polypharmacy ($p<0.001$). The three outcome measures were also related to age, educational level, hospitalization, and the emergency visit room ($p<0.001$). Excessive polypharmacy was associated with a decline in all characteristic measures, excepted to doctor visit in the past six months ($p<0.001$). Reversed result for nutrition status where the result was retained at null hypothesis at doctor visit in the past six months ($p<0.012$), gender ($p=0.019$), ethnicity ($p=0.812$) and marital Status ($p=0.020$). In this case study, high p-values indicate that the evidence of mentioned factors that relate to malnutrition was not strong enough to suggest an effect that exists in the population of respondent. An effect might be existed but it's possible that the effect size of factors was too small or there was too much variability for the hypothesis test to detect it. The best example was the factor of ethnicity, the value of p value was higher might because of there were variable in ethnicity that participate in the research at higher interval between Malay and other races.

Different to polypharmacy where most of the sociodemographic factors showed no significant different since most of the p value were higher. P values were expressed as decimals although it would be easier to understand if it was convert to a percentage. For example, in this study, a p value of age was 0.295 which mean 29.5%. This means there was a 29.5% chance of the results could be random or the relationship happened by chance. This similar to other sociodemographic factor, the p value revealed that there no significant different with polypharmacy among elderly respondents. For the number of chronic diseases that suffering by the participants, it was a constant number ac-counter for the result. By comparing to nutrition status and polypharmacy, nutrition status was significantly associated with sociodemographic of participant in this study

DISCUSSIONS

Prevalence of polypharmacy

In our study, the weighted prevalence of polypharmacy among elderly patients with multimorbidity in Hospital UiTM was 98.4%, with 243 patients using at least five medications and only 4 (1.6%) of 247 patients consuming fewer than five medications. Our estimate is higher, possibly due to our categorization of the elderly with multiple chronic diseases.

Polypharmacy was more prevalent among patients aged 60 to 70, with 130 patients (53.5%). We discovered that age 70 was a risk factor for polypharmacy. Given their age (70 years), the younger-old may be more concerned with their health status and seek treatment more frequently than the older-old (age 80–90 years), resulting in higher prescription drug consumption.

Men made up almost two-thirds of the total participants. In our study, we found that men were more common than women. There were 146 men (60.1%) and 97 women (39.9%) who took medications more than 5 at regular time. According to Tan et al. (2019), a study from Brazil found that women aged 60–79 used more drugs than men of the same age; yet, incoherent to our findings, studies from South Korea found that polypharmacy was more widespread among older men. Such discrepancies may result from country-specific variations in the gender distribution of chronic diseases. Another factor could be gender variations in preventative health behaviours that protect against the progression of diseases, which favour women.

In term of race, 86.4% (210) Malay patients are most prevalent compared to the Indian 6.2% (15) and Chinese 7.4% (18). Ethnicity, a significant component of a person's cultural identity, might influence general medicine use trends. An American study suggested that acculturation, or the mismatch between ethnic-specific health beliefs and the healthcare system, could explain some variations in polypharmacy; however, no such correlation was identified. Similar to neighbourhood country Singapore, Malaysia is home to a diverse population, and it has been found that the senior Malay population there is at greater risk of polypharmacy than the elderly Chinese and Indian population it could be due to Malay is the major ethnic population.

In term of level of education, secondary school account for the highest frequency of polypharmacy, at 42.8% (104), compared to those with no formal education at 3.3% (8), primary education at 23.9% (58), and tertiary/university education at 30.0%. (73). Our finding is incoherent with a study conducted by Doheny et al., (2020) which found that prevalence of polypharmacy had higher among those with primary education compared to those with post-secondary education. Similar to the Khezrian et al., (2020) reported that polypharmacy are associated with lower educational attainment. A low level of education is a risk factor for polypharmacy, which is common. This could be because elderly people with low levels of education don't know much about treatment and medication.

Levels of Nutritional Status among Hospitalized Elderly with Multi-morbidity.

The Mini Nutritional Assessment (MNA) test is the one that has been validated the most and is the one that was used the most frequently to determine the nutritional status of elderly adults. The results on the MNA test can vary from 0 to 14, with a score of 12 or higher suggesting adequate nutritional status, numbers between 8 to 11 indicating a risk of malnutrition, and scores below 7, indicating malnutrition. A cross-sectional study conducted among elderly patients in HUiTM reported half, 131 (52.7%), were at risk of malnutrition, about 83(33.6%) were malnutrition, and only 33 (13.4%) participants were relevant in nutritional status. According to Kose E et al., (2020), malnutrition has been linked to a higher financial cost burden and an increased risk of illness, hospitalisations, and mortality. Furthermore, malnutrition is related to adverse health outcomes, including greater dependence on assistance for completing activities of daily living (ADL), prolonged hospitalisation, difficulty returning home from the hospital, and increased mortality rates.

A cross-sectional study also found that 138(55.9%) of the elderly had a moderate decrease in food intake over the past three months due to loss of appetite, digestive problems, and chewing or swallowing difficulties, which showed no significance to the nutrition status since the p-value is lower ($p<0.001$). Compared with other studies, Griep et al. found swallowing and chewing problems were more significantly linked to malnutrition among the elderly. In older people, the BMI was also indicated to determine the risk of malnutrition. According to our study, the elderly with a body mass index (BMI) below 19 kgm−2 were less likely to be at risk of malnutrition or malnourished, with lower frequency values of only 16(6.5%). Unlikely the study by Ahmad, M. H et al. 2021, found that the elderly with body mass index (BMI) below 18 kgm−2 were at a more highly significant risk of malnutrition. Unfortunately, our study also found that the elderly with BMI more than 23 kgm−2 were protective against at risk of malnutrition with level 117(47.4%). Nevertheless, BMI is useful for gaining a rapid understanding of nutritional status but should not replace exact nutritional assessment since malnutrition or malnutrition risk may be present even at high BMIs.

Association of sociodemographic and nutritional status

This study found that sociodemographic characteristics such as age, educational level, hospitalizations in the past one year, and emergency room visit in the past six months were significant associated with the malnutrition ($p<0.001$). Other variables are also significantly associated with malnutrition, including gender ($p = 0.019$), marital status ($p = 0.02$), working status ($p = 0.002$), and recent doctor visit in the past six months ($p = 0.012$). Meanwhile, Malay, Chinese, and Indian ethnicity were found not to be associated with the malnutrition ($p=0.812$).

In terms of education level, our finding is coherent with the study by Ahmad et al., (2021) who conducted a community-based study in Malaysia, identified low education level, and ethnicity as risk factors for malnutrition among the elderly. We observed that age positively correlated with inadequate nutritional status. This study is similar with the study conducted by Poda et al. (2019) found that sociodemographic characteristics such as age > 70 years, gender, uneducated level, unmarried status, and low income were positively associated with undernutrition in older adults. This study found that healthcare used variables such as hospitalizations in the past one year, and emergency room visit in the past six months and recent doctor visits in the past six months are all associated with nutritional status. However, no research is conducted to evaluate these three characteristics related with malnutrition. More research is required to investigate additional associations. But these three healthcare use variables have been used to study the association with polypharmacy by Tan et al. (2019) in Singapore and they found no association between healthcare use variables and polypharmacy

CONCLUSION

The elderly are more susceptible to malnutrition. Malnutrition is widespread among the elderly since they are afflicted with various ailments requiring multiple drugs and therapies. Age raises the need for some nutrients while decreasing the need for others. The elderly with several conditions and polypharmacy are most likely to develop nutritional difficulties due to drug consumption. Increasing age is associated with an increase in the prevalence of chronic medical diseases and the use of several medications. In addition, nursing knowledge and nutrition awareness in elder patients were expected to be enhanced in this study and improved health outcomes among multimorbid elderly patients.

Several recommendations were made to other researchers to compare polypharmacy and non-polypharmacy with nutritional status to determine the relationship between polypharmacy and nutritional status in the elderly with multimorbidity. In addition, it is suggested that additional research be conducted on polypharmacy with a focus on nutritional elements, particularly cohort, to progress and improve non-pharmacological treatments that are effective and accessible to the elderly. We also recommend the other researchers conduct their studies at government hospitals with large populations to increase the data's validity and reliability.

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TRANSFORMASI LATIHAN DI KELANTAN : MENELUSURI KUALITI PERKHIDMATAN, KEPUASAN PELATIH, DAN NIAT MENERUSKAN PERKHIDMATAN PENYEDIA LATIHAN

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ABSTRAK

Kajian ini bertujuan untuk meneroka hubungan antara kualiti perkhidmatan, kepuasan pelatih, dan niat untuk meneruskan perkhidmatan penyedia latihan di Kelantan. Dalam konteks peningkatan keperluan terhadap pembangunan kemahiran dan pengetahuan di Malaysia, terutamanya di wilayah Pantai Timur, penyedia latihan memainkan peranan penting dalam memacu daya saing ekonomi negara. Menggunakan pendekatan Teori Pengesahan Harapan (Expectation Confirmation Theory - ECT), kajian ini memfokuskan kepada bagaimana kualiti perkhidmatan mempengaruhi kepuasan pelatih dan seterusnya menentukan niat mereka untuk terus menggunakan perkhidmatan latihan. Data primer telah dikumpul daripada 147 pelatih yang menyertai pelbagai program latihan di Kelantan. Soal selidik berskala Likert digunakan untuk mengukur persepsi pelatih terhadap dimensi kualiti perkhidmatan yang dinilai berdasarkan lima faktor utama: ketegasan, kebolehpercayaan, kepekaan, jaminan, dan empati. Kajian ini menggunakan analisis statistik regresi Partial Least Squares (PLS) dan SPSS untuk menilai hubungan antara pembolehubah. Dapatan kajian ini memberi implikasi penting kepada penyedia latihan untuk meningkatkan kualiti perkhidmatan mereka, meningkatkan kepuasan pelatih, dan mendorong niat pelatih untuk meneruskan program latihan. Ini juga dapat membantu penyedia latihan untuk mengekalkan daya saing mereka dalam pasaran latihan yang semakin kompetitif.

***Kata Kunci**: Transformasi latihan, kualiti perkhidmatan, kepuasan pelatih, niat meneruskan, penyedia latihan, Kelantan, pembangunan kemahiran, Teori Pengesahan Harapan (ECT).*

PENGENALAN

Transformasi penyedia latihan di Malaysia telah mengalami perubahan yang ketara dari era kolonial hingga ke hari ini. Penyelidikan menunjukkan bahawa pemahaman terhadap ciri-ciri kualiti yang mempengaruhi niat untuk meneruskan perkhidmatan latihan adalah penting bagi syarikat untuk memanfaatkan sumber organisasi yang terhad dengan lebih berkesan (O'Cass & Carlson, 2012). Dalam usaha meningkatkan prestasi organisasi, pelaburan yang signifikan dalam program latihan pekerja adalah suatu keperluan. Menurut Festus (2014), latihan dalam organisasi bukan sekadar proses pembelajaran tetapi merupakan peluang pembelajaran yang terancang dan berorientasikan matlamat. Proses ini bertujuan untuk membantu pekerja memperoleh pengetahuan dan kemahiran yang dianggap penting oleh syarikat untuk mencapai sasaran mereka. Oleh itu, pemilihan program latihan yang sesuai dan berkesan adalah kritikal, kerana tidak semua program mampu mencapai hasil yang diinginkan (Awang et al., 2010). Dengan pendekatan ini, penerima latihan dapat memastikan bahawa mereka tidak hanya melatih pekerja tetapi juga membangunkan potensi mereka secara menyeluruh untuk menghadapi cabaran masa hadapan (Festus, 2014).

Kepuasan pelatih merupakan elemen penting yang menentukan kejayaan penyedia latihan di Malaysia. Penilaian terhadap tahap kepuasan ini tidak hanya mencerminkan keberkesanan program latihan, tetapi juga menjadi indikator utama untuk menilai kelangsungan penyedia latihan dalam pasaran yang kompetitif. Memahami keperluan pelanggan dan memenuhi harapan mereka adalah langkah kritikal untuk mencapai peningkatan produktiviti dan kualiti yang berterusan (Jasmani dan Sunarsi, 2020; Rozi, 2020). Kajian menunjukkan bahawa pengalaman memuaskan bagi pelanggan ditentukan oleh sejauh mana jangkaan mereka terhadap perkhidmatan dan produk dipenuhi, yang mana ini berfungsi sebagai asas untuk membina hubungan jangka panjang (Artiningtyas et al., 2014; Saputra, 2013).

Dalam konteks penyedia latihan di Pantai Timur Semenanjung Malaysia terutama di Kelantan, pelaburan majikan dalam latihan pekerja adalah satu langkah strategik yang perlu diteruskan. Laporan Penyertaan Latihan Industri (ITPR 2021) menunjukkan bahawa majikan melaburkan antara satu hingga dua sesi latihan bagi setiap pekerja dalam setahun, menunjukkan kecenderungan untuk memilih program latihan yang fleksibel dan kursus pendek yang boleh dilaksanakan semasa waktu bekerja. Oleh itu, kajian ini bertujuan untuk meneroka kesan tidak langsung setiap elemen kualiti terhadap niat untuk meneruskan perkhidmatan latihan serta impak yang dimediasi oleh kepuasan pelanggan (Zopiatis et al., 2017). Dengan memahami hubungan ini, penyedia latihan dapat meningkatkan strategi mereka untuk memenuhi jangkaan pelanggan dan memastikan kepuasan yang tinggi, seterusnya memperkukuh kedudukan mereka dalam industri (Jasmani dan Sunarsi, 2020).

Pada tahun 2023, Human Resources Development Corporation (HRD Corp.) mencatat hampir 90,000 majikan berdaftar dari pelbagai sektor yang melibatkan lebih 4.58 juta pekerja. Permintaan untuk industri latihan meningkat dengan ketara disebabkan oleh perkembangan profesional yang semakin meningkat, dengan sekitar 2.3 juta peserta latihan yang mencatatkan pencapaian bersejarah. Sektor perkhidmatan mempunyai jumlah peserta latihan yang diluluskan tertinggi. Komitmen organisasi dan latihan pekerja adalah komponen penting bagi mana-mana organisasi. Latihan yang baik dapat meningkatkan prestasi organisasi dan memberikan kelebihan kompetitif, tetapi latihan berlebihan boleh menyebabkan reaksi negatif dan kurang minat di kalangan pekerja. Kajian menunjukkan bahawa terdapat jurang dalam penyertaan peserta dalam latihan kemahiran, terutamanya di Negeri Kelantan. Oleh itu, adalah penting untuk menekankan terhadap perkhidmatan latihan yang disediakan oleh penyedia latihan dan menggalakan peserta latihan untuk teruskan niat menggunakan perkhidmatan penyedia latihan.

Penyedia latihan tidak hanya memenuhi pasaran tempatan tetapi juga berpotensi untuk mencapai audiens antarabangsa, memberikan sumbangan yang signifikan kepada landskap pendidikan Malaysia. Perundangan kerajaan yang menghendaki perniagaan melabur dalam latihan pekerja di bawah Akta Pembangunan Sumber Manusia 1992 menyokong inisiatif ini dengan mewajibkan syarikat menyumbang peratusan gaji kepada dana latihan. Walau bagaimanapun, beberapa organisasi masih meremehkan kepentingan latihan dan pembangunan untuk tenaga kerja mereka, mengakibatkan kekurangan pengetahuan tentang amalan pengurusan yang berkesan (Karm & Mahadevan, 2019). Kajian ini bertujuan untuk mengatasi jurang ini dengan memberi tumpuan kepada kualiti perkhidmatan dan kesannya terhadap kepuasan peserta dan komitmen organisasi.

KAJIAN LITERATUR

Tinjauan literatur ini bertujuan utama untuk mengkaji kajian-kajian terdahulu mengenai intranet dan perkongsian pengetahuan. Struktur bab ini akan dimulakan dengan perbincangan latar belakang industri serta latar belakang penyedia latihan, diikuti dengan teori asas Teori Pengesahan Harapan (Expectation Confirmation Theory - ECT) yang mempengaruhi niat berterusan. Seterusnya, akan dibincangkan secara ringkas tentang niat berterusan berkaitan dengan kualiti perkhidmatan. Bahagian seterusnya adalah tinjauan yang menekankan dimensi kualiti perkhidmatan untuk mengukur tahap kepuasan pelanggan yang terdiri daripada lima dimensi: ketegasan, kebolehpercayaan, kepekaan, jaminan, dan

empati. Tinjauan literatur ini memberi tumpuan kepada kualiti perkhidmatan dan dimensi-dimensinya yang berkaitan dengan kepuasan pelanggan.

Mencari pekerjaan baru atau memajukan kerjaya dalam sesebuah organisasi sering kali memerlukan latihan (Herman dan Karin, 2010). Selain itu, latihan didefinisikan sebagai proses memberikan pelajar pengetahuan dan kemahiran yang diperlukan untuk meningkatkan diri mereka, masyarakat, dan keseluruhan kehidupan mereka. Contoh program latihan termasuk pengajaran, penyelidikan berasaskan projek dan latihan klinikal, penempatan undang-undang, serta latihan di tempat kerja di organisasi swasta, awam, atau bukan kerajaan. Dengan bantuan isu-isu dan senario dunia nyata, program-program latihan ini menyediakan pelajar akademik dengan persekitaran makmal di mana mereka dapat menggunakan teori dan pengetahuan yang telah mereka pelajari di universiti untuk meningkatkan pengalaman akademik mereka.

Teori Pengesahan Harapan (ECT) adalah satu teori kognitif yang berusaha untuk menerangkan kepuasan selepas pembelian atau selepas penerimaan sebagai fungsi daripada harapan, prestasi yang dirasakan, dan pengesahan semula kepercayaan. Teori ini melibatkan empat konstruk utama: harapan, prestasi yang dirasakan, pengesahan semula kepercayaan, dan kepuasan. Harapan merujuk kepada atribut atau ciri-ciri yang dijangkakan oleh seseorang berkaitan dengan entiti seperti produk atau perkhidmatan. Prestasi yang dirasakan pula merujuk kepada persepsi seseorang terhadap prestasi sebenar produk atau perkhidmatan tersebut. Pengesahan semula kepercayaan melibatkan penilaian yang dibuat oleh seseorang berdasarkan harapan asal mereka. Akhir sekali, kepuasan merujuk kepada sejauh mana seseorang berpuas hati dengan produk atau perkhidmatan selepas mengalami penggunaannya.

Teori pengesahan harapan yang diperkenalkan oleh Oliver (1980; 1993) menggambarkan kepuasan sebagai satu keadaan emosi yang ditandai dengan perasaan gembira atau positif yang terhasil daripada penilaian terhadap prestasi produk atau perkhidmatan. Teori penentuan diri pula merupakan satu kerangka akademik yang semakin diterapkan untuk mengkaji motivasi pelanggan, kepuasan, dan tingkah laku masa depan; berbeza dengan teori pengesahan harapan (ECT) yang banyak digunakan untuk mengkaji kepuasan pelanggan dan niat berterusan serta faktor-faktor pendahuluan mereka (Ntoumanis, 2005).

Niat berterusan merujuk kepada hasrat untuk terus menggunakan perkhidmatan atau teknologi (Yalin Li & Min Zhao, 2021). Istilah "niat berterusan" menggambarkan keinginan untuk terus menggunakan perkhidmatan atau membeli teknologi baru (Bhattacherjee, 2001). Menurut Swar et al. (2017), niat berterusan merujuk kepada kecenderungan tingkah laku untuk terus menggunakan sistem maklumat. Meningkatkan niat pelajar untuk meneruskan penggunaan telah menjadi matlamat utama para penyelidik. Niat adalah penunjuk berguna bagi tingkah laku kerana ia mencerminkan kapasiti subjektif seseorang untuk melaksanakan tindakan tertentu. Persepsi didefinisikan oleh Kamus Oxford sebagai "cara sesuatu itu dianggap, difahami, atau ditafsirkan." Oleh itu, pelanggan menilai secara subjektif kualiti perkhidmatan yang mereka terima daripada penyedia menggunakan konsep kualiti perkhidmatan. Faktor jangkaan perkhidmatan dan faktor persepsi perkhidmatan adalah faktor yang mempengaruhi kualiti perkhidmatan. Tambahan pula, kualiti perkhidmatan boleh digunakan untuk mengukur tahap kepuasan pelanggan terhadap penyedia perkhidmatan. Lima dimensi kualiti perkhidmatan yang dikaji dalam kajian ini termasuk ketegasan, kebolehpercayaan, kepekaan, jaminan, dan empati.

Dalam konteks ini, kajian menunjukkan bahawa kualiti perkhidmatan mempunyai kesan langsung yang signifikan terhadap kepuasan pengguna dalam mengadopsi teknologi kendiri pada tahap signifikansi statistik 0.05 (Balasubramanian, 2003). Penemuan ini menunjukkan bahawa keutamaan keseluruhan pengguna akan meningkatkan kesediaan mereka untuk terus menggunakan teknologi kendiri di masa hadapan. Oleh itu, kepuasan pengguna menjadi variabel penting dalam menentukan niat berterusan untuk menggunakan teknologi tersebut.

METODOLOGI

Penyelidik telah memilih pendekatan kuantitatif untuk kajian ini. Van der Merwe (1996) mendefinisikan penyelidikan kuantitatif sebagai satu pendekatan yang bertujuan untuk mengesahkan hipotesis, menetapkan fakta, menunjukkan hubungan antara pembolehubah, dan meramalkan hasil. Untuk memastikan objektiviti, kebolehlaksanaan, dan kebolehpercayaan, penyelidikan kuantitatif mengintegrasikan pendekatan sains semula jadi (Weinreich, 2009). Kajian ini akan melibatkan individu yang terlibat secara langsung atau tidak langsung dengan mana-mana penyedia latihan. Objektif kajian adalah untuk mengukur tahap kepuasan pelanggan dan niat berterusan dalam menggunakan penyedia latihan di Wilayah Pantai Timur.

Kajian ini akan mengambil populasi berdasarkan laporan peserta terkini, iaitu jumlah pekerja yang telah menerima latihan pada tahun 2022. Daripada 4,383,150 pekerja yang meliputi semua sektor di bawah HRD Corp pada tahun 2022, hanya 845,685 peserta yang telah menjalani latihan. Jumlah 845,685 ini merupakan populasi yang diambil dalam kajian ini dan termasuk peserta yang terlibat dalam kursus latihan yang disediakan oleh penyedia latihan di Malaysia. Sampel untuk kajian ini dipilih menggunakan teknik pensampelan bertujuan. Kaedah ini dipilih kerana kumpulan sasaran kajian adalah khusus (Sekaran dan Bougie, 2010).

Ujian kebolehpercayaan adalah penting kerana kebolehpercayaan berkaitan dengan konsistensi komponen alat pengukuran (Huck, 2007). Apabila semua elemen skala mengukur konstruk yang sama dan "berkait rapat," kebolehpercayaan dan konsistensi dalaman skala tersebut adalah tinggi (Huck, 2007; Robinson, 2009). Statistik konsistensi dalaman yang paling sering digunakan adalah koefisien Cronbach Alpha. Skala Likert dianggap sebagai metrik kebolehpercayaan yang paling diterima secara meluas (Whitley, 2002; Robinson, 2009). Dalam kajian ini, soal selidik dibahagikan kepada dua bahagian untuk memudahkan pemahaman dan pembacaan. Bahagian pertama adalah Seksyen A yang merangkumi ciri-ciri umum sampel. Seterusnya, bahagian kedua terdiri daripada Seksyen B (dimensi kualiti perkhidmatan – pembolehubah bebas) dan niat berterusan terhadap Penyedia Latihan – pembolehubah bergantung. Soal selidik bagi kajian ini akan menggunakan skala Likert. Skala Likert laporan diri adalah salah satu alat pengukuran yang paling banyak digunakan pada masa kini (Baumeister et al., 2007; Clark dan Watson, 2019).

Kajian penyelidikan ini akan menggunakan soal selidik sebagai alat pengumpulan data. Soal selidik merupakan kaedah mengumpul data dengan menggunakan instrumen yang mengandungi set soalan dan meminta maklum balas daripada responden. Soal selidik kertas adalah alat pengumpulan data yang terdiri daripada senarai pertanyaan dan arahan yang bertujuan untuk mendapatkan maklumat daripada responden.

Seramai kira-kira 147 responden yang mewakili pelbagai kategori demografi telah menyertai kajian ini. Analisis data statistik akan dilakukan menggunakan regresi Partial Least Squares (PLS), analisis statistik Cohen, Statistical Package for Social Sciences (SPSS), dan G Power Premier. Berdasarkan analisis keputusan, beberapa cadangan untuk meningkatkan kualiti maklumat akan dikemukakan. Teori Pengesahan Harapan merupakan strategi yang relevan dalam membangunkan niat berterusan penyedia latihan. Soal selidik khusus untuk tinjauan telah digunakan untuk mengumpul data dan juga disusun menggunakan rangkaian dalam talian seperti Google Forms dan emel.

Analisis Faktor Demografi Terpilih Responden

Bahagian ini melaporkan analisis latar belakang responden yang terdiri daripada umur, jantina,, sektor pekerjaan dan tempoh perkhidmatan yang terlibat. Kaedah kekerapan dan peratusan digunakan untuk menganalisis latar belakang responden. Analisis data latar belakang kajian adalah seperti yang ditunjukkan dalam Jadual 1.

Jadual 1: Analisis Taburan Bilangan Dan Peratusan Responden Mengikut Umur dan Jantina

Umur	**Bilangan**	**Peratus**
18 - 24	16	10.9
25 – 30	95	64.6
31 – 40	31	21.1
40 – 50	5	3.4
Jumlah	147	100.0
Jantina	**Bilangan**	**Peratusan**
Lelaki	68	46.3
Perempuan	79	53.7
Jumlah	147	100.0

Jadual 1 menunjukkan taburan bilangan dan peratusan responden mengikut umur dan jantina. Jumlah bilangan responden adalah 147 orang. Umur telah dibahagikan kepada 4 kategori ; umur 18 hingga 24 menunjukan 16 orang (10.9%), umur 25 hingga 30 menunjukan 95 orang (64.6%) , umur 31 hingga 40 menunjukan 5 orang (3.4%). Dapatan ini mensimpulkan bahawa umur 25 hingga 30 tahun menunjukan taburan tertinggi. Dari jumlah ini seramai 79 orang (53.7%) adalah perempuan manakala 68 orang (46.3%) adalah perempuan. Jumlah bilangan pelajar perempuan lebih ramai sebagai responden adalah kerana komitmen dalam perkhidmatan latihan banyak tertumpu kepada perempuan terutama di Negeri Kelantan

Jadual 2: Analisis Sektor Pekerjaan dan Tempoh Perkhidmatan

Sektor Pekerjaan	**Bilangan**	**Peratus**
Sektor Swasta	11	7.5
Sektor Kerajaan	116	78.9
Lain-lain	20	13.6
Jumlah	147	100.0
Tempoh Perkhidmatan	**Bilangan**	**Peratus**
Kurang dari satu tahun	114	77.6
1 tahun hingga 5 tahun	13	8.8
Lebih pada 5 tahun	20	13.6
Total	147	100.0

Jadual 2 Distribusi Sektor Pekerjaan; Dalam populasi yang dikaji, sektor kerajaan mendominasi dengan 116 individu atau 78.9% daripada jumlah keseluruhan 147 responden. Ini menunjukkan bahawa sektor kerajaan mungkin menawarkan lebih banyak peluang pekerjaan berbanding sektor swasta dan lain-lain. Sektor swasta hanya menyumbang 7.5% dengan 11 individu, manakala sektor lain mencatatkan 13.6% dengan 20 individu. Dominasi sektor kerajaan menunjukkan ketergantungan yang tinggi terhadap pekerjaan dalam sektor ini.

Manakala t**empoh perkhidmatan**: Dari segi tempoh perkhidmatan, majoriti responden (77.6%) mempunyai pengalaman kerja kurang dari satu tahun, yang menunjukkan bahawa banyak pekerja baru memasuki pasaran kerja. Hanya 8.8% responden mempunyai pengalaman kerja antara satu hingga lima tahun, dan 13.6% telah bekerja lebih dari lima tahun. Ini mungkin menunjukkan masalah dalam pengekalan pekerja atau kekurangan peluang untuk perkembangan kerjaya dalam jangka panjang di sektor-sektor tertentu.

OBJEKTIF KAJIAN

Kajian ini bertujuan untuk mengkaji niat berterusan dalam menggunakan perkhidmatan penyedia latihan. Dengan objektif utama ini, kajian ini bertujuan untuk memenuhi perkara-perkara berikut:
1. Mengkaji hubungan antara dimensi kualiti perkhidmatan, kepuasan pelanggan dan niat berterusan penyedia latihan.
2. Mengkaji hubungan antara kepuasan pelanggan dan niat berterusan terhadap penyedia latihan.

Objektif khusus kajian ini adalah untuk:
1. Mengenal pasti dimensi kualiti perkhidmatan yang paling mempengaruhi kepuasan pelanggan penyedia latihan.
2. Menganalisis kesan kepuasan pelanggan terhadap niat berterusan menggunakan perkhidmatan penyedia latihan.

Hipotesis kajian ini adalah:
H1: Terdapat hubungan yang signifikan antara kualiti perkhidmatan dan kepuasan pelanggan penyedia latihan.
H2: Terdapat hubungan yang signifikan antara kepuasan pelanggan dan niat berterusan menggunakan perkhidmatan penyedia latihan.
H3: Dimensi kualiti perkhidmatan mempunyai kesan yang berbeza terhadap kepuasan pelanggan penyedia latihan.

Kajian ini dijangka akan menyumbang kepada pemahaman yang lebih baik tentang faktor-faktor yang mempengaruhi niat berterusan dalam menggunakan perkhidmatan penyedia latihan. Penemuan kajian ini juga diharapkan dapat membantu penyedia latihan meningkatkan kualiti perkhidmatan dan kepuasan pelanggan mereka untuk kekal berdaya saing dalam industri latihan. Selain itu, dapatan kajian ini juga boleh digunakan sebagai panduan untuk penyelidikan masa depan dalam bidang yang sama.

DAPATAN KAJIAN

Berikut adalah dapatan kajian untuk menganalisis topik transformasi latihan di Kelantan dari segi kualiti perkhidmatan, kepuasan pelatih, dan niat untuk meneruskan perkhidmatan penyedia latihan :

Jadual 3: Jadual keputusan Analisa min dan sisihan piawaian bagi setiap item kajian

Items	Min	S.P
KETARA		
Penganjur Latihan akan menyediakan kemudahan yang kelihatan seperti terkini.	4.1837	.68267
Pembentang/Jurulatih menampilkan diri dengan kemas.	4.4354	.68314
Bahan yang menarik secara visual berkaitan dengan program latihan (risalah atau kenyataan juga disediakan.	4.2653	.76146
Kemudahan latihan menawarkan pemandangan yang menyenangkan dan mesra.	4.1973	.68885
Pos perkhidmatan yang mudah diakses.	4.0000	.69242
Reka bentuk kemudahan fizikal untuk bahagian dalam dan luar bilik latihan sudah mengujakan.	3.9388	.69464
KEBOLEHPERCAYAAN		
Apabila Penganjur Latihan berjanji untuk melakukan sesuatu pada tarikh tertentu, mereka mengikuti dengan baik	4.2381	.66552
Penganjur Latihan mempunyai minat yang tulen dalam menyelesaikan isu peserta Latihan.	4.1973	.63720
Program latihan akan dilaksanakan pada masa yang ditetapkan oleh penganjur latihan	4.2721	.67801
Penganjur latihan menyediakan maklumat yang betul dan menyimpan rekod mereka dengan tepat	4.2585	.68335
Kepantasan dan ketersediaan yang konsisten dalam membantu peserta latihan semasa program dan akan menunjukkan minat yang ikhlas untuk menyelesaikannya.	4.2381	.63390
Urus setia penganjur latihan telah menerima latihan dengan baik	4.3537	.64958
TANGGUNGJAWAB		
Urus setia penganjur latihan akan menawarkan perkhidmatan segera kepada peserta latihan.	4.0612	.68471
Urus setia penganjur latihan sentiasa bersemangat untuk membantu peserta.	4.2721	.65749
Urus setia harus mempunyai maklum balas berguna yang memberikan sebarang maklumat kepada peserta latihan.	4.2449	.60355
Urus setia perlu memberikan reaksi yang baik terhadap sebarang aduan siasatan yang diterima.	4.1973	.68885
Sekretariat hendaklah sentiasa bersopan santun dengan peserta latihan.	4.3537	.70032
Urus setia penganjur latihan mencukupi dalam mengendalikan program latihan.	4.2993	.61282
Penganjur Latihan akan menyediakan perkhidmatan kepada setiap peserta latihan secara khusus.	4.1973	.71806
EMPATI		
Penganjur latihan akan beroperasi dalam masa yang sesuai untuk semua peserta Latihan.	4.1769	.69932
Penganjur latihan akan mengutamakan keperluan peserta latihan terlebih dahulu	4.2177	.71689
Penganjur Latihan adalah fleksibel dalam memenuhi keperluan khas saya	4.0544	.74744

Penganjur Latihan dengan rela hati mempertimbangkan permintaan khusus saya.	4.0476	.76152
Peserta latihan akan mempunyai keyakinan terhadap urus setia penganjur latihan kerana tindakan mereka.	4.0816	.75408
KETERJAMINAN		
Peserta latihan akan berasa selamat apabila berurusan dengan urus setia penganjur latihan.	4.2449	.63668
Urus setia penganjur latihan akan sentiasa melayan peserta latihan dengan sopan.	4.2585	.67325
Urus setia penganjur latihan hendaklah cukup berpengetahuan untuk menjawab pertanyaan daripada peserta Latihan.	4.3129	.70032
Urus setia akan memastikan setiap transaksi yang dilakukan adalah cekap dan selamat.	4.2857	.64106
Urus setia penganjur latihan boleh membuat saya mempercayai mereka.	4.3469	.66881
KEPUASAN PELATIH		
Saya berpuas hati dengan tawaran latihan kursus oleh Penyedia Latihan	4.3265	.67401
Setiap kali saya menghadiri latihan kursus, saya berasa seronok.	4.3129	.69047
Saya tidak menyesal menggunakan latihan kursus yang disediakan oleh Penyedia Latihan	4.2313	.75913
Persekitaran dan lokasi latihan membuatkan saya berasa selesa	4.2925	.62165
Saya menikmati tempat letak kereta yang berdekatan dan selesa.	4.2857	.74023
Menyertai kursus boleh meningkatkan kecekapan kerja saya	4.1565	.91188
Apabila saya pulang dari program latihan, saya tidak sabar untuk meletakkan semua pengetahuan yang saya pelajari untuk digunakan dalam tugasan kerja saya.	4.3673	.70304
Saya berpendapat bahawa mengambil kursus itu akan meningkatkan kebolehan profesional saya.	4.3129	.63895
Apabila saya menyedari bahawa saya boleh menggunakan pengetahuan baru yang saya perolehi untuk menyelesaikan tugas profesional saya, saya sangat gembira.	4.4150	.69088
Program latihan yang dianjurkan memenuhi objektif yang ingin disampaikan, saya berpuas hati dengan program ini.	4.4218	.67159
NIAT BERTERUSAN		
Saya akan terus menggunakan perkhidmatan penyedia latihan ini pada masa hadapan.	4.4014	.67904
Saya berhasrat menggunakan perkhidmatan penyedia latihan ini mengikut jadual yang tetap.	4.2857	.69242
Saya akan memilih penyedia latihan ini dahulu sekiranya terdapat program kursus baharu muncul pada masa akan datang.	4.2653	.67567
Saya berhasrat untuk menggunakan perkhidmatan penyedia latihan dengan lebih kerap pada masa hadapan.	4.1905	.71513
Saya pasti mengesyorkan orang lain supaya mereka menggunakan perkhidmatan penyedia latihan ini.	4.2381	.67574

Berdasarkan Jadual 3, bahagian ini merujuk kepada analisa taburan min dan sisihan piawaian daripada 147 responden yang memberi maklum balas melalui soal selidik yang telah dijalankan di negeri Kelantan. Bahagian ini merujuk kepada peserta latihan yang telah menerima latihan daripada penyedia latihan di sekitar negeri Kelantan. Bahagian ini mengandungi 44 soalan yang menggunakan 5- skala likert. Keputusan menunjukkan bahawa dimensi ketara dalam kualiti perkhidmatan mempunyai nilai min tertinggi (4.4354) dan deviasi piawai keempat tertinggi (0.761). Sebaliknya, min risiko yang dirasai adalah yang terendah (3.9388), tetapi dengan deviasi piawai (0.694).

Secara umum, hasil ini menunjukkan bahawa responden cenderung menunjukkan tahap respons sederhana pada semua ukuran, dengan julat dari skor terendah (3.9388) untuk risiko yang dirasai, hingga skor min tertinggi (4.4354) untuk ketara Kepuasan pelatihan sebagai mediator menunjukkan julat min yang sederhana, namun mencatat piawaian tertinggi iaitu 0.74023, berbanding keputusan analisis kualiti perkhidmatan dan niat berterusan. Ini menggambarkan bahawa respons penerima latihan terhadap niat berterusan berada pada tahap yang stabil, tetapi tidak cukup kuat untuk mendorong peningkatan tahap niat yang lebih tinggi terhadap kualiti perkhidmatan yang ditawarkan oleh penyedia latihan.

Jadual 4 : Analisa data bagi Kebolehpercayaan Komposit, Varians Purata Yang Diekstrak dan Cronbach's Alpha

Item Ukuran	Kebolehpercayaan komposit (rho_c)	Varians purata yang diekstrak (AVE)	Cronbach's Alpha
Niat Berterusan	0.902	0.903	0.928
Kepuasan Pelatih	0.941	0.942	0.950
Keterjaminan	0.896	0.898	0.920
Empati	0.900	0.901	0.923
Kebolehpercayaan	0.879	0.888	0.912
Tanggungjawab	0.901	0.904	0.924
Ketara	0.881	0.888	0.909

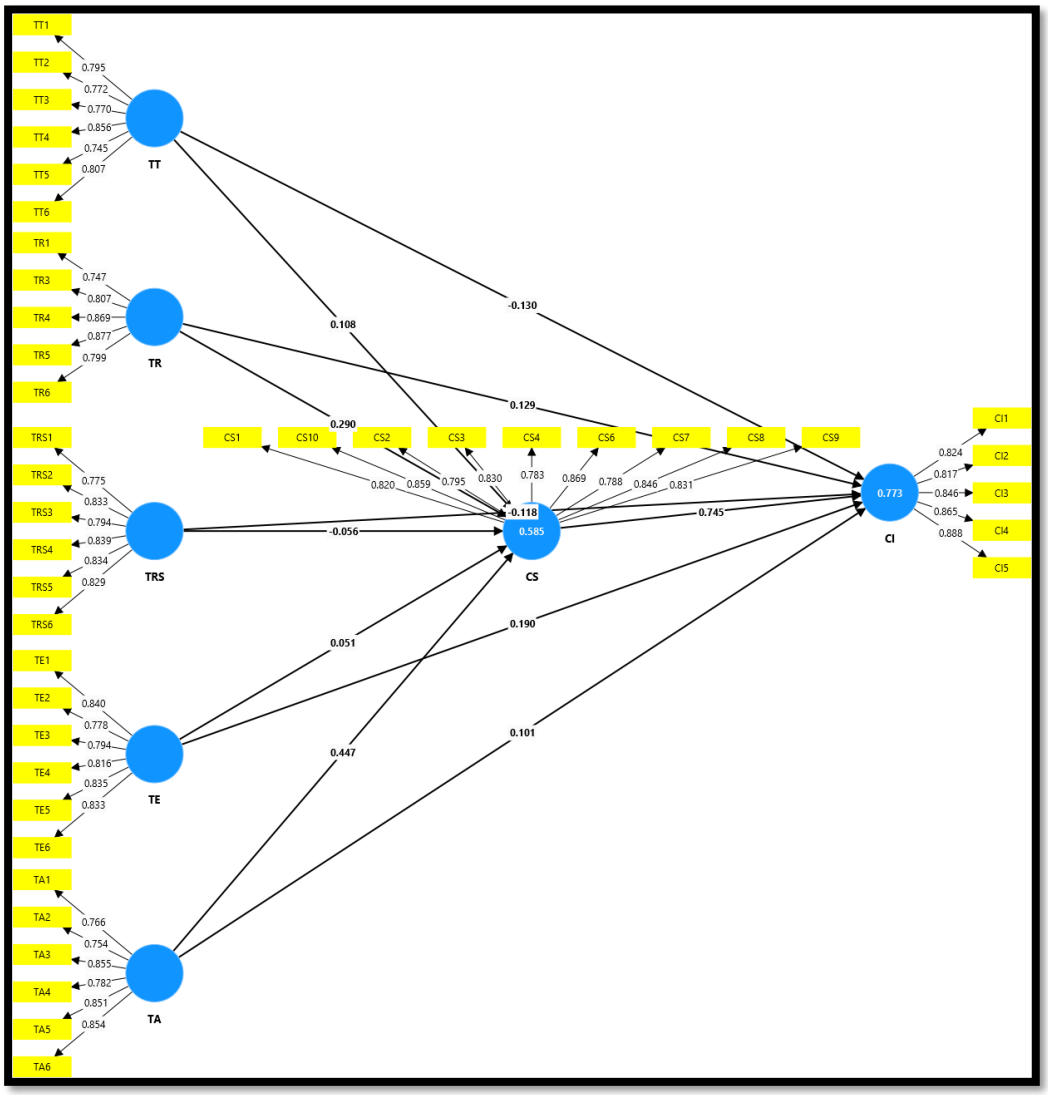
Dalam konteks transformasi latihan di Kelantan, analisis mengenai kebolehpercayaan instrumen pengukuran adalah penting untuk menilai kualiti perkhidmatan, kepuasan pelatih, dan niat meneruskan perkhidmatan penyedia latihan. Tiga metrik utama yang digunakan dalam analisis ini adalah Kebolehpercayaan Komposit (CR), Varians Purata yang Diekstrak (AVE), dan Cronbach's Alpha.

Kebolehpercayaan komposit mengukur konsistensi internal bagi setiap konstruk. Nilai CR yang baik biasanya lebih besar dari 0,70. CR dianggap lebih baik dibandingkan Cronbach's Alpha karena memperhitungkan jumlah item yang digunakan dalam pengukuran. Dalam Jadual 4 dengan nilai tertinggi dicatatkan oleh Kepuasan Pelatih (0.941) dan yang terendah oleh Kebolehpercayaan (0.879). Ini menunjukkan bahawa setiap konstruk mempunyai konsistensi internal yang tinggi. Berdasarkan data yang diberikan, semua nilai CR adalah lebih besar daripada 0.70, menunjukkan bahawa setiap konstruk mempunyai kebolehpercayaan yang tinggi.

Average Variance Extracted mengukur seberapa banyak varians dari indikator dapat dijelaskan oleh konstruk laten. Nilai AVE yang baik seharusnya lebih besar dari 0,50. Ini menunjukkan bahwa konstruk tersebut mampu menjelaskan lebih dari 50% varians indikatornya. Dalam jadual diatas AVE yang tinggi ditumpukan pada kepuasan pelatih dalam menggunakan khidmat penyedia latihan (0.942), manakala 2 item yang rendah diperoleh daripada item ketara dan item kebolehpercayaan. AVE menunjukkan seberapa banyak varians dari indikator dapat dijelaskan oleh konstruk laten. Semua konstruk dalam analisis ini juga memenuhi kriteria tersebut, dengan nilai AVE yang tinggi

Cronbach's Alpha juga merupakan ukuran untuk menilai reliabilitas, tetapi lebih sederhana dibandingkan CR. Nilai di atas 0,70 menunjukkan bahwa instrumen dapat dianggap reliabel. Cronbach's Alpha digunakan untuk menilai batas bawah kebolehpercayaan suatu konstruk, di mana nilai di atas 0.70 menunjukkan bahawa instrumen dapat dianggap reliabel. Semua konstruk dalam kajian ini juga menunjukkan nilai yang tinggi.

Ini menunjukkan bahawa instrumen pengukuran adalah konsisten dan dapat diandalkan untuk menilai kualiti perkhidmatan, kepuasan pelatih, dan niat meneruskan perkhidmatan penyedia latihan.Analisis ini memberikan keyakinan kepada penyelidik dan pemangku kepentingan bahawa data yang diperoleh adalah valid dan dapat digunakan untuk membuat keputusan strategik dalam meningkatkan kualiti latihan di Kelantan.



Rajah 1 : Menunjukan model yang diperolehi daripada analisa yang dijalankan oleh PLS-SEM.

PERBINCANGAN

Dapatan analisa ini memberikan gambaran positif mengenai kualiti perkhidmatan penyedia latihan di Kelantan. Dengan kebolehpercayaan dan validiti yang tinggi, instrumen ini boleh dipercayai untuk menilai kepuasan pelatih dan niat mereka untuk meneruskan perkhidmatan latihan. Berdasarkan analisis data yang diberikan, penyedia latihan di Kelantan secara umumnya menawarkan kualiti perkhidmatan yang baik. Beberapa aspek yang menonjol ialah pembentang/jurulatih yang berpenampilan kemas, urus setia yang sentiasa bersopan santun dan berpengetahuan untuk menjawab pertanyaan peserta latihan. Walau bagaimanapun, terdapat beberapa aspek yang perlu ditambah baik seperti kemudahan pos perkhidmatan yang mudah diakses dan reka bentuk kemudahan fizikal yang lebih menarik.

Dari segi kepuasan pelatih, data menunjukkan pelatih secara umumnya berpuas hati dengan perkhidmatan penyedia latihan. Pelatih berasa seronok menghadiri latihan kursus, merasa objektif latihan dipenuhi, dan berpuas hati dengan tawaran latihan secara keseluruhan. Namun begitu, terdapat beberapa aspek yang perlu dipertingkatkan seperti meningkatkan kecekapan kerja pelatih dan menyediakan persekitaran serta lokasi latihan yang lebih selesa. Analisis juga mendapati pelatih

mempunyai niat yang tinggi untuk meneruskan perkhidmatan penyedia latihan di Kelantan pada masa hadapan. Pelatih menyatakan akan terus menggunakan perkhidmatan ini, memilihnya dahulu sekiranya terdapat program baharu, dan mengesyorkannya kepada orang lain[1]. Secara keseluruhan, penyedia latihan di Kelantan berada pada landasan yang baik dari segi kualiti perkhidmatan, kepuasan pelatih, dan niat untuk meneruskan perkhidmatan, namun masih terdapat ruang untuk penambahbaikan.

Secara keseluruhan, hasil analisa menunjukkan bahawa transformasi latihan di Kelantan berada pada landasan yang baik dengan kebolehpercayaan instrumen pengukuran yang tinggi. Penekanan terhadap kepuasan pelatih dan niat berterusan adalah penting dalam memastikan keberkesanan program latihan serta peningkatan kualiti perkhidmatan penyedia latihan di masa hadapan. Penyelidikan lanjut perlu dilakukan untuk memahami faktor-faktor lain yang mungkin mempengaruhi kepuasan pelatih dan keberkesanan program latihan secara keseluruhan.

RUMUSAN

Transformasi latihan di Kelantan merupakan satu inisiatif penting dalam meningkatkan kualiti perkhidmatan latihan yang ditawarkan kepada pelatih. Dalam konteks ini, kualiti perkhidmatan, kepuasan pelatih, dan niat untuk meneruskan perkhidmatan penyedia latihan adalah tiga elemen utama yang perlu diteliti. Penilaian terhadap kebolehpercayaan instrumen pengukuran yang digunakan dalam kajian ini menunjukkan bahawa semua konstruk yang diukur mempunyai kebolehpercayaan yang tinggi, dengan nilai Kebolehpercayaan Komposit (CR), Varians Purata yang Diekstrak (AVE), dan Cronbach's Alpha melebihi ambang yang ditetapkan. Ini menunjukkan bahawa penyedia latihan di Kelantan telah berjaya dalam menyediakan program latihan yang memenuhi keperluan pelatih dan mampu meningkatkan tahap kepuasan mereka.

Kepuasan pelatih adalah faktor penting dalam menentukan kejayaan program latihan. Dapatan analisa menunjukkan bahawa pelatih merasa puas dengan kualiti perkhidmatan yang diberikan, terutamanya dalam aspek keterjaminan dan empati dari penyedia latihan. Nilai AVE yang tinggi bagi konstruk kepuasan pelatih mencadangkan bahawa program latihan bukan sahaja memenuhi harapan mereka tetapi juga memberikan pengalaman pembelajaran yang positif. Ini adalah penting kerana kepuasan pelatih yang tinggi akan mendorong mereka untuk meneruskan penggunaan perkhidmatan penyedia latihan di masa hadapan.

Selain itu, niat untuk meneruskan perkhidmatan juga menjadi indikator penting dalam menilai keberkesanan program latihan. Dengan nilai CR yang tinggi bagi niat berterusan, ini menunjukkan bahawa pelatih mempunyai kecenderungan yang kuat untuk terus menggunakan perkhidmatan penyedia latihan. Penekanan terhadap kualiti perkhidmatan dan kepuasan pelatih akan membantu penyedia latihan dalam menarik lebih ramai pelatih dan meningkatkan reputasi mereka di pasaran.

Secara keseluruhannya, transformasi latihan di Kelantan menunjukkan potensi yang besar untuk meningkatkan kualiti perkhidmatan dan kepuasan pelatih. Dengan pendekatan yang sistematik dan berfokus kepada keperluan pelatih, penyedia latihan dapat memastikan bahawa mereka tidak hanya memenuhi tetapi juga melebihi harapan pelatih, seterusnya memacu kejayaan program latihan di negeri ini.

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PENDEKATAN DDR DALAM PEMBANGUNAN MODEL KAUNSELING KERJAYA DIGITAL

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ABSTRAK

Pembangunan Model Perkhidmatan Kaunseling Kerjaya Digital TACC ini bertujuan untuk membantu dan memandu guru bimbingan dan kaunseling sekolah menengah dalam memberikan perkhidmatan bimbingan dan kaunseling kerjaya berbantukan teknologi. Menggunakan kaedah kajian rekabentuk dan pembangunan (Design and Developmental Research Approach) yang diperkenalkan oleh Ritchey dan Klien (2007). Kajian ini terbahagi kepada tiga fasa. Fasa pertama melibatkan analisis keperluan menggunakan soal selidik yang dijalankan ke atas 65 orang guru bimbingan dan kaunseling sekolah menengah Zon Pantai Barat Sabah bagi melihat keperluan model perkhidmatan kaunseling kerjaya digital TACC. Interpretasi analisis keperluan ini adalah berdasarkan nilai min dan sisihan piawai. Fasa kedua menggunakan pendekatan Kaedah Fuzzy Delphi (FDM) dan Interpretive Structural Modelling (ISM) untuk membangunkan model berdasarkan pandangan dan keputusan panel pakar yang terdiri daripada 15 orang bagi kaedah Fuzzy Delphi (FDM) dan 7 orang pakar bagi kaedah Interpretive Structural Modelling (ISM). Interpretasi data bagi pendekatan kaedah Fuzzy Delphi (FDM) adalah berdasarkan penerimaaan elemen utama dan item model yang diterima oleh panel pakar. Manakala bagi pendekatan Interpretive Structural Modelling (ISM) adalah melibatkan kesepakatan pakar terhadap kedudukan elemen setiap komponen utama dari aspek kuasa memandu (driving power) dan kuasa pergantungan (dependence power). Fasa ketiga iaitu fasa penilaian kebolehgunaan model melibatkan pakar yang terdiri daripada 21 orang Duta Kaunselor Kerjaya Digital yang bertindak untuk menilai model menggunakan pendekatan teknik kumpulan nominal ubahsuai (Modified NGT). Nilai peratusan skor penerimaan dikira untuk menentukan kesesuaian kesemua elemen dan item dalam model. Nilai peratusan skor penerimaan mestilah melebihi 70% bagi setiap elemen dan item dianggap sesuai dan boleh digunakan.

***Kata Kunci**: Technology-Assisted Career Counselling, Fuzzy Delphi Method, Interpretive Structural Modeling.*

PENGENALAN

Kajian keberkesanan penggunaan teknologi dalam bidang kaunseling terus berkembang maju dengan model bimbingan dan pendidikan kerjaya berasaskan cloud system yang merupakan model yang menggabungkan elemen data kerjaya yang terdapat dalam pengkalan data seperti ciri-ciri kerjaya, kemahiran, pengalaman, kursus, latihan, asas pengetahuan aplikasi, interaksi sosial, set kekaburan (fuzzy set), peralatan, kepenggunaan, interaksi dan aspek teknologi dalam membentuk satu model bimbingan pendidikan kerjaya (El-Sofany & El-Seoud, 2020). Walaupun teknologi telah menjadi pilihan namun terdapat beberapa isu kritikal yang menghambat keberhasilan pelaksanaan kaunseling kerjaya digital di sekolah. Pertama, ketiadaan inisiatif digital khusus, walaupun Dasar Pendidikan Digital menggariskan teras-teras penting seperti pengupayaan infrastruktur dan infostruktur serta pembangunan pendidik yang kompeten digital, ia kurang memberi penekanan khusus kepada kaunseling digital. Akibatnya, sekolah-sekolah masih belum mempunyai sistem atau model yang jelas

untuk mengintegrasikan kaunseling kerjaya digital, yang penting untuk menyokong pelajar dalam membuat keputusan kerjaya yang berinformasi. Kekurangan inisiatif khusus yang ditujukan untuk menyokong perkhidmatan kaunseling kerjaya digital, tidak memberikan tumpuan yang mencukupi kepada pengintegrasian kaunseling digital, menyebabkan jurang antara keperluan teknologi dalam bimbingan kerjaya dan sokongan yang diberikan oleh dasar pendidikan (Dasar Pendidikan Digital, 2023).

Isu kedua ialah kekurangan latihan dan sokongan. Laporan menunjukkan bahawa sebahagian besar kaunselor sekolah tidak mempunyai kemahiran digital yang mencukupi atau terdapat kekurangan latihan yang mencukupi bagi kaunselor sekolah dalam menggunakan teknologi digital secara efektif bagi perkhidmatan bimbingan dan kaunseling. Sebahagian besar kaunselor tidak dilengkapi dengan kemahiran digital yang diperlukan untuk memanfaatkan teknologi dalam bimbingan kerjaya dan seterusnya mengurangkan keberkesanan perkhidmatan yang diberikan (Azizah Abdullah, 2019). Isu ketiga ialah terdapat integrasi yang lemah antara teknologi digital dan pendekatan kaunseling tradisional. Tanpa integrasi yang efektif, teknologi tidak dapat dimanfaatkan sepenuhnya untuk meningkatkan kualiti dan capaian perkhidmatan kaunseling kerjaya di sekolah (Manchelah, 2017). Penyelidikan ini juga adalah berasaskan kepada reka bentuk keperluan yang diperlukan untuk menyelesaikan sesuatu masalah (Ritchey & Klein, 2007).

Oleh yang demikian terdapat tiga objektif utama dalam setiap fasa berdasarkan pendekatan DDR yang digunakan yang mana setiap objektif utama mengikut fasa mempunyai beberapa sub objektif untuk menjawab soalan kajian. Manakala objektif kajian ini adalah bertujuan untuk membangunkan sebuah model kandungan sistem teknologi digital TACC bagi bimbingan dan kaunseling kerjaya sekolah menengah. Manakala, soalan kajian dibina berpandukan objektif kajian sebelum ini yang terdiri daripada tiga persoalan kajian utama mengikut fasa iaitu fasa analisis keperluan, fasa reka bentuk dan pembangunan model dan fasa ketiga fasa penilaian kebolehgunaan model. Berdasarkan kepada pernyataan masalah menunjukkan bahawa terdapat keperluan untuk membangunkan sebuah model kandungan sistem teknologi digital TACC.

KAJIAN LITERATUR

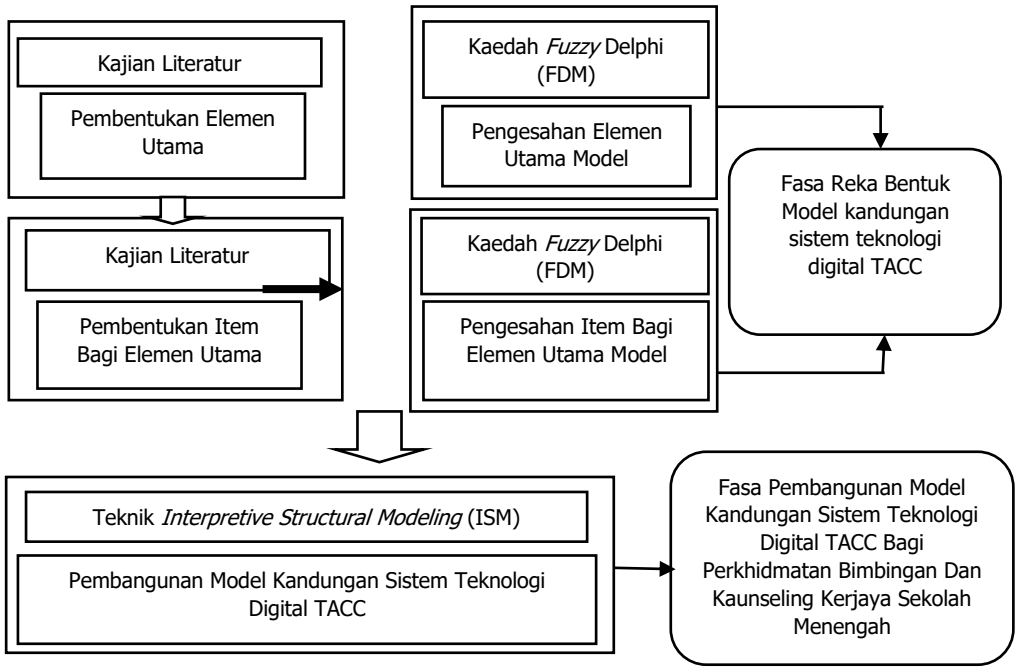
Kajian ini bertujuan untuk membangunkan model kandungan sistem teknologi digital TACC. Oleh itu, pengetahuan dan dapatan penyelidik terdahulu mengenai TACC memainkan peranan penting. Melalui sorotan literatur, maklumat dan fakta yang diperolehi bertindak sebagai satu landasan yang membantu penyelidik menghubungkan soalan kajian dengan dapatan kajian yang ditemui. Kerangka teoretikal yang digunakan di dalam kajian ialah teori-teori kaunseling kerjaya seperti Teori Konstruktivisme (Jean Piaget, 1976), The Big Five Career Theories (Alvin Leung, 2008), teori integrasi teknologi seperti The Unified Theory of Acceptance and Use of Technology (UTAUT), (Venkatesh, 2003; Mohd Khalit, 2016), Model SAMR serta Model TPACK dan integrasi model kaunseling digital bagi konstruk elemen dan item utama dalam reka bentuk model kandungan sistem teknologi digital TACC berdasarkan Model ICT-Based Career Guidance for Young People (Indra & Vija, 2018), ASCA National Model (ASCA, 2019), Computer in Guidance, Counseling and Psychotherapy (Harry P. Bluhm, 1988), Kod Etika Kaunselor (2011), New Frontiers in Computer-Assisted Career Guidance Systems (CACGS), (Alvin Leung, 2022). Gabungan teori dan model ini berpotensi menghasilkan kandungan sistem teknologi digital TACC.

Dalam membentuk kerangka teoritikal kajian, penelitian di dalam menggabungkan berbagai pendekatan selain merujuk kepada teori-teori kaunseling dan integrasi teknologi, penelitian ini juga mengambil dan memanfaatkan instrumen yang telah diuji secara empirikal seperti instrumen Smart School Qualification Standards (SSQS) sebagai dasar, tetapi melakukan modifikasi untuk menyesuaikannya dengan konteks kajian, yaitu untuk mengukur kompetensi digital guru bimbingan dan kaunseling dalam konteks kaunseling digital. Modifikasi ini melibatkan penambahan item yang spesifik untuk kaunseling

digital atau penghapusan item yang tidak relevan. digunakan sebagai acuan termasuk mengadaptasi Digital Competencies Standard for Educators (DCS-E) yang dikembangkan oleh Kementerian Pendidikan Malaysia. Proses adaptasi ini melibatkan integrasi dengan standard internasional seperti DigComEdu, ISTE, IC3, dan Technology Integration Matrix, sehingga instrumen yang dihasilkan dapat lebih komprehensif dalam mengukur kompetensi digital pendidik dalam konteks kaunseling digital.

METODOLOGI

Kajian ini menggunakan pendekatan penyelidikan reka bentuk dan pembangunan (DDR) untuk membangunkan model kandungan sistem teknologi digital TACC. Reka bentuk kajian ini adalah berdasarkan pendekatan *Design Develop Research* (DDR) mengikut Richey dan Klein (2007), yang menegaskan bahawa sebuah kajian pembangunan adalah suatu kajian yang merangkumi proses yang amat teratur dan bersistematik di mana ia meliputi proses reka bentuk, pembangunan dan penilaian sesuatu produk yang dihasilkan. Kajian ini dijalankan dalam tiga fasa iaitu; analisis keperluan, reka bentuk dan pembangunan, dan penilaian. Dalam fasa analisis keperluan, mengenal pasti keperluan model kandungan sistem teknologi digital TACC bagi perkhidmatan kaunseling kerjaya sekolah menengah. Fasa reka bentuk dan pembangunan pula melibatkan reka bentuk dan pembangunan model kandungan sistem teknologi digital TACC berdasarkan elemen yang dikenal pasti dalam analisis keperluan. Fasa penilaian melibatkan penilaian kebolehgunaan model kandungan sistem teknologi digital TACC. Kaedah tinjauan digunakan bagi mengenal pasti keperluan pembangunan model kandungan sistem teknologi digital TACC. Manakala, fasa reka bentuk dan pembangunan menggunakan pendekatan reka bentuk dan pembangunan sesuatu produk atau model (Ven Den Akker, Gravemeijer, McKenney dan Nievee, 2006). **Rajah 1** memaparkan reka bentuk dan pembangunan model kandungan sistem teknologi digital TACC berdasarkan metod.



Rajah 1: Reka bentuk dan pembangunan model berdasarkan metod

Rajah 1 yang memaparkan setiap metod yang digunakan bagi mendapatkan data kajian dan menjawab soalan kajian dalam fasa reka bentuk dan pembangunan. Di dalam fasa ini, pengkaji telah memisahkan kepada dua sub fasa iaitu sub fasa pertama adalah merujuk kepada reka bentuk dan sub fasa kedua adalah merujuk kepada pembangunan model kandungan sistem teknologi digital TACC bagi perkhidmatan bimbingan dan kaunseling kerjaya sekolah menengah. Sub fasa reka bentuk adalah

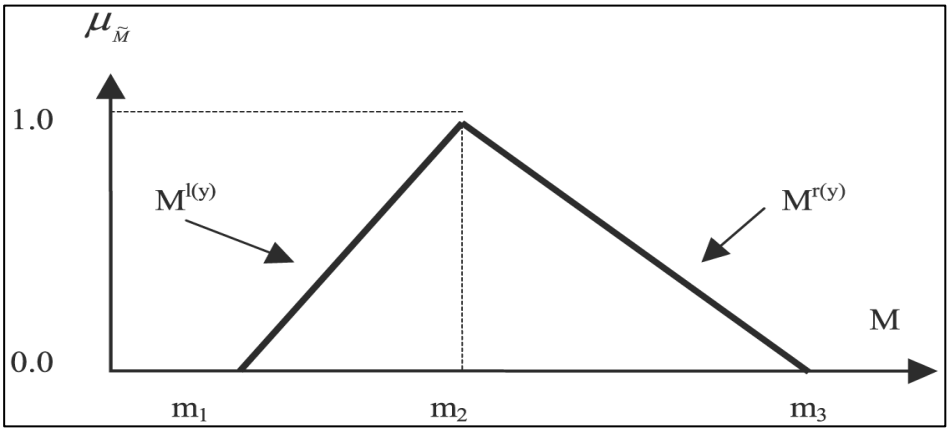
merujuk kepada penghasilan dan pembinaan elemen-elemen utama dan item bagi setiap elemen yang terdapat dalam model kandungan sistem teknologi digital TACC. Bagi reka bentuk elemen utama dan item ini, pendekatan kaedah *Fuzzy Delphi* (FDM) di mana ia adalah melalui kesepakatan sekumpulan pakar bagi mengesahkan, menilai serta menolak dan menambah setiap elemen dan item di dalam model yang dibangunkan. Pemilihan pakar adalah amat penting dan ia hendaklah menepati konteks kajian. Sub fasa pembangunan model pula adalah melibatkan proses pembangunan model kandungan sistem teknologi digital TACC. Di dalam sub fasa ini, setiap elemen dan item yang telah direka bentuk melalui kaedah *Fuzzy* Delphi (FDM) akan dibangunkan menggunakan pendekatan *Interpretive Structural Modeling* (ISM). Pembangunan model ini adalah untuk melihat keutamaan setiap item di dalam elemen utama. Penggunaan ISM juga berupaya melihat kuasa memandu bagi setiap elemen dan item. Pendekatan ini juga melibatkan sekumpulan panel pakar telah dipertemukan secara bersemuka untuk menjalankan undian *(voting)* bagi membangunkan model kandungan sistem teknologi digital TACC.

Pendekatan Kaedah Fuzzy Delphi (FDM)

Pendekatan kaedah *Delphi* adalah suatu pendekatan yang telah digunakan dan diterima secara meluas dalam mengumpulkan data bagi sesuatu kajian bersandarkan kepada kesepakatan sekumpulan pakar dalam sesuatu isu yang dikaji (Hsu & Brian, 2007). Kekuatan pendekatan ini juga telah menghasilkan kepelbagaian teknik dalam mendapatkan data yang empirikal seperti kaedah *Fuzzy Delphi* (FDM). Kaedah *Fuzzy Delphi* (FDM) pula, adalah merujuk kepada satu kaedah pengukuran yang diubahsuai berdasarkan daripada kaedah *Delphi*. Kaedah ini telah diperkenal oleh Kaufman dan Gupta pada tahun 1988. Kaedah *Fuzzy Delphi* (FDM) ini adalah suatu kombinasi di antara set penomboran *fuzzy* dan kaedah *Delphi* itu sendiri (Murray, Pipino dan Vangigch, 1985). Hal ini bermaksud ia bukanlah suatu pendekatan baru kerana ia juga adalah berasaskan kepada kaedah *Delphi* klasik di mana responden yang terlibat mestilah terdiri dalam kalangan pakar yang arif dalam sesuatu bidang yang sesuai dengan konteks kajian.

Penganalisaan Data Berdasarkan Kaedah Fuzzy Delphi (FDM)

Terdapat 2 perkara utama di dalam kaedah *Fuzzy Delphi* (FDM) iaitu *Triangular Fuzzy Number* dan *Defuzzification Process*. *Triangular Fuzzy Number* adalah terdiri daripada nilai m_1, m_2 dan m_3 di mana m_1 adalah mewakili nilai minimum *(smallest value),* m_2 mewakili nilai paling munasabah *(most plausible value)* dan m_3 pula adalah merujuk kepada nilai maksimum *(maximum value).* Ketiga-tiga nilai di dalam *Triangular Fuzzy Number* ini dapat dilihat melalui Rajah 3.3 yang menunjukkan graf segi tiga min melawan nilai *triangular*. Berdasarkan Rajah 3.3 ini memperlihatkan bahawa ketiga-tiga nilai ini juga adalah dalam julat 0 hingga 1 dan ia bertepatan dengan nombor *fuzzy* (Ragin, 2007).



Rajah 2: Graf segi tiga min melawan nilai triangular

Di peringkat *Triangular Fuzzy Number*, terdapat dua syarat yang perlu dipatuhi bagi menentukan penerimaan sesuatu elemen yang dikaji oleh kesepakatan pakar iaitu syarat pertama adalah melibatkan nilai *threshold* (d) dan syarat kedua pula adalah peratusan kumpulan pakar bagi sesuatu elemen.

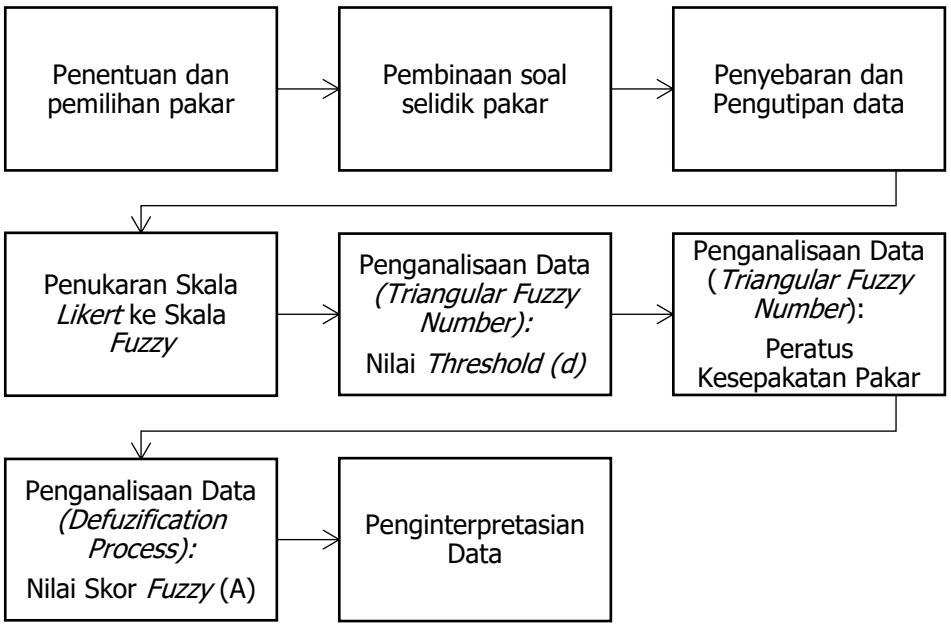
Penentuan nilai *threshold* (d) ini adalah berdasarkan kepada formula yang telah ditetapkan. Kedua-dua syarat ini akan diterangkan di dalam bahagian prosedur menjalankan kajian menggunakan kaedah *Fuzzy* Delphi (FDM) pada sub topik berikutnya. *Defuzzification process* pula merujuk kepada suatu proses menentukan *ranking* bagi setiap konstruk, komponen, elemen, isu, pemboleh ubah dan sub pemboleh ubah yang terdapat di dalam kajian. Tujuan proses ini adalah untuk membantu pengkaji melihat aras keperluan sesuatu pemboleh ubah dan sub pemboleh yang diperlukan. Ia juga berupaya digunakan untuk menentukan kedudukan *(ranking)* dan keutamaan bagi setiap elemen yang dikaji. Proses *ranking* ini akan membantu menghasilkan data mengikut keperluan berdasarkan konsensus pakar yang bertindak sebagai responden kajian. Terdapat tiga formula yang boleh digunakan dalam *defuzzification process*. Pengkaji boleh memilih mana-mana di antara tiga formula ini bagi menentukan *ranking* di dalam kajian mereka. Tiga formula di dalam proses ini adalah seperti berikut:

i. $A_{max} = 1/3 * (a_1 + a_m + a_2)$
ii. $A_{max} = 1/4 * (a_1 + 2a_m + a_2)$
iii. $A_{max} = 1/6 * (a_1 + 4a_m + a_2)$

Di dalam peringkat *defuzzification process* juga terdapat satu syarat yang perlu dipatuhi bagi menunjukkan penerimaan kumpulan pakar bagi sesuatu elemen yang dikaji di mana penggunaan nilai median yang dijuga dikenali sebagai nilai *alpha-cut* (α-cut) digunakan. Bagi memahami dengan lebih lanjut tentang *triangular fuzzy number* dan *defuzzification process*, ia diterangkan secara terperinci di dalam sub topik yang berikutnya.

Prosedur Menjalankan Kajian Menggunakan Kaedah *Fuzzy Delphi* (FDM)

Bagi mendapatkan dapatan kajian menggunakan pendekatan kaedah *Fuzzy Delphi* (FDM), terdapat prosedur yang perlu dipatuhi. Pematuhan kepada prosedur ini berupaya mendapatkan dapatan yang empirikal. Rajah 3 menunjukkan carta alir prosedur perjalanan kajian yang menggunakan kaedah *Fuzzy Delphi* (FDM).



Rajah 3: Carta alir prosedur pendekatan Kaedah *Fuzzy Delphi* (FDM)

Jika dirujuk kepada Rajah 3 yang memperlihatkan carta alir prosedur dalam menggunakan kaedah *Fuzzy Delphi* (FDM) bagi mendapatkan kesepakatan pakar. Penerangan bagi carta alir ini adalah seperti langkah berikut:

Langkah 1: Penentuan dan pemilihan pakar yang terlibat dalam konteks kajian. Pemilihan pakar ini amat penting bagi memastikan pakar yang dipilih mampu memberikan pandangan yang tepat dengan konteks kajian yang dijalankan.
Langkah 2: Pembinaan soal selidik pakar dijalankan. Dalam proses ini, pembinaan soal selidik pakar boleh dijalankan melalui beberapa kaedah iaitu (1) temu bual; (2) perbincangan melalui *focus group;* (3) pembinaan melalui analisis dokumen dan kajian literatur; dan(4) soalan format terbuka. Jika dilihat kepada pandangan Powell (2003) menegaskan bahawa kaedah *Delphi* adalah suatu kaedah yang sangat fleksibel untuk mendapatkan kesepakatan pakar. Powell (2003) juga menyatakan hujah tambahan bahawa kebiasaannya pusingan pertama *Delphi* dijalankan untuk mengenal pasti sesuatu isu melalui temu bual pakar. Namun begitu, isu-isu ini juga boleh didapati melalui *open ended question.* Walau bagaimanapun pendekatan alternatif lain yang boleh digunakan adalah menggunakan borang soal selidik yang diambil daripada kajian literatur yang berkaitan dengan sesuatu isu yang dikaji (Chang, Hsu & Chang, 2011; Dullfield's, 1993)
Langkah 3: Bagi proses penyebaran dan pengutipan data, terdapat beberapa pendekatan yang boleh digunakan iaitu melalui (1) Seminar perbengkelan dengan menjemput pakar yang terlibat; atau (2) Pertemuan dengan pakar secara individu; (3) Penyebaran soal selidik kepada pakar yang dipilih melalui e-mel dan sebagainya.
Langkah 4: Menukarkan ke semua pemboleh ubah linguistik ke dalam penomboran segi tiga *fuzzy* (*triangular fuzzy number*). Andaikan nombor *fuzzy* r_{ij} adalah pemboleh ubah untuk setiap kriteria untuk pakar K untuk i= 1,….., m,j=1,…..n, k=1…..,k dan $r_{ij} = 1/K$ ($r^1_{ij} \pm r^2_{ij} \pm r^K_{ij}$). **Jadual 1** menunjukkan pemboleh ubah linguistik bagi 7 skala di mana ia memaparkan pernyataan pengukuran bagi sesuatu item dan nilai skala *fuzzy* yang diwakilinya.

Jadual 1: Skala pemboleh ubah linguistik 7 mata

Pemboleh Ubah Linguistik	**Skala *Fuzzy***
Teramat tidak setuju	(0.0, 0.0, 0.1)
Sangat tidak setuju	(0.0, 0.1, 0.3)
Tidak setuju	(0.1, 0.3, 0.5)
Sederhana setuju	(0.3, 0.5, 0.7)
Setuju	(0.5, 0.7, 0.9)
Sangat setuju	(0.7, 0.9, 1.0)
Teramat setuju	(0.9, 1.0, 1.0)

Terdapat juga contoh lain bagi pemboleh ubah linguistik, yang mana pemboleh ubahnya ditukar mengikut keperluan objektif kajian. Ini dapat dilihat di **Jadual 2** yang menunjukkan pemboleh ubah linguistik adalah berdasarkan keperluan dari 'sangat rendah' hingga ke 'sangat tinggi'. Bagi pemboleh ubah linguistik ini selalunya ia digunakan untuk melihat kepada perbandingan sesuatu item di dalam sesuatu kajian.

Jadual 2: Skala Pemboleh Ubah Linguistik untuk Melihat Tahap

Pemboleh Ubah Linguistik	**Skala *Fuzzy***
Sangat Rendah	(0.0, 0.0, 0.1)
Sangat sederhana rendah	(0.0, 0.1, 0.3)
Rendah	(0.1, 0.3, 0.5)
Sederhana tinggi	(0.3, 0.5, 0.7)
Tinggi	(0.5, 0.7, 0.9)
Sangat sederhana tinggi	(0.7, 0.9, 1.0)
Sangat tinggi	(0.9, 1.0, 1.0)

Langkah 5: Penganalisisan data berdasarkan *triangular fuzzy number* di mana ia bertujuan untuk mendapatkan nilai *threshold* (d). Oleh yang demikian syarat pertama yang perlu dipatuhi adalah nilai *threshold* (d) mestilah kurang atau sama dengan 0.2 (Cheng & Lin, 2002). Penggunaan kaedah *vertex* dijalankan untuk mengira jarak di antara purata r_{ij}. Nilai threshold (d) bagi dua nombor fuzzy m = (m_1, m_2, m_3) dan n = (m_1,m_2, m_3) di kira menggunakan rumus:

$$d(\tilde{m},\tilde{n}) = \sqrt{\frac{1}{3}\left[(m_1 - n_1)^2+(m_2 - n_2)^2+(m_3 - n_3)^2\right]}.$$

Jadual 3 memaparkan contoh nilai *threshold* (d) yang terhasil bagi 3 item yang dikaji berdasarkan pandangan 12 orang pakar. Di dalam jadual ini menunjukkan nilai-nilai *threshold* bagi setiap item dan pakar seta nilai *threshold* (d) keseluruhan bagi setiap item. Nilai *threshold* (d) yang dihitamkan adalah nilai *threshold* (d) yang melebihi 0.2.

Jadual 3: Contoh Nilai Threshold (d) bagi 3 Item dan 12 Pakar

Pakar	Item		
	1	2	3
1	0.059	0.110	0.072
2	0.059	0.045	0.072
3	0.059	0.045	0.072
4	**0.300**	0.045	0.072
5	0.095	0.045	0.082
6	0.059	0.045	0.082
7	0.095	0.045	0.082
8	0.095	0.045	0.082
9	0.095	0.045	0.082
10	0.095	0.045	0.082
11	0.095	0.045	0.082
12	0.059	**0.347**	**0.311**
Nilai *Threshold* (d) setiap item	0.101	0.027	0.073

Langkah 6: Di dalam proses ini penentuan syarat kedua dilakukan di mana penentuan nilai peratusan kesepakatan pakar dijalankan. Syarat kedua yang perlu dipatuhi adalah nilai peratus kesepakatan pakar mestilah sama atau lebih daripada 75.0% (Chu & Hwang, 2008 ; Murry & Hammons, 1995). **Jadual 4** memaparkan peratusan kesepakatan pakar bagi tiga item yang dikaji dengan menggunakan kesepakatan 10 orang pakar dalam kajian.

Jadual 4: Contoh Peratusan Kesepakatan Pakar

Perkara	Item		
	1	2	3
Bilangan Item d ≤ 0.2	9	9	9
Peratus Setiap Item d ≤ 0.2	90.0%	90.0%	90.0%

Langkah 7: Penganalisaan data menggunakan *average of fuzzy numbers @ average response (Defuzzification Process*). Dalam penganalisisan ini adalah bertujuan mendapatkan nilai skor *fuzzy* (A). Untuk memastikan syarat ketiga dipatuhi, nilai skor *fuzzy* (A) mestilah melebihi atau sama

dengan nilai median (nilai α – cut) iaitu 0.5 (Tang & Wu, 2010; Bodjanova, 2006). Ini menunjukkan bahawa elemen tersebut diterima oleh kesepakatan pakar. Antara fungsi lain nilai skor *fuzzy* (A) adalah boleh digunakan sebagai penentu kedudukan dan keutamaan sesuatu elemen mengikut pandangan kesepakatan pakar. Rumus yang terlibat di dalam mendapat nilai skor *fuzzy* (A) adalah seperti berikut:

$$A = (1/3)*(m_1 + m_2 + m_3)$$

Jadual 5: memaparkan contoh nilai skor *fuzzy* (A) yang dijalankan menggunakan penganalisisan *defuzzification process* berdasarkan pendekatan kaedah *Fuzzy* Delphi (FDM).

Jadual 5: Contoh Nilai Skor Fuzzy (A)

Item	1			2			3		
Purata Setiap Unsur	m_1	m_2	m_3	m_1	m_2	m_3	m_1	m_2	m_3
	0.780	0.930	0.990	0.880	0.990	1.000	0.820	0.960	1.000

Bilangan Pakar Dalam Kaedah Fuzzy Delphi (FDM)

Pandangan Adler dan Ziglio (1996) menghujahkan bahawa bilangan pakar yang sesuai dalam kaedah Delphi adalah di antara 10 hingga 15 sekiranya terdapat tahap keseragaman yang tinggi dalam kalangan pakar. Namun begitu Jones dan Twiss (1978) pula mencadangkan bahawa dalam menjalankan kaedah Delphi, bilangan pakar terlibat adalah seramai 10 hingga 50 orang pakar. Dalam konteks kajian ini, pengkaji telah melantik 15 orang pakar yang terlibat secara langsung dengan kajian yang dijalankan.

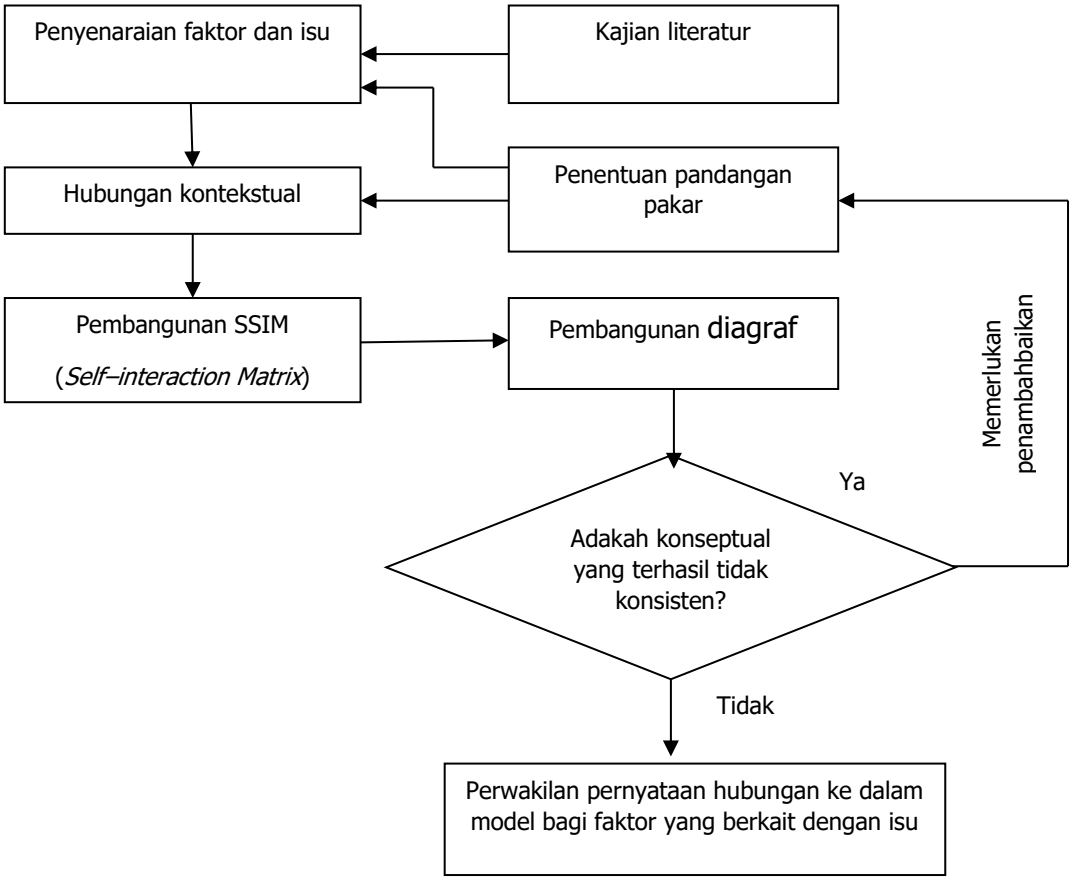
Pendekatan Interpretive Structural Modeling (ISM)

Tujuan utama penggunaan pendekatan ini adalah untuk menentukan keutamaan elemen yang terkandung di dalam setiap elemen utama model kandungan sistem teknologi digital TACC. Berdasarkan kajian lepas didapati pendekatan ini telah diperkenalkan oleh Walfred (1973;1974;1976). Pendekatan ini adalah berfungsi untuk merungkaikan serta menganalisis segala permasalahan yang kompleks. Maka ia berupaya menjadi suatu alat untuk membuat keputusan dengan mengambil kira pandangan dan undian dalam kalangan pakar yang terlibat dalam sesebuah kajian. Pendekatan Interpretive Structural Modeling (ISM) juga, mampu untuk menghubungkan segala pandangan pakar yang melibatkan elemen-elemen yang terkandung di dalamnya seterusnya berupaya membentuk dan membangunkan sesebuah model (Charan, Shankar & Baisya, 2008). Perkara ini dipersetujui oleh sekumpulan sarjana yang menegaskan bahawa pendekatan Interpretive Structural Modeling (ISM) amat membantu untuk menstrukturkan pandangan sekumpulan individu di mana ia mampu untuk menstrukturkan pengetahuan mereka secara kolektif (Sohani & Sohani, 2012; Gorvet & Liu, 2006; Janes, 1988). Oleh demikian, pendekatan Interpretive Structural Modeling (ISM) memerlukan bantuan perisian komputer untuk membangunkan dan menstrukturkan model berdasarkan pandangan sekumpulan pakar (Walfred, 1982). Justeru itu, pendekatanInterpretive Structural Modeling (ISM) juga adalah suatu alat kualitatif yang sangat mempunyai kekuatan yang tinggi yang boleh diaplikasikan dalam pelbagai bidang ilmu dalam merungkai sesuatu permasalahan yang kompleks dan rumit (Talib, Rahman & Qureshi, 2011).

Langkah Asas Pendekatan Interpretive Structural Modeling (ISM)

Berdasarkan kajian lepas juga memperlihatkan bahawa pendekatan Interpretive Structural Modeling mempunyai tiga langkah asas di dalam mengimplementasikan (Sohani & Sohani, 2012; Mckell, Hansen & Heitger, 1979) iaitu; (a) Proses penentuan dan pengenalpastian sesuatu isu dan masalah yang kompleks. Pendekatan Interpretive Structural Modeling (ISM) berupaya merungkai dan menyelesaikan sesuatu permasalahan yang kompleks yang memerlukan undian dan perbincangan daripada sekumpulan pakar dan dibantu dengan perisian menggunakan komputer. Ia adalah sejajar dengan pandangan Walfred

(1982) bahawa pendekatan Interpretive Structural Modeling (ISM) dengan bantuan komputer berupaya membangunkan sesebuah kerangka dan model yang menstrukturkan hubungan antara pandangan setiap pakar yang terlibat di dalam sesuatu perbincangan.



Rajah 4: Carta alir pembangunan kandungan sistem teknologi digital TACC berdasarkan pendekatan Interpretive Structural Modeling (ISM)
(Adaptasi ripada Attri, Dev dan Sharma, 2013b)

Kesimpulannya dapat dinyatakan bahawa pendekatan *Interpretive Structural modeling* (ISM) berupaya untuk memperjelaskan setiap proses yang kabur dan kompleks. Hal ini adalah sejajar dengan pandangan Ahuja, Yang dan Shankar (2009) yang menegaskan bahawa penggunaan pendekatan *Interpretive Structural Modeling* (ISM) mampu untuk membentuk dan membangunkan sekaligus menyelesaikan isu yang kompleks yang tidak upaya dilihat dalam sistem pemikiran.

Bilangan Pakar Dalam Pendekatan Interpretive Structural Modeling (ISM)

Terdapat pelbagai pandangan di dalam menentukan bilangan pakar dalam pendekatan *Interpretive Structural Modeling* (ISM). Muhammad Ridhuan Tony Lim (2014) mencadangkan bilangan pakar bagi menjalankan proses dapatan menggunakan pendekatan *Interpretive Structural Modeling* (ISM) adalah seramai 8 orang pakar di mana beliau berhujah sekiranya pakar yang dipilih menepati konteks kajian, ia mampu untuk meningkatkan potensi komunikasi yang baik di antara pakar. Beliau turut mencadangkan bilangan pakar berdasarkan rumus kebarangkalian (*probability*) iaitu n (n-1) di mana n adalah mewakili bilangan pakar. Contoh yang diberikan adalah sekiranya bilangan pakar adalah 10, maka proses komunikasi berkemungkinan mampu dicapai kepada angka 90 berdasarkan rumus yang digunakan iaitu 10(10-1) = 90. maka ia akan menyebabkan kebosanan dan keletihan berlaku kepada setiap pakar kerana terpaksa melalui proses komunikasi yang agak panjang (Muhammad Ridhuan Tony

Lim, 2014). Namun begitu, pada pandangan yang lain menjelaskan bilangan pakar yang ideal bagi sesi yang melibatkan pendekatan *Interpretive Structural Modeling* (ISM) adalah seramai 6 hingga 9 orang pakar (Harvey & Holmes, 2012). Dalam konteks kajian ini, pengkaji telah melantik 7 orang pakar yang terlibat secara langsung dan berpengetahuan dalam konteks kajian.

Fasa Penilaian Kebolehgunaan Model

Penggunaan Teknik Kumpulan Nominal Ubahsuai *(Modified NGT)* bagi melihat persetujuan pakar yang terdiri daripada guru bimbingan dan kaunseling sepenuh masa terhadap model kandungan sistem teknologi digital TACC yang telah dibangunkan. Antara faktor lain penggunaan teknik ini juga adalah kerana pengkaji dapat mengetahui peratusan dan penerimaan pakar terhadap setiap elemen utama, item dan keutamaan item yang telah dibangunkan di dalam model. Jika diimbas kembali, penggunaan Teknik Kumpulan Nominal (NGT) adalah bertujuan untuk proses sumbang saran dan pencetusan idea terhadap sesuatu isu (Dung, 2015). Namun begitu, teknik ini juga mampu digunakan untuk mengukur sesuatu produk yang telah dibangunkan. Ia adalah sejajar dengan kajian Dobbie *et al.,* (2004) yang menjalankan kajian penilaian terhadap suatu kurikulum dengan menggunakan Teknik Kumpulan Nominal (NGT) yang telah diubahsuai kepada beberapa langkah untuk melihat kebolehgunaan model tersebut.

OBJEKTIF KAJIAN

Kajian ini ialah kajian penyelidikan pembangunan yang menggunakan pendekatan *Design and Developmental Research* (DDR). Penyelidikan ini juga adalah berasaskan kepada reka bentuk keperluan yang diperlukan untuk menyelesaikan sesuatu masalah (Richey, R. C., & Klein, J. D. , 2007). Oleh yang demikian terdapat tiga objektif utama dalam setiap fasa berdasarkan pendekatan DDR yang digunakan yang mana setiap objektif utama mengikut fasa mempunyai beberapa sub objektif untuk menjawab soalan kajian. Secara umumnya, objektif kajian ini adalah bertujuan untuk membangunkan sebuah model kandungan sistem teknologi digital TACC bagi bimbingan dan kaunseling kerjaya sekolah menengah yang memfokuskan kepada elemen *Technology-Assisted Career Counseling*.

DAPATAN KAJIAN

Terdapat empat elemen utama dalam model kandungan sistem teknologi digital TACC bagi perkhidmatan bimbingan dan kaunseling kerjaya di sekolah menengah yang diukur keperluannya berdasarkan persetujuan guru bimbingan dan kaunseling sepenuh masa (GBKSM) di sekolah menengah di mana ia terdiri daripada elemen kandungan Sistem Penilaian Kerjaya Berbantukan Teknologi atau *Technology-Assisted Career Counselling Assessment Systems* atau (TACC-AS), elemen kandungan Sistem Maklumat Kerjaya Berbantukan Teknologi atau *Technology-Assisted Career Information Systems* (TACC-IS), elemen Kandungan Sistem Teknologi Dalam Pengurusan Kaunseling Kerjaya Berbantukan Teknologi atau *Technology Managed Career Counseling Systems* (TACC-MC) dan elemen kandungan Sistem Bimbingan Kaunseling Kerjaya Berbantukan Teknologi atau *Technology-Assisted Career Guidance Counseling Systems* (TACC-CGCS). Penggunaan skala likert 5 mata digunakan bagi melihat persetujuan guru bimbingan dan kaunseling sepenuh masa (GBKSM) terhadap kesemua elemen dalam model kandungan sistem teknologi digital TACC yang diperlukan oleh guru bimbingan dan kaunseling sepenuh masa (GBKSM) di sekolah menengah.

Jadual 6: Elemen Utama Model Kandungan Sistem Teknologi Digital TACC Bagi Perkhidmatan Bimbingan Dan Kaunseling Kerjaya Sekolah Menengah Berdasarkan Analisa *Fuzzy Delphi* (FDM) Dan Cadangan Panel Pakar

Bil	Elemen	Syarat *Triangular Fuzzy Numbers*		Syarat *Fuzzy Evaluation Process*				Kesepaka-tan Pakar	Elemen DITERIMA	Ranking	Cadangan Elemen daripada Pakar
		Nilai *Threshold* (d)	Peratus Kesepakatan Kumpulan Pakar (%)	m1	m2	m3	Skor *Fuzzy (A)*				
1	Kandungan Sistem Penilaian Kerjaya Berbantukan Teknologi atau *(Technology-Assisted Career Counselling Assessment Systems*) (TACC-AS)	0.035	100.0%	0.873	0.987	1.000	0.953	TERIMA	0.953	1	TIADA
2	Kandungan Sistem Maklumat Kerjaya Berbantukan Teknologi *Technology-Assisted Career Information Systems* (TACC-IS)	0.060	100.0%	0.847	0.973	1.000	0.940	TERIMA	0.940	2	TIADA
3	Kandungan Sistem Bimbingan Dan Kaunseling Kerjaya Berbantukan Teknologi atau *Tecnology-Assisted Career Guidance And Counselling Systems* (TACC-CGCS)	0.130	100.0%	0.767	0.913	0.980	0.887	TERIMA	0.887	4	TIADA
4	Kandungan Sistem Teknologi Pengurusan Kaunseling Kerjaya atau *Technology-Managed Career Counseling Systems* (TACC-MC)	0.068	100.00%	0.833	0.967	1.000	0.933	TERIMA	0.933	3	TIADA

Syarat:

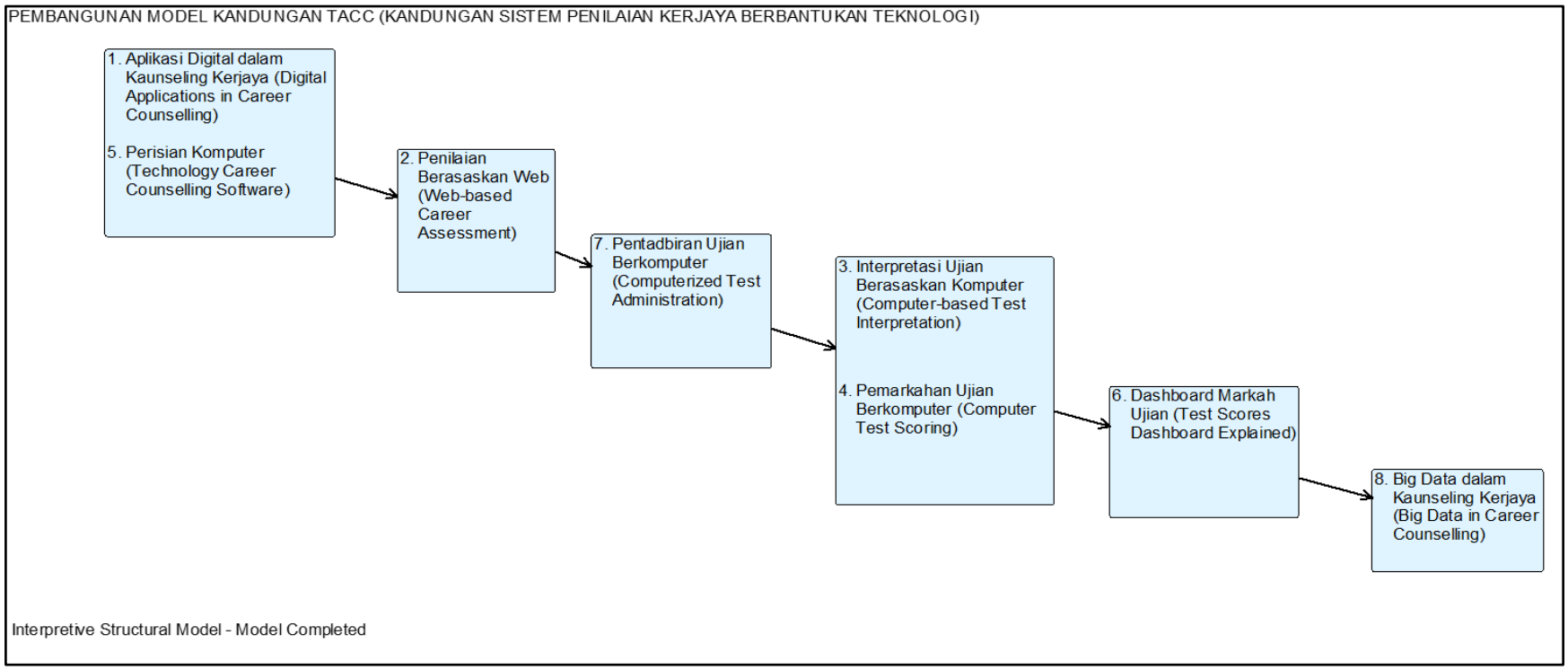
Triangular Fuzzy Numbers

1) Nilai *Threshold* (d) ≤ 0.2

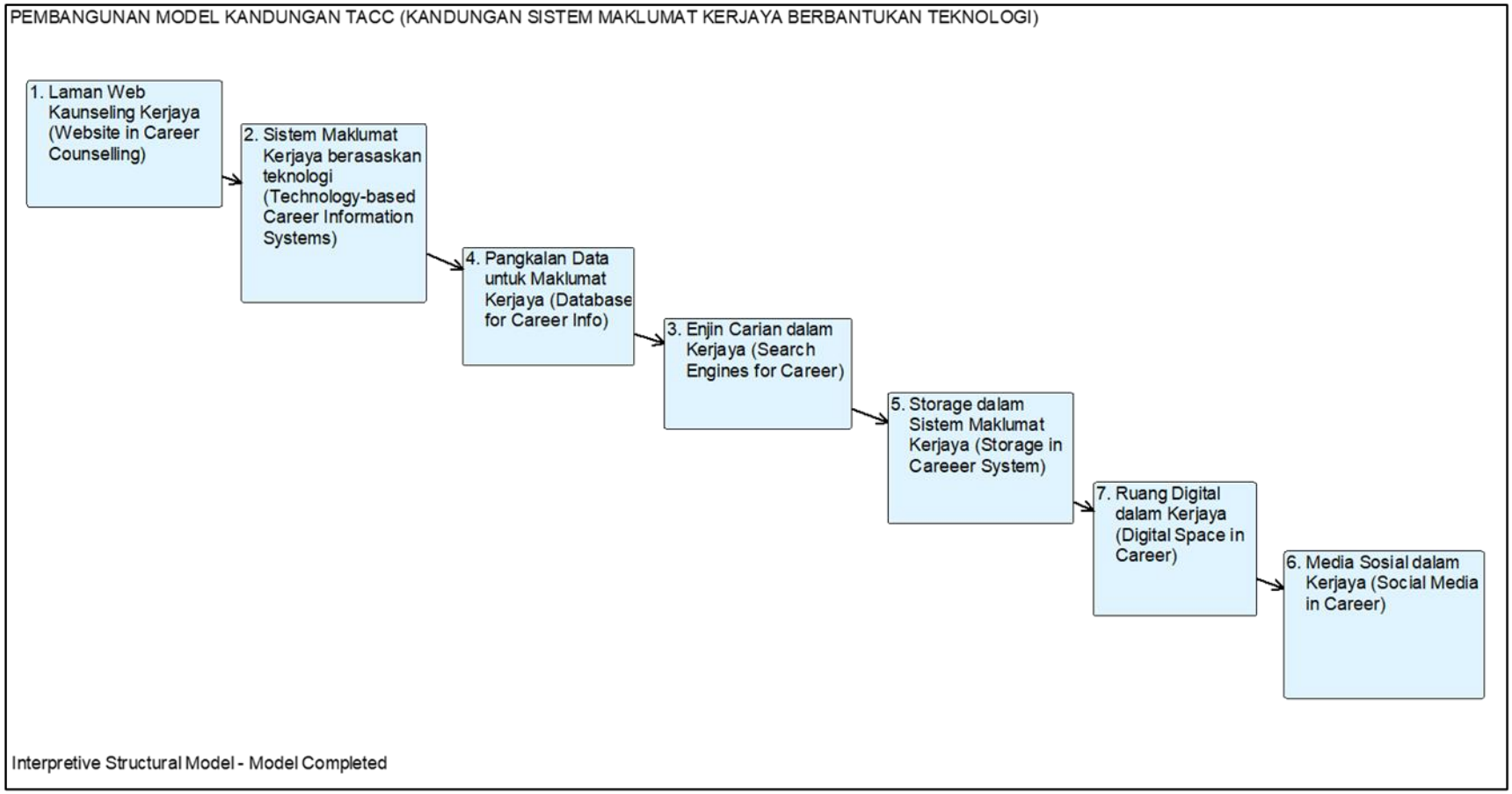
2) Peratus Kesepakatan Pakar ≥ 75.0%

Defuzzification Process

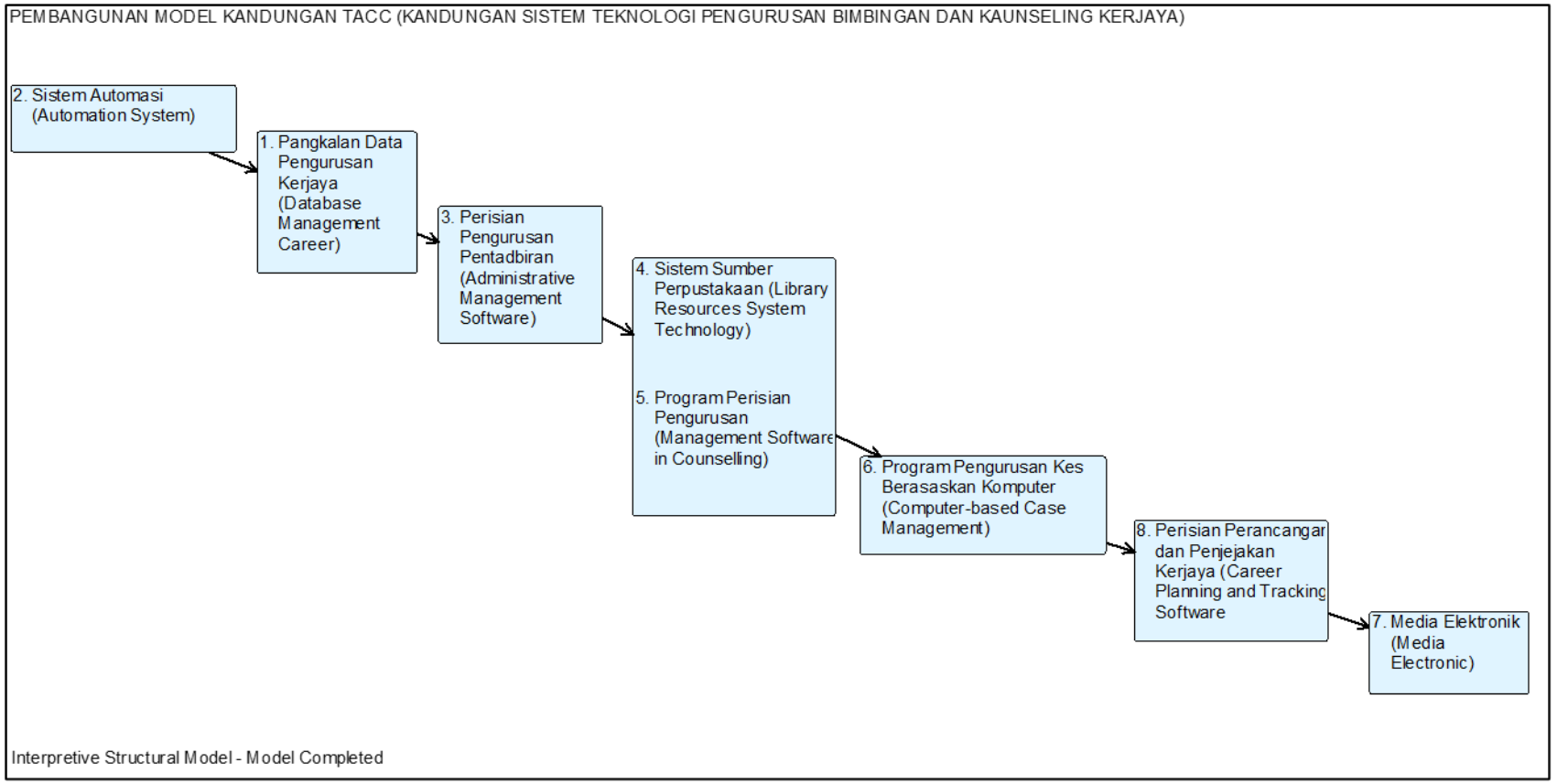
3) Skor *Fuzzy* (A) ≥ nilai α – cut = 0.5



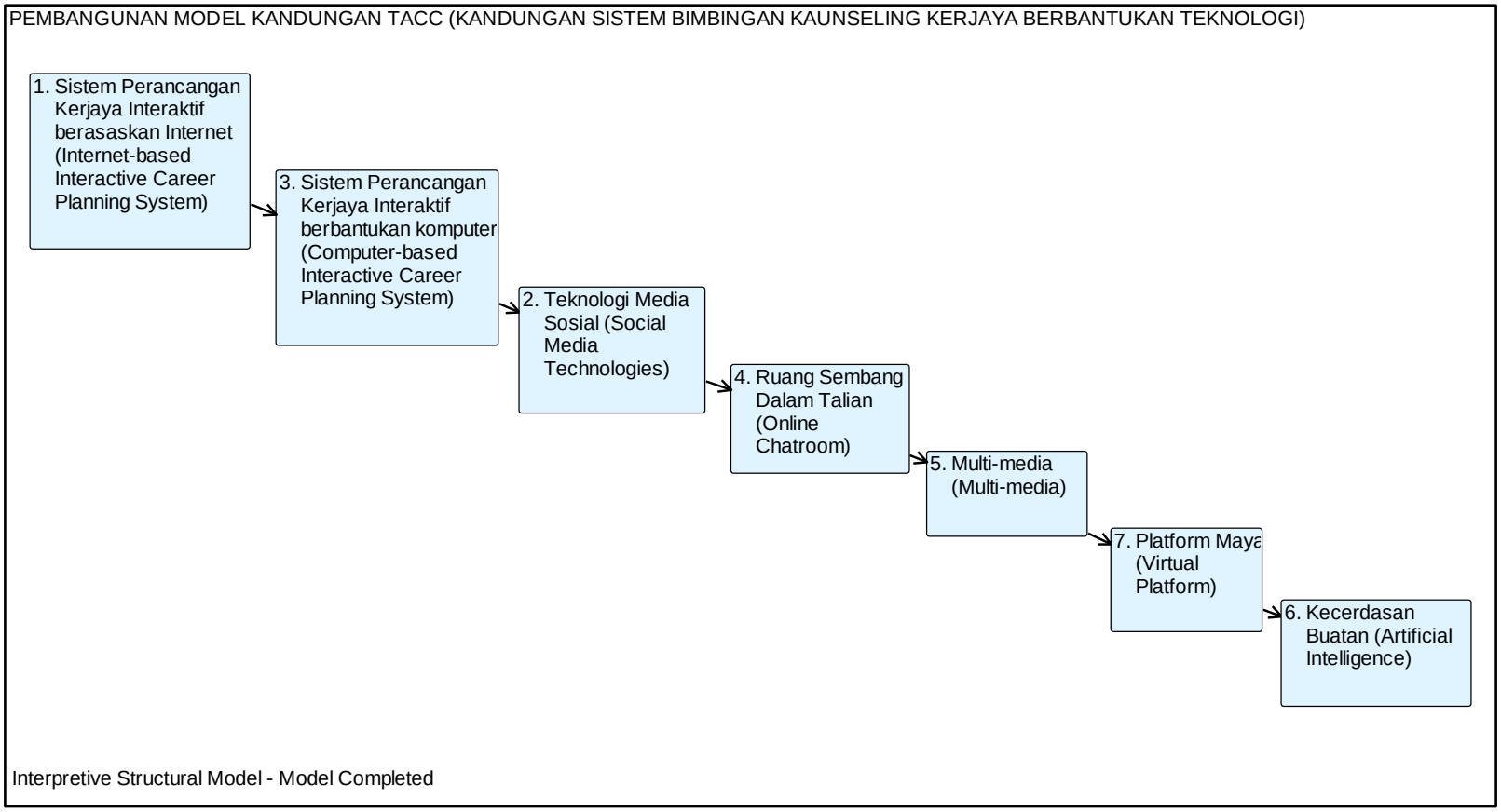
Rajah 5: Model Elemen Kandungan Sistem Penilaian Kerjaya Berbantukan Teknologi atau *Technology-Assisted Career Counselling Assessment Systems* (TACC-AS)



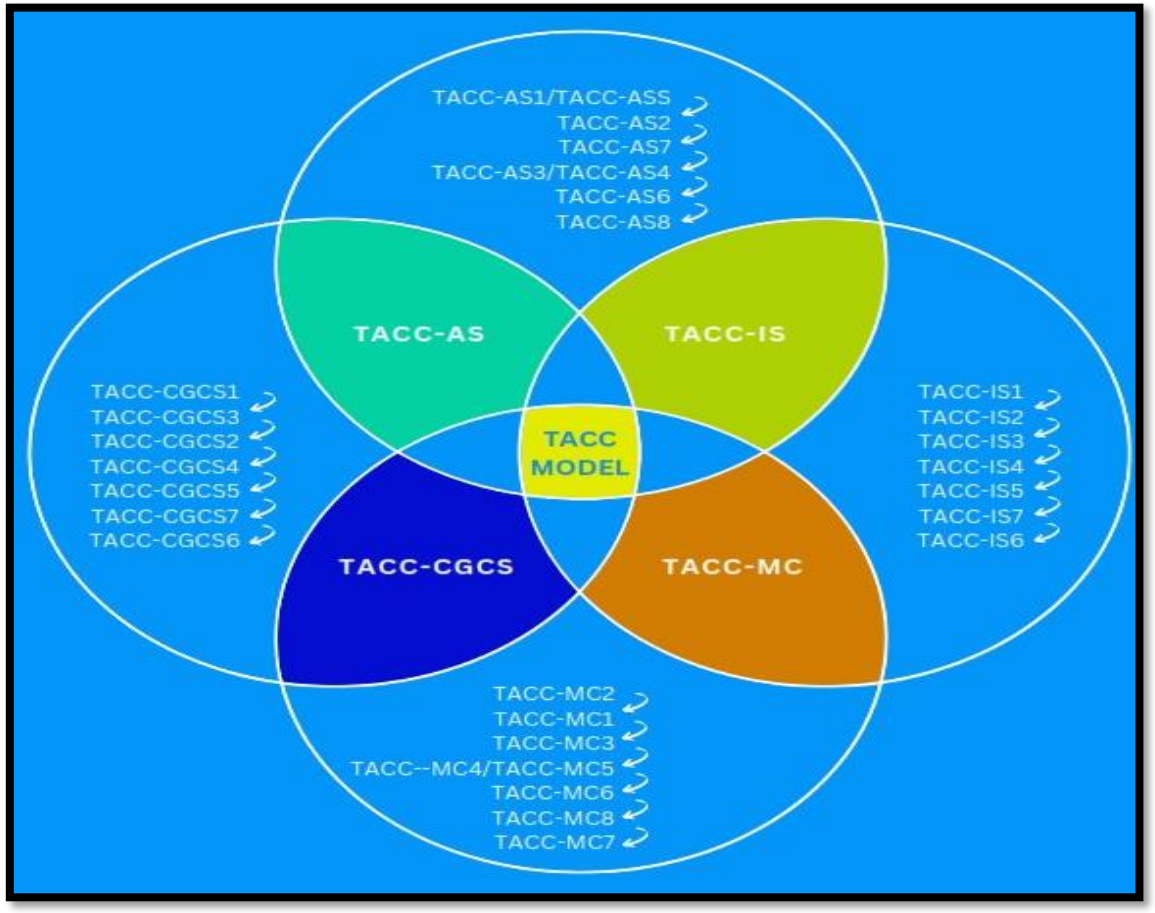
Rajah 6: Model Kandungan Kandungan Sistem Maklumat Kerjaya Berbantukan Teknologi atau *Technology-Assisted Career Information Systems* (TACC-IS)



Rajah 7: Model Elemen Kandungan Sistem Teknologi Pengurusan Bimbingan dan Kaunseling Kerjaya atau *Technology-Managed Career Counseling Systems* (TACC-MC)



Rajah 8: Model Elemen Kandungan Sistem Bimbingan dan Kaunseling Kerjaya Berbantukan Teknologi atau *Technology-Assisted Career Guidance Counseling Systems* (TACC-CGCS)



Rajah 9: Model Kandungan Sistem Teknologi Digital TACC

Berdasarkan Rajah 5, 6, 7 dan 8 jelas menunjukkan turutan keutamaan bagi Kandungan Sistem Teknologi Digital TACC bagi setiap elemen utama model.

PERBINCANGAN

Perbincangan mengenai dapatan kajian yang terdiri daripada dapatan kajian analisis keperluan, dapatan kajian reka bentuk dan pembangunan model kandungan sistem teknologi digital TACC bagi perkhidmatan bimbingan dan kaunseling kerjaya sekolah menengah serta dapatan kajian penilaian kebolehgunaan model yang telah dibangunkan. Justeru itu, proses perbincangan ini adalah bersifat peneguhan kepada dapatan yang dibuat dengan sokongan kajian lepas dan cadangan, pendapat serta komen daripada responden yang terlibat di dalam setiap fasa kajian. Jika ditelusuri kembali analisis keperluan yang merupakan fasa pertama yang dijalankan di dalam kajian ini bagi melihat keperluan untuk membangunkan model kandungan sistem teknologi digital TACC bagi perkhidmatan bimbingan dan kaunseling kerjaya sekolah menengah. Seterusnya fasa yang kedua iaitu fasa reka bentuk dan pembangunan model yang melibatkan proses reka bentuk dan pembangunan Model Kandungan Sistem Teknologi Digital TACC Bagi Perkhidmatan Bimbingan Dan Kaunseling Kerjaya Sekolah Menengah bermula daripada pencarian maklumat melalui kajian literatur sehinggalah terbentuknya model yang merangkumi Kandungan Sistem Penilaian Kerjaya Berbantukan Teknologi atau Technology-Assisted Career Counseling Assessment Systems (TACC-AS), Kandungan Sistem Maklumat Kerjaya Berbantukan Teknologi atau Technology-Assisted Career Information Systems (TACC-IS), Kandungan Sistem Teknologi Dalam Pengurusan Kaunseling Kerjaya Berbantukan Teknologi atau Technology-Managed Career Counseling Systems (TACC-MC) dan Kandungan Sistem Bimbingan Kaunseling Kerjaya Berbantukan Teknologi atau Technology-Assisted Career Guidance and Counseling Systems (TACC-CGCS) yang telah dibangunkan. Mungkin tidak keterlaluan jika dikatakan, model ini adalah merupakan suatu kerangka kandungan sistem teknologi digital bagi bimbingan dan kaunseling kerjaya berbantukan teknologi bagi perkhidmatan bimbingan dan kaunseling sekolah menengah yang boleh menjadi garis panduan bagi guru bimbingan dan kaunseling di dalam perlaksanaan perkhidmatan bimbingan dan kaunselingn kerjaya berbantukan teknologi masa kini.

RUMUSAN

Dapatan menunjukkan terdapat kewajaran untuk membangunkan satu model kandungan sistem teknologi digital TACC bagi perkhidmatan kaunseling kerjaya di sekolah menengah yang memfokuskan kepada elemen bimbingan dan kaunseling kerjaya berbantukan teknologi atau Technology-Assisted Career Counseling (TACC) dalam perlaksanaan perkhidmatan bimbingan dan kaunseling sekolah menengah. Dapatan kajian ini diharap boleh menjadi panduan terutamanya kepada penggubal Buku Panduan Perlaksanaan Perkhidmatan Bimbingan dan Kaunseling (KPM, 2012;2015) yang menjadi rujukan utama perkhidmatan bimbingan dan kaunseling agar seiring dengan kurikulum pendidikan alaf baru dan menjadi suatu kandungan sistem teknologi digital TACC sebagai garis panduan dalam perlaksanaan bimbingan dan kaunseling di sekolah menengah yang berkesan terutamanya dalam bimbingan dan kaunseling kerjaya. Dari sudut pandang implikasi terhadap teori pula, pembangunan model kandungan sistem teknologi digital TACC bagi perkhidmatan kaunseling kerjaya di sekolah menengah ini adalah bertepatan dan selari dengan teori sedia ada yang menjadi teras dan dasar kajian ini. Ia telah dibuktikan melalui pembentukan elemen yang bercirikan kepada dimensi yang terkandung di dalam setiap aktiviti perkembangan kerjaya yang berteraskan teori kaunseling perkembangan kerjaya.

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DIGITAL BASED LEARNING: PEMANFAATAN *ARTIFICIAL INTELLIGENCE* DALAM MEREALISASIKAN ASPIRASI MADANI DALAM PENGAJARAN DAN PEMBELAJARAN

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ABSTRAK

Perkembangan pesat teknologi Kecerdasan Buatan (Artificial Intelligence) telah membawa perubahan yang signifikan dalam pelbagai aspek kehidupan manusia, termasuklah sektor pendidikan itu sendiri. Pengintegrasian Kecerdasan Buatan (Artificial Intelligene) dalam dunia pendidikan juga menjadi satu isu yang semakin relevan dalam konteks pendidikian digital atau dalam erti kata lain Digital Based Learning yang mana kecanggihan teknologi ini dilihat seiring dengan konteks aspirasi Malaysia MADANI yang terdiri daripada enam teras iaitu kemampanan, kesejahteraan, daya cipta, hormat, keyakinan dan ihsan. Akhirnya, pemanfaatan teknologi Kecerdasan Buatan (Artificial Intelligence) yang diterapkan dalam pendidikan berupaya menghasilkan rakyat Malaysia yang berupaya memacu pertumbuhan yang lebih baik dalam sistem pendidikan. Maka, kajian ini bertujuan untuk mengenalpasti bagaimana pemanfaatan Artificial Intelligence dapat membantu merealisasikan aspirasi MADANI dalam membentuk guru pelatih yang lebih produktif, inovatif, berdaya saing, berkemahiran tinggi dalam dunia pendidikan masa hadapan. Selain itu, kajian ini juga bermatlamat untuk mengkaji kesan positif penggunaan Artificial Intelligence terhadap pembangunan pembelajaran guru pelatih selaras dengan aspirasi Malaysia MADANI. Kajian ini menggunakan pendekatan kualitatif deskriptif. Metod pengumpulan data dilakukan dengan cara menganalisis dokumen sesuai dengan isu yang diketengahkan ini. Dengan ini, diharapkan dapat memberi gambaran kepada masyarakat bahawa pembelajaran yang dibantu oleh teknologi Artificial Intelligence mempunyai manfaat kepada guru pelatih berbanding keburukannya sekaligus berupaya melahirkan bakal guru yang menjunjung aspirasi MADANI dengan cemerlang.

***Kata Kunci**: Kecerdasan Buatan (Artificial Intelligence), Pembelajaran Berasaskan Digital (Digital Based Learning), Aspirasi Malaysia MADANI, Guru Pelatih.*

PENGENALAN

Sejak dua dan tiga dekad kebelakangan ini, kita dapat menyaksikan berlakunya gelombang revolusi industri 5.0 (IR 5.0) yang kian rancak berkembang persis cendawan tumbuh selepas hujan. Sedar atau tidak, kita sememangnya semakin tenggelam dengan sistem yang menuntut kita ke arah pengimplimentasian IR 5.0 di dalam kehidupan seharian baik dari segi gerak kerja untuk kelangsungan hidup mahupun dari segi pendidikan yang merupakan agen perubahan tamadun bangsa. Dari skop pendidikan, Nursyifa (2019) berpendapat IR 5.0 menjadi satu fenomena penting di dalam bidang pendidikan. Hal ini ekoran kerana era IR 5.0 telah mengubah sistem pendidikan dengan wajah baharu yang mana berasaskan kecanggihan teknologi.

Selain itu, seiring dengan peredaran zaman yang kian canggih sehinggakan dianggap sebagai era dunia tanpa sempadan, ia merupakan satu era yang mengubah sudut fikir manusia ke arah kehidupan yang moden dan sistematik iaitu kehidupan yang berasaskan digital. Pendapat ini disokong oleh Rymarczyk (2020) yang menyatakan bahawa IR 5.0 telah mengubah paradigma kehidupan manusia menerusi transformasi distruptif dalam industri yang menggabungkan teknologi, alam, fizikal, digital dan biologi yang sudah semestinya memberi impak kepada semua bidang khususnya bidang pendidikan.

Sekiranya ditinjau dari polemik pendidikan di Malaysia, Kementerian Pendidikan Malaysia beriltizam untuk menjadikan pendidikan di negara ini sentiasa berubah dan berkembang sesuai dengan zaman. Bertepatan dengan pendidikan itu sendiri yang bersifat dinamik, ia turut menjadikan sistem pendidikan di negara ini sentiasa memerlukan perubahan dalam menyediakan warganegara Malaysia yang dilengkapi dengan pengetahuan, kemahiran, nilai yang relevan dengan keperluan pendidikan semasa di dalam menghadapi era revolusi industri 5.0 dan cabaran pendidikan abad ke -21 (Nordin et al., 2023; Shahroom & Hussin, 2018). Sejajar dengan itu, pembelajaran berasaskan digital ataupun *digital based learning* dijadikan sebagai teras yang menjadi panduan kepada semua pihak berkepentingan untuk mendepani era digital.

Selain itu, Kementerian Pendidikan Malaysia juga melihat pengintegrasian teknologi digital khususnya *Artificial Intelligence (AI)* ini mempunyai potensi yang amat cerah dalam menggilap aspirasi MADANI yang ditekankan oleh pihak kerajaan di bawah pentadbiran Yang Amat Berhormat Dato' Sri Anuar bin Ibrahim. Aspirasi MADANI ini terdiri daripada enam tonggak iaitu kemampanan, kesejahteraan, daya cipta, hormat, keyakinan dan ihsan. Maka, bagi merealisasikan hasrat murni ini, Kementerian Pendidikan Malaysia telah melancakan Dasar Pendidikan Digital sebagai satu usaha bagi melahirkan generasi yang menjunjung usaha ini sekaligus menjamin kesejahteraan insan yang mana ditunjangi prinsip adil dan ihsan (Kementerian Pendidikan Malaysia, 2023).

Dengan itu kepimpinan kerajaan di bawah bidang kuasa Yang Berhormat Fadhlina Sidek komited untuk mentransformasikan pendidikan digital secara menyeluruh bagi melengkapkan landskap pendidikan negara berpandukan enam teras serta strategi-strategi yang berfokus (Natasya , 2023). Dengan realiti ini, dapatlah kita katakan bahawa pendidikan di Malaysia semakin hari semakin ke hadapan seiring dengan era revolusi industri 5.0 yang berorientasikan penggunaan *Artificial Intelligence (AI)* yang menjadi kunci kepada kejayaan Revolusi Industri 5.0 ini.

Lanjutan daripada pernyataan yang telah dinyatakan di atas, antara teras yang difokuskan dari perspektif warga pendidik adalah pendidik kompeten digital. Di dalam teras ini, strategi untuk membudayakan pengetahuan, kreativiti dan inovasi pendidikan digital secara menyeluruh dapat dilihat melalui pendedahan serta pengaplikasian teknologi kecerdasan buatan ataupun *Artificial Intelligence (AI)* dalam pendidikan yang akhirnya akan melahirkan generasi yang mempunyai daya fikir yang mantap seiring dengan aspirasi MADANI.

Hakikat yang perlu kita terima adalah penggunaan *Artificial Intelligence (AI)* mampu membawa transformasi positif dalam sistem pendidikan dimana wujudnya revolusi bagaimana pelajar belajar dan pendidik mengajar di institusi pendidikan. Justeru, penggunaan *Artificial Intelligence (AI)* di dalam pendidikan ini terbukti berkesan untuk memberi satu pengalaman yang baharu kepada guru-guru. Menurut Salbihana et al., (2023), penggunaan *Artificial Intelligence (AI)* di dalam pendidikan membantu warga guru untuk mengembangkan pengetahuan dalam PdP mereka. Selain itu, Zahara et al., (2023) turut menegaskan bahawa kewujudkan *Artificial Intelligence (AI)* di dalam pendidikan mampu mengubah cara mengajar guru sekaligus berupaya untuk menjadikan pendidikan lebih kompeten, cekap dan efektif.

Penggunaan *Artificial Intelligence (AI)* di dalam pendidikan amat mempengaruhi prestasi guru di dalam merancang strategi pengajaran dan pembelajaran. Kenyataan ini dibuktikan daripada Mutaqin et al., (2022) yang menyatakan bahawa teknologi kecerdasan buatan AI ini mampu mengumpul data daripada

aktiviti pembelajaran yang dijalankan oleh guru dan seterusnya akan menyediakan langkah penyelesaian bagi masalah pembelajaran yang wujud. Hal ini sudah jelas menggambarkan kepada kita bahawa penggunaan teknologi AI ini amat efektif di dalam menstrukturkan sistem pendidikan yang lebih sistematik dan dinamik. Dalam konteks guru, penggunaan AI di dalam pengajaran dan pembelajaran, ia akan mempengaruhi prestasi mereka apabila berhadapan dengan situasi sebenar di sekolah.

Dalam kajian ini, isu berkaitan penggunaan teknologi AI dinilai untuk menentukan bagaimana *Artificial Intelligence (AI)* digunakan dalam pembelajaran memberi impak positif dalam meningkatkan daya cipta guru pelatih. Kajian menunjukkan penggunaan AI dalam pembelajaran dapat membantu mencipta satu pengalaman pembelajaran yang bersifat interaktif dan produktif serta mengembangkan daya cipta pelajar. Penggunaan AI yang melibatkan penggunaan algoritma pembelajaran juga dapat membantu pelajar mencari maklumat dengan lebih cepat, mudah dan tepat (Akhyar et al., 2023; Muarif et al., 2022; Zheng et al., 2023).

Oleh itu, isu berkaitan dengan penggunaan AI dalam pendidikan menjadi satu isu yang relevan dan semakin hangat dibincangkan. Kesedaran mengenai teknologi ini perlu didedahkan kepada semua warga pendidik selaras dengan hasrat kerajaan menerusi Dasar Pendidikan Digital serta aspirasi MADANI iaitu daya cipta. Justeru, melalui kajian ini, penggunaan *Artificial Intelligance* dalam kalangan guru pelatih menjadi asas untuk mengetahui bagaimana ia digunakan dalam pembelajaran dan apakah manfaat yang mereka perolehi khususnya kepada unsur daya cipta.

KAJIAN LITERATUR

Melalui pembacaan dan penelitian pengkaji berkenaan dapatan kajian lalu, ia dilihat mempunyai hubungan dan perbincangan yang berkait rapat dengan kajian yang dilakukan. Isu-isu dan perbahasan yang dibincangkan dalam dapatan kajian lalu dapat membantu mengembangkan penyelidikan baharu dan mengenalpasti jurang dalam penyelidikan.

Antaranya, kajian daripada Afrita (2023) mendapati penggunaan AI dalam pendidikan berpotensi untuk meningkatkan kecekapan dan keberkesanan sistem pendidikan melalui pelbagai kaedah kerana ia mempercepat dan memudahkan proses pembelajaran. AI juga mampu memberikan cadangan idea yang berkualiti, meramal tingkah laku pelajar dan menambah baik pengurusan data secara efektif. Konsep kajian mengaplikasikan kaedah perpustakaan yang telah menggabungkan pelbagai pendapat untuk dirumuskan menjadi satu input yang baharu. Kajian ini dijalankan untuk melihat sejauh mana penggunaan AI ini membantu meningkatkan sistem pendidikan ke arah sistem yang berkualiti dan efektif. Hasilnya, penggunaan AI terbukti membantu menjadikan sistem pendidikan khususnya proses pembelajaran menjadi efektif dan produktif serta mengembangkan kemahiran penyelesaian masalah serta memperkasakan penggunaan kemahiran berfikir secara kritis kepada pengguna.

Selain itu, berpandukan kajian daripada Lin et al., (2022) terdapat hubungan signifikan antara penggunaan AI dengan pencapaian akademik pelajar. Dapatan kajian ini menunjukkan penggunaan AI dalam bilik darjah membawa kesan yang positif terhadap pencapaian pembelajaran pelajar. AI dalam dapatan ini seperti *Chatbot* dan *Quillbot* didapati membantu pelajar di dalam meningkatkan motivasi belajar, pengetahuan, daya cipta dan juga kemahiran di dalam menyelesaikan sesuatu masalah ataupun topik pembelajaran. Kajian ini dilakukan terhadap 279 pelajar daripada Universiti Hangzhou, China telah mendapati bahawa penggunaan AI dalam pembelajaran dapat meningkatkan prestasi belajar dan seterusnya dapat meningkatkan pencapaian akademik mereka. Justeru, kajian ini menggambarkan pentingnya teknologi AI di dalam meningkatkan kemahiran kognitif pelajar serta kemahiran berfikir mereka.

Seterusnya, Baker, (2021) berpendapat penggunaan AI dalam pembelajaran membantu pelajar untuk mengamalkan proses pembelajaran peribadi *(personalised learning)* secara optimum. Proses ini membantu pelajar untuk menganalisis pembelajaran mereka seterusnya dapat menguasai kemahiran dan kemajuan ke arah matlamat pembelajaran yang sempurna. Akhirnya, prestasi akademik pelajar akan berada pada tahap cemerlang. Dapatan ini dikuatkan lagi daripada kajian daripada Tapalova dan Zhiyenbayeva (2022) yang mendapati penggunaan *Artificial Intelligence in Education* (AIEd) dapat membolehkan guru membina laluan pembelajaran peribadi *(personalised learning)* untuk keperluan pelajar secara individu. Melalui AI, pelajar dapat meneroka dan juga mencipta pengetahuan mereka sendiri dengan lebih luas. Kajian ini dijalankan secara kajian tinjauan dengan menggunakan borang soal selidik sebagai instrumen kajian. Kajian ini mengkaji penggunaan AI terhadap pembelajaran peribadi *(personalised learning).* Hasil kajian ini menunjukkan kesemua responden kajian bersetuju bahawa penggunaan AI sebagai sumber pembelajaran dapat membantu mereka menyesuaikan kandungan isi pelajaran dengan keperluan peribadi sekaligus mempercepatkan proses pembelajaran mereka dengan berkesan.

Manakala Abdullah (2020) melihat teknologi AI ini menjadi satu keperluan untuk diguna pakai dalam proses pengajaran dan pembelajaran. Dapatan ini menjelaskan bahawa AI dan sumber pengajaran dan pembelajaran yang lain dapat membantu pelajar untuk menyesuaikan diri mereka dengan cara sentiasa meneroka, mencuba dan mempelajari bagaimana untuk menggunakan AI untuk menganalisis pelbagai isu yang timbul semasa proses pengajaran dan pembelajaran.

Satu hakikat yang tidak dapat dinafikan adalah teknologi ini tidak dapat menggantikan tenaga pengajaran manusia. Namun, dengan adanya teknologi ini, proses pengajaran dan pembelajaran yang dihiasi persekitaran yang kondusif, efektif dan juga produktif dapat dibentuk seterusnya memberi kesan yang baik kepada pelajar khususnya dalam usaha membudayakan daya cipta yang menjadi tonggak aspirasi MADANI ini.

Dari perspektif yang lain, aspirasi MADANI yang telah diperkenalkan ini merupakan satu gagasan yang amat selari dengan perkembangan semasa iaitu pengaplikasian *Artificial Intelligence (AI)* dalam pendidikan. Aspirasi MADANI yang diperkenalkan oleh pihak kerajaan ini adalah bagi memajukan negara ini berasaskan nilai murni, daya cipta, inovasi dan keadilan sosial. Menurut Musa (2023), daya cipta merupakan salah satu aspek yang ditegaskan dalam aspirasi ini yang mana ia menekankan inovasi dan kreativiti. Kajian daripada Sani (2020) membuktikan bahawa pengaplikasian *Artificial Intelligence* dalam dunia pendidikan amat membantu dalam meningkatkan kreativiti penggunanya. Hal ini kerana, penggunaan teknologi ini membolehkan penggunanya untuk menghasilkan kandungan pengajaran dan pembelajaran yang bersifat interaktif dan dinamik.

Selain itu, Samsudin et al., (2024) menegaskan bahawa setiap warga pendidik perlulah melengkapkan diri mereka dengan pengetahuan mengenai *Artificial Intelligence (AI)* selaras dengan perubahan peranan pendidik di mana guru perlu lebih bergerak secara kreatif dan inovatif dalam penyampaian serta sentiasa meluaskan horizon pemikiran mereka untuk mengadaptasi cabaran pendidikan abad ke-21. Oleh hal yang demikian, kajian ini terbukti bahawa penggunaan AI ini merupakan asas kepada lahirnya guru yang mempunyai daya cipta yang tinggi. Mana tidaknya, pengetahuan mengenai teknologi ini menjadi kemestian yang harus dititikberatkan oleh warga pendidik agar mutu pengajaran mereka releven dengan cabaran pendidikan terkini.

Berdasarkan daripada dapatan kajian lepas yang telah diungkapkan, ternyata penggunaan teknologi AI adalah digalakkan di dalam pendidikan kerana ia membantu pelajar untuk meningkatkan prestasi akademik sekaligus memperkasakan kemahiran berfikir secara kreatif dan kritis mereka . Bukan itu sahaja, hasil daripada penelitian daripada dapatan kajian lepas, pengkaji berpendapat penerokaan mengenai pemanfaatan AI ini dapat dikembangkan dalam proses pengajaran dan pembelajaran yang mana mampu mengembangkan kreativiti dan inovasi dalam kalangan para guru pelatih. Akhirnya, ia

mempunyai peluang untuk melahirkan para pelajar yang menguasai enam tonggak aspirasi MADANI antaranya ialah daya cipta.

METODOLOGI KAJIAN

Metodologi kajian merupakan satu kaedah dalam mereka bentuk, mengumpul dan menganalisis data bagi mendapatkan bukti yang secukupnya dalam membenarkan kajian yang hendak dijalankan. Hal demikian bertujuan untuk menjelaskan proses yang dilalui pengkaji dalam mendapatkan data kajian yang diinginkan. Menurut Duli (2019), metodologi kajian merupakan salah satu aspek yang berkaitan dengan cara dan prosedur pengolahan sesuatu data bagi menyelesaikan atau menjawab persoalan kajian. Scheurich (2014) juga berpendapat metodologi kajian ini merupakan satu aktiviti yang bertujuan menganalisis kaedah-kaedah kajian penyelidikan, menghuraikan sumber dan menerangkan andaian dan akibatnya. Justeru, pemilihan metodologi kajian memainkan peranan penting untuk mencapai objektif dan matlamat sesuatu kajian

Dalam kajian ini, penulisan artikel ini menggunakan metodologi kualitatif bagi membuktikan ketepatan setiap fakta yang dikemukakan. Menurut Khalid et al., (2021) dan Nizamuddin et al., (2021), pengumpulan data dalam setiap kajian kualitatif boleh dilakukan melalui kaedah temu bual, pemerhatian. Dokumentasi atau kajian perpustakaan. Kaedah perpustakaan digunakan melalui kajian yang telah dijalankan oleh pengkaji yang lain bagi mendapatkan sesebuah data yang relevan dan tepat (Jasmi, 2012; Kaharuddin, 2021). Sehubungan dengan itu, pengkaji akan menumpukan kepada bahan rujukan yang berkaitan di perpustakaan yang memfokuskan kepada aspek-aspek kajian.

Rentetan itu, dalam kaedah penganalisisan data pula, terdapat dua kaedah analisis iaitu analisis kandungan dan juga analisis tekstual. Analisis kandungan boleh digunakan ke atas bahan bercetak seperti buku, minit mesyuarat dan sebagainya dan tidak lupa juga bahan elektronik iaitu seperti tv, drama dan sebagainya (Rijali, 2018). Manakala kaedah kualitatif juga mengandungi analisis tekstual iaitu kaedah yang mengumpul serta menganlisis kajian atas teks sesebuah kajian yang dilakukan (Junaid, 2016). Tujuan analisis ini dijalankan adalah untuk memahami setiap isi kandungan teks yang dikaji.

Oleh hal yang demikian, penulisan ini akan memfokuskan kepada kajian secara analisis tektstual dengan merujuk kepada beberapa sorotan kajian yang berkaitan dengan tajuk yang dikaji iaitu pemanfaatan *Artificial Intelligence (AI)* dalam pendidikan yang mana berupaya merealisasikan aspirasi MADANI.

Berikut merupakan proses metodologi pengumpulan dan analisis data bagi kajian ini seperti dalam Jadual 1 di bawah:

Bil	Perkara	Metodologi Aktiviti Pengumpulan Dan Analisis Data Kajian
1	Reka Bentuk	Kajian Kualitatif
2	Kaedah	Kajian Perpustakaan dengan merujuk kepada bahan-bahan berkaitan di perpustakaan.
3	Analisis Data	Analisis secara tekstual terhadap bahan penulisan yang tertumpu kepada pemanfaatan *Artificial Intelligence (AI)* dalam merealisasikan aspirasi MADANI dalam kalangan bakal guru.

PERBINCANGAN

Hasil perbincangan dalam artikel ini membuktikan bahawa pemanfaatan *Artificial Intelligence* (AI) dalam pendidikan sememangnya berupaya merealisasikan aspirasi MADANI dalam kalangan guru pelatih . Antara justifikasinya adalah seperti yang berikut:

1. *Artificial Intelligence* (AI) membantu meningkatkan pengalaman pembelajaran pelajar.

Pengaplikasian AI dalam pendidikan dapat menarik minat pelajar untuk meneroka segala maklumat dengan lebih pantas dan cepat. Hal ini terbukti dengan hasil kajian Pokrivcakova (2019) yang menjelaskan bahawa kecerdasan AI telah memperkenalkan pembangunan sistem pembelajaran pintar dan dapat disesuaikan mengikut keperluan pembelajaran pelajar. Contohnya, penggunaan *ChatGPT* menunjukkan kesan positif terhadap pembelajaran pelajar dimana mereka dapat mengakses bahan pelajaran dengan mudah mengikut apa yang diinginkan.

Selain itu, Sok & Heng (2023) turut membuktikan bahawa penggunaan AI dalam proses pengajaran dan pembelajaran membantu pelajar untuk menjalaninya dengan lebih produktif. Hal ini kerana AI menyokong pelajar dalam menyempurnakan tugasan ataupun penulisan mereka. Misalnya, pengaplikasian *Perplexity AI* dan *Connectedpapers* dalam penulisan ilmiah, ia menyokong penulisan mereka dengan meringkaskan artikel, memberi cadangan bahan bacaan yang relevan dan membantu pelajar untuk menjana idea dalam penulisan dengan baik. Akhirnya, ia menggalakkan pembelajaran aktif pelajar serta memperkasakan pemikiran kritikal dalam menyiapkan sesebuah penulisan yang baik.

Oleh itu, ia sudah terbukti menjana kreativiti pelajar dalam membuat sesuatu penulisan atau hal-hal yang berkaitan dengan akademik. Dengan itu, daya cipta dalam aspirasi MADANI dapatlah direalisasikan sekiranya pelajar menggunakan AI ini dengan berhemah.

2. *Artificial Intelligence* (AI) sebagai alat menyemai integriti dalam penulisan akademik.

AI juga memainkan peranan penting dalam meningkatkan kejujuran dan integriti penggunanya. Dalam dunia pendidikan, amanah ilmiah ataupun integriti dalam penulisan merupakan satu elemen yang amat penting dalam menentukan kualiti sesuatu penulisan yang dihasilkan. Bahkan Santoso (2011) menegaskan bahawa tidak amanah dalam penulisan akademik merupakan satu jenayah intelektual yang tidak bermoral. Namun begitu, melalui AI dalam pendidikan, ia membantu untuk membendung masalah ini daripada berlaku. Ini dibuktikan melalui kajian daripada Chen et al., (2020) dan Moya et al., (2024) bahawa penggunaan AI dapat mengurangkan masalah plagiat dan tidak amanah dalam penulisan. Contohnya, penggunaan *Turnitin* membantu pengguna untuk menghasilkan karya yang asli. Teknologi ini bukan sahaja mengesan ketidakjujuran dalam penulisan akan tetapi ia juga turut membantu pelajar memahami cara menulis yang baik mengikut amanah ilmiah.

Justeru, apabila amanah diterapkan menerusi pemanfaatan *Artificial Intelligence* (AI) ia sekaligus dapat memenuhi dan juga merealisasikan hasrat kerajaan melalui aspirasi MADANI di bawah aspek kayakinan dimana tonggak ini berkaitan dengan amanah yang menjadi ikrar pertanggungjawaban moral duniawi dan ukhrawi.

3. *Artificial Intelligence (AI)* menyokong proses pembelajaran pelajar secara kreatif dan inovatif

Penerapan *Artificial Intelligence* (AI) turut membantu pelajar untuk belajar dan mendapatkan maklumat secara kreatif dan inovatitf. Lain daripada itu, pendekatan *personalized learning* berbantukan AI membantu menganalisis penguasaan kemahiran, menyediakan pelajar dengan aktiviti terbaik dan menggalakkan pelajar belajar mengikut kadar mereka sendiri sambil menguasai kemahiran ke arah matlamat pembelajaran. Selain itu, ia juga merupakan satu usaha berterusan bagi memastikan

kemenjadian pelajar berasaskan model 6c iaitu pemikiran kritis, kreatif, kolaboratif, komunikasi, perwatakan dan kenegaraan. Ini secara tidak langsung menyokong pembelajaran pelajar dengan lebih berkesan. Kajian membuktikan bahawa majoriti pelajar mengakui bahawa pendidikan berasaskan *Artificial Intelligence* (AI) membantu meningkatkan motivasi intrinsik mereka dan menggalakkan penglibatan aktif dalam kelas serta membantu mereka menyesuaikan kandungan pembelajaran dengan keperluan peribadi dan akhirnya mempercepatkan proses penyerapan ilmu yang dirangsang oleh aktiviti mental (Tapalova & Zhiyenbayeva, 2022).

Oleh itu, pemanfaatan *Artificial Intelligence (AI)* dalam pendidikan merupakan satu pendekatan komprehensif yang membawa elemen teknologi dan psikologi pembelajaran yang akhirnya memastikan pembelajaran lebih efektif dan sesuai dengan setiap individu berbanding hanya satu elemen tunggal daam proses pembelajaran. Hal ini secara tidak langsung melahirkan pelajar yang mempunyai pemikiran komputasional (*computational thinking)* yang mana mereka berfikir dengan cara pemikiran yang logik, kritis dan berdasarkan data seperti bagaimana komputer memproses maklumat. Dengan ini, ia akan melahirkan pelajar yang kaya dengan inovasi dan daya cipta yang berkualiti.

4. *Artificial Intelligence (AI)* sebagai medium pembelajaran interaktif

Proses pembelajaran pelajar yang didukung oleh teknologi *Artificial Intelligence* (AI) menjadi kunci kepada terbinanya pembelajaran yang bersifat interaktif, menarik dan relevan dengan pembelajaran digital 5.0. Menurut Anas dan Zakir (2024), pelajar yang memanfaatkan teknologi ini berupaya mencipta pengalaman pembelajaran yang sesuai dengan gaya belajar masing-masing. Bahkan Mao et al., (2024) turut berpendapat bahawa pemanfaatan teknologi ini dalam pendidikan bukan sahaja memudahkan pelajar untuk mengakses maklumat dengan pantas, akan tetapi ia juga sebagai wadah untuk melahirkan generasi yang bersiap sedia menghadapi cabaran masa depan. Contohnya, melalui penggunaan AI sebagai *virtual assistants* pelajar dapat memanfaatkan teknologi ini untuk mencipta satu penyelesaian inovatif serta mencipta ruang pembelajaran yang menarik sesuai dengan trend pendidikan terkini.

5. Pemanfaatan *Artificial Intelligence* (AI) menyediaan pelajar yang berdaya cipta

Pengintegrasian teknologi ini dalam pendidikan bukan sahaja membantu pelajar untuk sentiasa belajar sesuatu yang baharu, akan tetapi ia juga membuka peluang kepada pelajar untuk bekreativiti, berinovasi dan juga menggunakan kemahiran penyelesaian masalah dengan lebih cekap dan efisien. Ini kerana Crompton dan Burke (2023) dalam tinjauan mereka mendedahkan bahawa penggunaan *Artificial Intelligence* (AI) dalam proses pembelajaran membantu pelajar untuk mengeksplorasi dan menjana idea yang baharu. Menurut tinjauan, AI membantu memberi cadangan idea dan perspektif yang belum pernah difikirkan sebelum ini. Dengan ini, pelajar dapat menghasilkan penyelesaian yang lebih inovatif disamping memperluas kreativiti dan kemahiran berfikir secara kritis mereka.

Selain itu, Almassaad et al., (2024) dalam kajiannya mendedahkan bahawa majoriti pelajar bersetuju bahawa teknologi AI ini menjadi sumber idea baharu dengan menggunakan algoritma untuk mencipya pelbagai pilihan idea, reka bentuk atau penyelesaian kepada sesuatu masalah. Hal ini membantu pelajar berfikir di luar kebiasaan dan mencuba kaedah baharu dalam proses kreatif mereka.

Secara keseluruhan, sudah terbukti bahawa pemanfaatan *Artificial Intelligence* (AI) dalam pendidikan mampu merealisasikan tonggak aspirasi MADANI khususnya dalam aspek daya cipta dan keyakinan. Melalui penggunaan AI, pe I, pelajar dapat meneroka maklumat dengan lebih pantas dan produktif, meningkatkan kreativiti dan inovasi dalam penulisan ilmiah serta memperkasakan integriti akademik. Di samping itu, AI menyediakan peluang pembelajaran yang dipersonalisasi dan interaktif, menggalakkan penglibatan aktif pelajar, serta membantu mereka membangunkan pemikiran kritis dan komputasional. Oleh itu, AI bukan sahaja mempercepatkan proses pembelajaran, tetapi juga mendorong

pelajar untuk menghasilkan idea baharu, menyelesaikan masalah secara kreatif, dan membina daya cipta yang tinggi.

KESIMPULAN

Kesimpulannya, penggunaan *Artificial Intelligence* (AI) dalam pendidikan telah membawa transformasi radikal dan menyeluruh khususnya dalam kontesk mencapai tonggak aspirasi MADANI. Sesungguhnya teknologi AI telah mempamerkan potensinya untuk meningkatkan standard pembelajaran baik dari aspek arahan langsung dan maklum balas yang lebih menarik dan dinamik. Melalui AI, pendidikan dilihat akan menjadi lebih cekap. Ia juga mengambil kira keperluan setiap individu yang mana akhirnya menjadikan proses pendidikan lebih relektif sekaligus pembelajaran sepanjang hayat turut berlaku. Selain itu, AI juga menjadikan para pengamal pendidikan khususnya guru pelatih di Institut Pendidikan Guru Malaysia (IPGM) mampu mendepani dan menangani cabaran abad ke-21 yang lebih tertumpu kepada teknologi. Sebagai contoh, kecerdasan buatan (AI) boleh membantu pelajar dalam membangunkan kemahiran berfikir secara kritis dan kreatif melalui penggunaan alat pembelajaran digital yang fleksibel dan boleh disesuaikan.

Walaupun begitu, disebalik kehebatan dan juga kecanggihan teknologi *Artificial Intelligence* (AI) yang mana dilihat menjadi pemangkin kepada hasil pembelajaran yang berkualiti, namun ia tidak dapat menggantikan kecerdasan asli manusia iaitu keupayaan otak manusia itu sendiri. Sesungguhnya kecerdasan otak manusia yang dikurniakan oleh Allah SWT. Sesungguhnya otak manusia sangat dinamik dan boleh menyesuaikan diri dengan perubahan dalam persekitaran secara spontan. Manusia mampu berfikir di luar kotak manakala AI pula berfungsi berdasarkan peraturan yang telah diprogramkan dan sukar menyesuaikan diri seperti manusia. Kesimpulannya, penggunaan AI dalam pendidikan merupakan medium untuk memperkasakan kreativiti, inovasi dan kemahiran 6c yang mana akhirnya berupaya merealisasikan aspirasi Malaysia MADANI.

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PERBANDINGAN FAKTOR PENGGUNAAN KECERDASAN BUATAN DENGAN SOKONGAN PEMIKIRAN KOMPUTASIONAL BAGI PENGAJARAN SUBJEK SAINS KOMPUTER DALAM KALANGAN GURU SAINS KOMPUTER DI KEDAH

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ABSTRAK

Pemikiran komputasional (CT) biasanya dianggap sebagai gaya kemahiran berfikir dalam penggunaan kecerdasan buatan (AI) dalam kalangan pendidik dan pelajar bagi subjek Sains Komputer. Gaya pemikiran lain yang sedia ada mungkin tidak mencukupi untuk mempromosikan pembelajaran digital pada masa kini. Oleh itu, kajian yang dijalankan ini bertujuan untuk mengkaji faktor penggunaan aplikasi AI dengan sokongan CT yang signifikan bagi mendorong pengajaran dalam kelas Sains Komputer. Kajian ini telah melibatkan 52 responden dalam kalangan guru yang mengajar subjek Sains Komputer di seluruh Negeri Kedah. Sample kajian adalah secara pensampelan bertujuan iaitu hanya guru yang mengajar subjek Sains Komputer di Negeri Kedah sahaja. Metodologi kajian ialah kajian perbandingan yang digunakan untuk membandingkan faktor pengajaran dalam penggunaan AI ketika CT digunakan dalam proses pengajaran. Ini secara kolektif telah menunjukkan beberapa faktor pengajaran dalam menggunakan AI dengan sokongan CT telah memberi kesan yang mendalam dalam pendekatan; keyakinan dalam mengendalikan aplikasi dalam talian; AI untuk meningkatkan kecekapan pembelajaran; AI untuk meningkatkan pengalaman pembelajaran; prestasi pembelajaran; motivasi pembelajaran dan kemahiran menyelesaikan masalah. Analisis data kajian telah dilakukan menggunakan perisian "Statistical Package for Social Sciences" (SPSS) Versi 20. Dapatan dari analisis data yang telah dijalankan mendapati 90.4 % responden bersetuju bahawa faktor pemahaman pelajar dapat ditingkatkan dengan penggunaan aplikasi AI dan 91.3% bersetuju faktor penggunaan aplikasi AI dapat menarik minat, penglibatan, pembelajaran aktif dan mudah digunakan dalam pengajaran. 90.4% bersetuju faktor penggunaan aplikasi AI dapat menyokong kemahiran penyelesaian masalah dan 88.5 % percaya bahawa faktor kandungan AI berguna untuk memperkayakan proses pengajaran dan pembelajaran dalam subjek Sains Komputer dengan sokongan CT. Kajian akan datang dalam bidang ini harus dilakukan bagi pembelajaran Sains Komputer di dalam kalangan pelajar.

***Kata Kunci**: Artificial Intelligence, Pengajaran Sains Komputer, Computational Thinking*

PENGENALAN

Pengajaran dalam Sains Komputer merujuk secara khusus kepada strategi atau pendekatan pengajaran yang membentuk persekitaran dalam konteks penyampaian konsep dalam bidang Sains Komputer (Wing, 2008). Keperluan pengajaran dan pembelajaran dalam Sains Komputer ditakrifkan sebagai memahami konteks sesuatu masalah, mengenal pasti maklumat penting, dan merancang penyelesaian (Koulouri et al., 2014). Proses pembelajaran Sains Komputer memerlukan kemahiran Pemikiran Komputasional (CT) untuk mencari dan menyusun data, menjana algoritma, menggunakan dan mereka bentuk simulasi, serta mereka bentuk sistem (Robins, 2019). CT juga merupakan asas kepada

pembelajaran subjek Sains Komputer, yang melibatkan penyelesaian masalah merentasi pelbagai disiplin (Costelloe, 2004). Oleh itu, adalah kritikal untuk memilih alatan bantuan pengajaran yang sesuai seperti alatan bantuan pengajaran menggunakan AI. Tujuan utama pengajaran berbantukan alatan adalah untuk mengurangkan kesukaran pelajar dalam menguasai konsep dalam pembelajaran subjek Sains Komputer.

Pengajaran berbantukan kecerdasan buatan (AI) memainkan peranan penting dalam menyokong CT di dalam kalangan guru Sains Komputer. AI adalah alat dan sumber yang boleh meningkatkan keberkesanan pengajaran serta penglibatan pelajar. AI boleh memperibadikan pengalaman pembelajaran, membolehkan guru menyesuaikan kandungan mengikut keperluan individu pelajar membangunkan CT. Sebagai contoh, platform berasaskan AI boleh memberikan maklum balas masa nyata dan penilaian automatik, membolehkan guru menumpukan perhatian pada tugas pengajaran yang lebih kompleks.
Selain itu, faktor penggunaan AI boleh membantu dalam untuk mengenal pasti corak pembelajaran, membantu guru menyesuaikan strategi pengajaran mereka dengan sewajarnya. Penyesuaian strategi yang berasaskan penggunaan AI akan dapat memastikan kaedah pengajaran selaras dengan kemajuan pelajar, seterusnya memperkukuh pemahaman terhadap kemahiran pemikiran CT. Berikut adalah beberapa dapatan penting menurut Walter (2024):

i. AI membantu dalam memudahkan proses pengajaran berasaskan CT dengan penggunaan aplikasi yang memperibadikan pembelajaran berdasarkan keperluan individu. Ini termasuk penggunaan algoritma AI untuk menganalisis data pembelajaran pelajar dan menyediakan maklum balas yang lebih berkesan serta pantas.

ii. AI bukan sahaja mempercepat proses penilaian, tetapi juga membantu guru untuk fokus kepada pengajaran yang lebih kompleks dan meningkatkan pecekapan Pengajaran. AI boleh mencipta persekitaran pembelajaran yang adaptif iaitu menyesuaikan diri dengan keupayaan pelajar untuk meningkatkan penguasaan mereka dalam CT.

iii. Kajian menunjukkan bahawa cabaran utama dalam pembelajaran konsep pengaturcaraan adalah pada peringkat awal. AI dapat mengurangkan cabaran ini dengan menyediakan sumber dan latihan yang lebih disesuaikan, terutamanya bagi pelajar yang baru mula belajar pengaturcaraan.

Secara keseluruhannya, AI berperanan penting dalam menyokong pengajaran berpaksikan CT, terutamanya dalam memudahkan pembelajaran pelajar, meningkatkan keberkesanan pengajaran, dan mengurangkan cabaran yang dihadapi oleh pelajar dalam memahami konsep dalam subjek Sains Komputer. Oleh itu, kajian ini telah dilaksanakan di dalam kalangan pendidik yang telah dipilih secara pensampelan bertujuan untuk mengumpul data tentang penggunaan AI dengan sokongan CT. Instrumen yang digunakan untuk kajian ini adalah soal selidik yang terdiri dari tujuh (7) konstruk dan 30 item. Kajian tinjauan telah dijalankan menggunakan soal selidik tersebut bagi mengenal pasti faktor AI yang paling signifikan untuk digunakan dalam sesi pengajaran.

Bahagian-bahagian seterusnya disusun seperti berikut: Bahagian 2 menerangkan faktor AI yang signifikan dengan CT. Bahagian 3 menerangkan metodologi kajian. Kemudian, diikuti dengan analisis hasil kajian ini dalam Bahagian 4. Bahagian akhir adalah rumusan kertas kajian ini.

KAJIAN LITERATUR

Dalam pengajaran Sains Komputer AI boleh mempengaruhi CT dengan beberapa cara utama. Berikut adalah pengaruh CT menurut Tripon (2022);

i. Pembelajaran Peribadi: Alat pendidikan yang dipacu oleh AI boleh disesuaikan dengan gaya dan kemampuan pembelajaran individu pelajar. Sumber dan latihan yang disesuaikan dengan keperluan khusus pembelajaran dapat membantu pelajar mengembangkan kemahiran CT dengan lebih berkesan.

ii. Penyelesaian Masalah Interaktif: AI boleh mencipta persekitaran interaktif iaitupelajar akan terlibat secara langsung dalam aktiviti penyelesaian masalah, simulasi, dan permainan. Persekitaran ini menggalakkan pelajar untuk mencuba algoritma, penyahpepijatan, dan penaakulan logik, yang merupakan aspek asas CT.

iii. Maklum Balas Automatik: Sistem yang dikuasakan oleh AI boleh memberikan maklum balas segera terhadap kerja pelajar, seperti tugasan pengekodan atau latihan penyelesaian masalah. Maklum balas segera ini membantu pelajar memahami kesilapan mereka dan belajar daripadanya, yang memperdalam pemahaman mereka tentang CT.

iv. Tutorial dan Sumber yang Dipertingkatkan: AI boleh mengenal pasti dan mencadangkan sumber seperti tutorial, latihan, dan bahan pembelajaran berdasarkan kemajuan dan minat pelajar. Ini membantu pelajar meneroka CT dengan lebih mendalam.

v. Alat Pengajaran yang Dipertingkatkan: AI boleh membantu pendidik dengan menganalisis data prestasi pelajar dan memberikan membantu pelajar memerlukan sokongan tambahan. Ini membolehkan guru menyesuaikan pengajaran mereka untuk menangani cabaran tertentu dan mengukuhkan CT.

vi. Simulasi dan Pemodelan: AI boleh digunakan untuk mencipta simulasi dan model yang membantu pelajar memvisualisasikan masalah yang kompleks dan memahami konsep abstrak. Pendekatan *hands-on* ini boleh menjadikan CT lebih nyata dan boleh diakses.

Oleh itu, berdasarkan faktor pengunaan AI dalam pendidikan Sains Komputer, pelajar boleh mengembangkan CT yang lebih kukuh melalui pengalaman pembelajaran yang diperibadikan dan interaktif.

METODOLOGI

Kajian ini merupakan kajian perbandingan faktor penggunaan AI dengan sokongan CT. Kajian ini dijalankan bertujuan untuk melihat faktor yang paling signifikan digunakan dalam proses pengajaran subjek Sains Komputer. Kaedah perbandingan yang digunakan dalam kajian ini diperkenalkan oleh Vartiainen (2002). Berikut adalah penjelasan terperinci tentang setiap fasa bagi kaedah kajian perbandingan dalam kajian ini.

a) Kajian Teori

Kajian teori terdiri daripada konsep AI dengan sokongan CT. Hasil kajian teori ini adalah faktor penggunaan AI yang boleh mempengaruhi pengajaran pengajar.

b) Penilaian Perbandingan

Fasa penilaian perbandingan terdiri daripada empat (4) aktiviti utama seperti berikut:

i. Pemilihan objektif penilaian iaitu faktor AI yang digunakan untuk mengajar Sains Komputer.

ii. Menentukan tahap perbandingan melibatkan perbandingan faktor yang paling signifikan untuk pengajar menggunakan AI dalam pengajaran mereka.

iii. Pemahaman konseptual iaitu faktor penggunaan AI yang digunakan dalam analisis dan perbandingan ditentukan oleh sokongan asas CT.

iv. Analisis penemuan penilaian untuk mengenal pasti mana-mana faktor yang berkesan dan kemudian memberikan cadangan tentang arah kerja masa depan yang mungkin boleh dibuat.

c) Kesimpulan dan cadangan

Fasa ini adalah berkenaan dengan melaporkan penemuan yang diperoleh daripada penilaian perbandingan yang dijalankan. Kajian ini mencadangkan faktor penggunaan AI yang paling sesuai bagi menggalakkan penggunaan AI dalam pengajaran Sains Komputer. Oleh itu, dengan melengkapkan fasa ini, matlamat kajian ini telah tercapai.

Saiz Sampel

Kajian ini telah dijalankan ke atas 52 orang responden. Cooper dam Schindler (2014) mencadangkan saiz sampel adalah antara 25 hingga 100 responden. Penentuan pemilihan sampel untuk kajian ini adalah berdasarkan kaedah pemilihan pensampelan bertujuan.

Reka bentuk Instrumen

Reka bentuk instrumentasi untuk kajian ini mengikut garis panduan oleh Cresswell (2008). Jenis instrumen yang digunakan ialah soalan soal selidik. Kaplan et al., (1988) menyatakan bahawa perspektif penyelidikan yang berbeza memfokuskan kepada soalan yang berbeza dan andaian yang analitikal.

Soalan soal selidik kajian ini menggunakan skala Likert lima (5) mata iaitu;

i. 1 - Sangat tidak setuju
ii. 2 - Tidak setuju
iii. 3 - Sederhana Setuju
iv. 4 - Setuju
v. 5 - Sangat Setuju

Kontruk soalan soal selidik ini mengandungi tujuh (7) konstruk iaitu;

i. Konstruk A ialah Simulasi dan Permodelan.
ii. Konstruk B ialah Keyakinan menggunakan AI sebagai alat pengajaran
iii. Konstruk C ialah Alat Pengajaran yang efisien
iv. Konstruk D pula berkaitan Pemperibadian Pembelajaran
v. Konstruk E merujuk kepada Aplikasi yang menyediakan maklum balas automatik.
vi. Konstruk F iaitu Tutorial dan Sumber.
vii. Konstruk G ialah Penyelesaian Masalah Interaktif.

Prosedur Kajian Tinjauan

Prosedur bagi kajian tinjauan dalam kajian ini adalah seperti berikut:

i. Mengenal pasti responden yang tepat melalui kerjasama Jabatan Pendidikan Negeri.
ii. Menjalankan kursus penggunaan AI dalam pengajaran untuk responden
iii. Mengedarkan soalan soal selidik secara atas talian.
iv. Analisis data

DAPATAN KAJIAN

Data analisis dijalankan dengan menggunakan SSPS V20 bertujuan melihat min bagi setiap item soal selidik yang diedarkan. Perenggan berikut merupakan hasil analisis data yang telah dibuat bagi kajian ini.

Demografi Responden

Jadual 1 menunjukkan demografi responden yang melibatkan 52 responden iaitu 8 responden lelaki dan 44 responden. Peratus bagi responden lelaki adalah mewakili 15.4% dan perempuan 84.6%. Hasil analisis ini menunjukkan lebih ramai pengajar wanita terlibat dalam proses pengajaran subjek Sains Komputer di Negeri Kedah. Manakala, Jadual 2 menunjukkan pengalaman mengajar responden yang terlibat.

Jadual 1: Bilangan responden berdasarkan jantina

	Frequency	Percent	Valid Percent	Cumulative Percent
Lelaki	8	15.4	15.4	15.4
Perempuan	44	84.6	84.6	100.0
	52	**100.0**	**100.0**	

Jadual 2: Pengalaman Mengajar

	Frequency	Percent	Valid Percent	Cumulative Percent
0 - 5 tahun	21	40.4	40.4	40.4
6 - 10 tahun	21	40.4	40.4	80.8
11 - 15 tahun	2	3.8	3.8	84.6
16 - 20 tahun	5	9.6	9.6	94.2
21 - 25 tahun	3	5.8	5.8	100.0
Jumlah	**52**	**100.0**	**100.0**	

Jadual 2 menunjukkan 21 responden iaitu bersamaan 40.4% merupakan pengajar yang mempunyai pengalaman mengajar 5 tahun dan ke bawah. Oleh itu, pendedahan penggunaan AI dalam pengajaran adalah relevan untuk diteroka oleh mereka.

Perbandingan Skor Min Tertinggi

Perbandingan Skor Min Tertinggi telah dibuat bagi tujuh (7) konstruk yang telah dinyatakan pada Bahagian 3.2. Data telah dianalisis menggunakan statistik deskriptif, khususnya bagi mendapatkan nilai min. Perbandingan ini menerangkan hubung kait antara konstruk yang merupakan faktor penggunaan AI yang menyokong CT dalam kalangan guru Sains Komputer di Negeri Kedah. Perbandingan faktor adalah seperti penerangan dibawah.

Konstruk yang menjadi faktor utama yang mempengaruhi penggunaan AI adalah Konstruk A (Simulasi dan Permodelan). Dalam hal ini **skor mintertinggi** adalah 4.27 iaitu item A2 (Menarik minat). Manakala item A1(Meningkatkan pemahaman pelajar) mencatatkan nilai 4.12; item A3 (Penglibatan Aktif) dengan nilai min 4.17 dan item A4 (Mudah digunakan) mempunyai nilai min 4.12. Ia menunjukkan bahawa faktor simulasi dan permodalan dalam aplikasi AI jelas menarik minat pelajar

dan memudahkan proses pengajaran subjek Sains Komputer. Walau pun faktor lain yang menunjukkan nilai min yang lebih rendah, masih menunjukkan nilai hubung kait yang signifikan dengan item A2.

Jadual 3: Konstruk A Simulasi dan Permodelan

	Jantina	Subjek	Pengalaman	A1	A2	A3	A4
Valid	52	52	52	52	52	52	52
Missing	0	0	0	0	0	0	0
Min	1.85	1.35	2.00	4.12	4.27	4.17	4.12
Std. Deviation	.364	.480	1.172	.704	.528	.760	.548

Faktor bagi Konstruk B iaitu Keyakinan Menggunakan AI sebagai Alat Pengajaran (Jadual 4) menjelaskan item B1(Keyakinan menggunakan AI) dan B2 (Keyakinan mengendalikan AI) mencatatkan **nilai min tertinggi iaitu nilai 4.15 bagi setiap item.**

Jadual 4: Konstruk A Simulasi dan Permodelan

	B1	B2	B3	B4	B5	B6
Valid	52	52	52	52	52	52
Missing	0	0	0	0	0	0
Min	4.15	4.15	4.04	4.12	4.08	4.10
Std. Deviation	.607	.607	.656	.646	.682	.569

Faktor lain iaitu B3 (Keyakinan menggunakan kandungan) dan B5 (Membantu meningkatkan prestasi) mencatatkan nilai min rendah. Faktor nilai min tersebut adalah signifikan dengan demografi responden yang mempunyai pengalaman mengajar kurang atau sama lima tahun.

Jadual 5: Penggunaan Alat Pengajaran yang Dipertingkatkan

	C1	C2	C3	C4	C5
52	52	52	52	52	52
0	0	0	0	0	0
Min	4.15	4.15	4.31	4.10	3.79
Std. Deviation	.724	.724	.729	.603	.957

Bagi melihat perbandingan faktor penggunaan AI yang seterusnya iaitu Alat Pengajaran yang Dipertingkatkan, Jadual 5 di bawah menggambarkan Item C3 (Kepuasan terhadap kandungan) mencatatkan min tertinggi manakala item C5 (Prestasi rangkaian) menunjukkan nilai paling rendah iaitu 3.75. Perbandingan ini menunjukkan hubung kait prestasi rangkaian dengan keperluan mengakses kandungan adalah sangat relevan. Prestasi rangkaian yang rendah memberikan kesan negatif kepada faktor untuk mengakses kepada kandungan.

Jadual 6: Pembelajaran Pemperibadian

	D1	D2	D3
Valid	52	52	52
Missing	0	0	0
Min	4.19	4.25	4.21
Std. Deviation	.561	.556	.637

Bagi faktor penggunaan AI membentuk pembelajaran secara individu, item D2 (Alat pembelajaran yang berguna) **mencatatkan nilai min tertinggi** iaitu 4.25. Ini menunjukkan penggunaan AI menjadi alat pembelajaran yang perlu digunakan selaras dengan perkembangan pembelajaran digital. Kemudian diikuti dengan faktor D1 (Kandungan bermaklumat) dan D3 (Memperkayakan proses pembelajaran) iaitu mencatatkan min 4.19 dan 4.21. Seterusnya adalah nilai perbandingan min bagi Konstruk E.

Jadual 7: Aplikasi yang menyediakan maklum balas automatik

	E1	E2	E3
Valid	52	52	52
Missing	0	0	0
Min	4.23	4.04	4.04
Std. Deviation	.581	.625	.766

Konstruk E adalah konstruk yang melihat perbandingan maklum balas berkaitan penggunaan aplikasi AI yang menyediakan maklum balas automatik. Faktor E1 (Maklum balas memudahkan penilaian) mencatatkan nilai min tertinggi iaitu 4.23. Ini jelas menunjukkan penggunaan AI mempunyai potensi yang baik pada masa depan untuk digunakan secara optimum. Faktor E2 (Proses penilaian secara autentik) dan E3 (Pengalaman Autonomi) masing-masing mencatatkan min 4.04. Skor min tersebut menunjukkan semak silang kawalan autonomi dengan terhadap penilaian maklum balas automatik adalah positif.

Jadual 8: Tutorial dan Sumber Pengajaran

	F1	F2	F3
Valid	52	52	52
Missing	0	0	0
Min	4.23	4.17	4.23
Std. Deviation	.509	.585	.546

Seterusnya Jadual 7 menunjukkan faktor penggunaan AI dari segi capaian tutorial dan sumber. Faktor F1 (Berkongsi Sumber) dan F3 (Sumber Interaktif) mencatatkan **nilai min tertinggi yang sama iaitu 4.23.** Nilai min yang sama tersebut menunjukkan perkongsian sumber interaktif adalah faktor yang memainkan peranan penting dalam penggunaan AI. Manakala faktor F2 (Meningkatkan kecekapan) mencatatkan nilai min 4.17.

Akhir sekali adalah Konstruk G (Jadual 9) yang menyenaraikan faktor-faktor yang berkaitan penyelesaian masalah dalam pengajaran dan pembelajaran.

Jadual 9: Penyelesaian Masalah secara Interaktif

	G1	G2	G3	G4	G5	G6
Valid	52	52	52	52	52	52
Missing	0	0	0	0	0	0
Min	4.13	4.15	4.21	4.10	4.06	4.02
Std. Deviation	.561	.460	.605	.603	.539	.727

Bagi faktor yang berkaitan dengan penyelesaian masalah secara interaktif, faktor G3 (Penggunaan AI dapat menyokong CT) mencatatkan skor min tertinggi iaitu 4.21. Penggunaan CT secara khususnya telah menyokong faktor penyelesaian masalah dalam pengajaran Sains Komputer.

Secara kesimpulannya, hasil analisis responden menunjukkan jumlah min bagi keseluruhan konstruk faktor adalah mencatatkan skor 4 dan ke atas. Ini menunjukkan konstruk-kontruk ini menjadi faktor yang kukuh bagi pengajar Sains Komputer di Negeri Kedah. Dalam pada itu, faktor penggugat kepada penggunaan AI ini adalah kestabilan infrastruktur yang menawarkan kestabilan Internet. Ini kerana penggunaan AI kelihatan optimis untuk kegunaan pengajaran dan pembelajaran masa hadapan. Oleh itu, Kementerian Pendidikan Malaysia harus mengambil inisiatif menggembleng usaha dan tenaga menawarkan infrastruktur capaian Internet yang stabil.

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KESEDIAAN SISWA GURU MENGGUNAKAN AI (KECERDASAN BUATAN) DALAM PENGAJARAN BAHASA MELAYU DI TERENGGANU

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ABSTRAK

Kecerdasan buatan atau Artificial Intelligence (AI) merupakan satu bentuk kemajuan dunia pendigitalan. Kecerdasan buatan diistilahkan sebagai kemampuan mesin untuk melakukan tugas-tugas yang biasanya memerlukan kecerdasan manusia. AI juga bukan hanya tentang meniru perilaku manusia tetapi juga tentang menciptakan sistem yang dapat berfikir dan belajar secara mandiri. Dalam pendidikan, AI dilihat berpotensi meningkatkan hasil pembelajaran (learning outcome) siswa guru dari aspek pengetahuan, kemahiran dan nilai bagi membangunkan peribadi pendidik dalam melonjakkan kecemerlangan pengajaran dan pembelajaran selari dengan visi Institut Pendidikan Guru Malaysia. Kajian ini bertujuan untuk melihat kesediaan siswa guru menggunakan AI dalam pengajaran dan pembelajaran (PdP) bahasa Melayu. Kaedah kajian menggunakan pendekatan secara diskriptif melibatkan siswa guru seramai 105 orang dari unit Bahasa Melayu. Kajian ini menunjukkan siswa berada pada tahap tinggi dalam kesediaan pengunaan AI dalam pengajaran Bahasa Melayu bagi aspek pengetahuan dan kemahiran. Siswa guru turut menunjukkan komitmen yang positif terhadap kesediaan menggunakan AI dalam pengajaran Bahasa Melayu. Keadaan ini memperlihatkan siswa guru telah bersedia untuk meningkatkan kemahiran dan mengaplikasikan AI dalam aktiviti pengajaran. Penggunaan AI mula mendapat tempat dalam pendidikan dan perlu ditingkatkan dengan lebih komprehensif dan menyeluruh bagi melahirkan bakal guru yang kompeten serta celik digital.

***Kata Kunci**: Kecerdasan buatan, kesediaan, pengajaran, Bahasa Melayu*

PENGENALAN

Perkembangan Revolusi Perindustrian 4.0 (IR 4.0) di sesebuah negara dapat dikaitan secara langsung dengan kemajuan sistem pendigitalan. Justeru itu kecerdasan buatan atau Artificial Intelligence (AI) menjadi salah satu bentuk kemajuan dunia pendigitalan. Kecerdasan buatan merupakan satu bidang ilmu yang berkaitan dengan kajian yang memberi mesin kemampuan untuk berfikir seperti manusia atau kepandaian untuk membaiki dirinya. yang dibangunkan bagi memberi kemudahan dalam pelbagai bidang, terutamanya bidang pendidikan. Pengintegrasian AI dalam pendidikan yang lebih dikenali sebagai AIEd (Artificial Intelligence in Education) telah menjadi polemik kepada para pengkaji. Hal ini disebabkan pendidikan merupakan tunjang utama dalam pembentukan bakal peneraju negara pada masa akan datang. Seiring dengan kemajuan ini, Kementerian Pendidikan Malaysia (KPM) mengambil inisiatif dengan membentuk dasar baharu dalam pendidikan yang dikenali sebagai Dasar Pendidikan Digital. Melalui dasar ini secara tidak langsung memperlihatkan usaha KPM dalam melahirkan pendidik yang celik digital selain mempergiatkan pengintegrasian AI dalam pendidikan.

Perkembangan AIEd telah bermula pada era 1970. Antara lain bertujuan bagi membantu pelaksanaan proses pengajaran dan pembelajaran (Gulson et al, 2018). Pengaplikasian AI sebagai alat bantu mengajar menjadi pemangkin baharu kepada guru melihat dari faktor kebolehupayaannya. Walau

bagaimanapun, para pengkaji sebelum ini mendapati pengaplikasian AI dalam kehidupan memberikan kesan baik dan buruk jika kawalan dan pemantauan yang sewajarnya tidak dilakukan. Terdapat kebaikan dan keburukan pengintegrasian AI dalam pendidikan, mengatakan bahawa pengaplikasian AI memerlukan kefahaman yang jitu dan mantap sebelum diintegrasikan ke dalam pendidikan. (Norazlina Abdullah et al 2020)

Pengintegrasian AI terhadap pengajaran Bahasa Melayu menjadi suatu elemen yang penting bagi menjamin kualiti pendidikan di negara kita. Namun begitu, kekurangan pengetahuan dan kemahiran menjadi punca utama kepada guru tidak menggunakan sebaik mungkin teknologi dalam pendidikan (Ertmer & Ottenbreit-leftwich, 2010). Kekurangan pengetahuan dan kemahiran menjadikan guru di Malaysia tidak bersedia untuk menggabungkan teknologi ke dalam pengajaran secara berkesan (Kementerian Pendidikan Malaysia, 2013). Hal ini dibuktikan melalui Pelan Rancangan Pendidikan 2001 – 2010 yang diterbitkan oleh KPM menyatakan sekitar 30% guru sahaja yang menghadiri kursus penggunaan TMK dalam pengajaran antara tahun 1996 – 2000 (Sandra *et al*, 2013).

Kajian sebelum ini juga mendapati guru-guru bahasa mempunyai pengetahuan dan kemahiran yang sederhana dalam menggunakan TMK di sekolah (Chung *et al*, 2010). Ketidaksediaan ini menyebabkan penggunaan AI yang tidak begitu efisien dan mampu memberi impak negatif dalam dunia pendidikan. Aspek negatif dalam menggunakan teknologi menjadi suatu kebimbangan dan perlu dititikberatkan untuk diintegrasikan dalam pendidikan (Muhammad & Emre, 2021).

Namun didapati penggunaan kaedah dalam PdP mampu mempengaruhi tahap keberkesanan pengajaran (Tamam *et al.* 2010). Hal ini disebabkan oleh strategi pengajaran yang digunakan oleh pensyarah akan memberikan impak atau kesan kepada penerimaan pelajar, yang pada gilirannya dapat membawa kejayaan kepada pelajar. Menurut Abdul Rasid et al. (2009), antara faktor yang menyebabkan guru Bahasa Melayu kembali menggunakan pengajaran tradisional semasa mengajar adalah disebabkan oleh persekitaran kelas dan ruang pembelajaran yang kurang merangsangkan. Hal ini menjadikan proses PdP Bahasa Melayu kurang menarik dan membosankan yang menyebabkan murid kurang berminat untuk mengikuti sesi PdP.

Oleh itu, objektif kajian ini untuk meninjau kesediaan siswa guru Institut Pendidikan Guru Kampus Sultan Mizan major Bahasa Melayu menggunakan Artificial Intelligence (AI) dalam pengajaran Bahasa Melayu seiring dengan arus pendigitalan kini. Pada bahagian kedua kajian ini akan membincangkan mengenai kajian lepas penggunaan AI dalam pengajaran bahasa. Bahagian ketiga pula akan mengupas tentang metodologi kajian dalam mendapatkan data daripada responden melalui soal selidik. Bahagian keempat akan membincangkan dapatan kajian dan perbincangan mengenai kesediaan siswa guru IPGKSM menggunakan AI dalam pengajaran Bahasa Melayu.

OBJEKTIF

Penggunaan kecerdasan buatan (AI) dalam pendidikan bahasa semakin menjadi topik yang penting. AI menawarkan pelbagai alat yang boleh meningkatkan proses pembelajaran dan pengajaran bahasa Melayu. Kesediaan siswa guru untuk menggunakan teknologi AI dalam pengajaran turut dipengaruhi oleh tahap pengetahuan, pengalaman penggunaan, dan komitmen mereka terhadap teknologi. Kajian ini meninjau literatur terkini untuk memahami bagaimana faktor-faktor ini mempengaruhi kesediaan siswa guru menggunakan AI dalam pengajaran bahasa Melayu.

Pengetahuan tentang teknologi AI merupakan elemen asas dalam kesediaan guru untuk mengintegrasikan teknologi ini dalam pengajaran di dalam kelas. Guru yang mempunyai pemahaman yang baik tentang AI lebih cenderung untuk menggunakannya dalam kelas mereka (Ayala-Pazmino dan Alvarado-Lucas 2023). Di samping itu pemahaman mendalam tentang potensi AI dalam pengajaran boleh meningkatkan motivasi dan pencapaian pembelajaran pelajar (Wei, 2023). Dengan menyediakan latihan yang komprehensif mengenai AI, siswa guru dapat meningkatkan pengetahuan mereka dan seterusnya kesediaan mereka untuk menggunakan AI dalam aktiviti pengajaran.

PERNYATAAN MASALAH

Dalam era globalisasi dan perkembangan pesat teknologi digital, Artificial Intelligence (AI) semakin memainkan peranan penting dalam pelbagai sektor, termasuk bidang pendidikan. Pengintegrasian AI dalam pengajaran dan pembelajaran di sekolah berpotensi untuk memperkaya pengalaman pendidikan, meningkatkan keberkesanan pengajaran, dan mengadaptasi pembelajaran kepada keperluan individu pelajar. Namun, terdapat persoalan yang timbul berkaitan dengan tahap komitmen siswa guru terhadap kesediaan menggunakan AI dalam pengajaran Bahasa Melayu. Siswa guru perlu mempunyai kemahiran yang terkini dalam dunia pendigitalan sebagai persediaan berdepan dengan generasi Alpha yang "hidup dalam dunia digital."

Walaupun AI berpotensi besar untuk memperbaiki proses pengajaran, tahap kesedaran dan pengetahuan siswa guru mengenai aplikasi AI dalam pengajaran Bahasa Melayu mungkin masih rendah. Kurangnya pendedahan kepada teknologi AI yang relevan dan beserta latihan ataupun bengkel yang tidak mencukupi boleh mengakibatkan siswa guru tidak berasa yakin atau tidak bersedia untuk menggunakannya dalam pengajaran. Sikap siswa guru terhadap penggunaan AI dalam pengajaran juga merupakan faktor kritikal yang boleh mempengaruhi tahap komitmen mereka. Sikap negatif, kebimbangan tentang kesukaran dalam penggunaan, atau keraguan terhadap keberkesanan AI boleh mengurangkan kesediaan siswa guru untuk mengintegrasikan teknologi ini dalam pengajaran Bahasa Melayu.

Penggunaan AI memerlukan infrastruktur teknologi yang sesuai, seperti peralatan komputer, perisian AI, dan akses kepada internet yang stabil. Kekurangan sumber atau sokongan teknikal boleh menjadi halangan yang signifikan bagi siswa guru untuk memanfaatkan AI dalam pengajaran. Hal ini boleh menyebabkan kesediaan siswa guru untuk menggunakan AI berada pada tahap yang rendah walaupun mereka mungkin memahami manfaatnya. Kurikulum yang tidak fleksibel atau kurang mesra teknologi boleh menimbulkan cabaran dalam mengintegrasikan AI dalam pengajaran Bahasa Melayu. Siswa guru mungkin mendapati sukar untuk menggabungkan teknologi AI dengan strategi pengajaran tradisional yang telah lama diguna pakai. Ini boleh mengurangkan komitmen mereka terhadap penggunaan AI, terutamanya jika mereka tidak yakin bagaimana AI dapat diselaraskan dengan objektif pengajaran yang sedia ada. Penggunaan AI dalam pengajaran juga menimbulkan isu berkaitan dengan etika, keselamatan, dan privasi data pelajar. Kebimbangan ini boleh menjejaskan keyakinan dan komitmen siswa guru untuk menggunakan AI dalam bilik darjah, kerana mereka mungkin berasa bimbang tentang implikasi penggunaan teknologi ini terhadap keselamatan data pelajar dan tanggungjawab profesional mereka. Tahap komitmen terhadap kesediaan menggunakan AI juga berbeza-beza berdasarkan latar belakang pendidikan, pengalaman, dan pendedahan kepada teknologi dalam kalangan siswa guru. Siswa guru yang mempunyai latar belakang teknikal yang lebih kukuh atau yang pernah terlibat dalam penggunaan teknologi cenderung untuk lebih bersedia dan komited, berbanding mereka yang kurang pendedahan.

Secara umumnya tahap komitmen siswa guru terhadap kesediaan menggunakan AI dalam pengajaran Bahasa Melayu, serta mengenal pasti faktor-faktor yang mempengaruhi tahap komitmen ini. Mengetahui tahap komitmen dan kesediaan siswa guru adalah penting untuk merangka strategi dan intervensi yang berkesan dalam mempersiapkan generasi pendidik yang mampu mengintegrasikan teknologi AI secara efektif dalam pengajaran Bahasa Melayu, seterusnya memperkasakan pengajaran dan pembelajaran di peringkat sekolah.

TINJAUAN LITERATUR

Kemahiran dalam menggunakan teknologi AI juga memainkan peranan penting dalam membantu kesediaan guru untuk mengaplikasikannya di dalam kelas. Kajian lepas menunjukkan bahawa penggunaan AI dalam pengajaran bahasa asing dapat mencipta persekitaran pembelajaran yang lebih

imersif dan efektif (Divekar et al. 2021). Penekanan bahawa guru yang sudah menggunakan teknologi dalam pengajaran mereka menunjukkan peningkatan dalam keberkesanan dan motivasi pelajar (Fattah et al. 2023). Dengan memberikan siswa gurukemahiran praktikal dalam menggunakan AI, mereka dapat lebih memahami manfaat dan aplikasi teknologi ini dalam pengajaran Bahasa Melayu.

Komitmen guru terhadap penggunaan AI dalam pengajaran merupakan faktor kritikal dalam menentukan kesediaan mereka. Komitmen yang kuat terhadap penggunaan teknologi dapat dipengaruhi oleh keyakinan terhadap keberkesanan teknologi tersebut serta sokongan dari pihak sekolah (Qiao dan Zhao 2023). Di samping komitmen guru dapat dipertingkatkan melalui sokongan berterusan dan pembinaan budaya sekolah yang menyokong inovasi (Ghafar et al. 2023). Apabila siswa gurukomited untuk menggunakan AI, mereka lebih bersedia untuk mengatasi cabaran dan memanfaatkan teknologi ini secara efektif dalam pengajaran mereka.

Kesediaan siswa guru untuk menggunakan AI dalam pengajaran bahasa Melayu adalah hasil daripada gabungan tahap pengetahuan, penggunaan semasa, dan komitmen mereka. Son et al. (2023) menunjukkan bahawa latihan yang fokus pada pengembangan kemahiran teknologi dan sokongan dari institusi dapat meningkatkan kesediaan guru pelatih. Prenga (2020) menekankan bahawa AI dapat mempercepat proses pembelajaran dan memperkayakan pengalaman pembelajaran, tetapi keseimbangan dengan pendekatan pengajaran tradisional tetap penting. Daly (2023) pula menunjukkan bahawa AI generatif dapat memperkaya pembelajaran bahasa melalui interaksi yang tidak formal dan kontekstual, membantu pelajar menguasai bahasa dengan lebih natural.

Kajian literatur ini menunjukkan bahawa tahap pengetahuan, kemahiran dan komitmen memainkan peranan penting dalam menentukan kesediaan siswa guruuntuk menggunakan AI dalam pengajaran bahasa Melayu. Dengan meningkatkan literasi teknologi, memberikan pengalaman praktikal, dan menyokong komitmen guru melalui latihan dan sokongan institusi, AI dapat diintegrasikan dengan berkesan dalam pengajaran bahasa. Pendekatan yang holistik dan berterusan diperlukan untuk memastikan bahawa siswa guru institut pendidikan guru bersedia dan mampu memanfaatkan teknologi AI untuk meningkatkan pembelajaran bahasa Melayu.

METODOLOGI

Kajian ini menggunakan reka bentuk tinjauan. Kajian ini turut menggunakan kaedah *non-probability* kerana tujuan kajian bukan untuk digeneralisasikan kepada keseluruhan populasi. Sebaliknya, kajian ini lebih berbentuk kajian deskriptif yang bertujuan memberikan gambaran awal tentang kesediaan siswa guru dalam menggunakan AI dalam PdP Bahasa Melayu. Responden kajian terdiri daripada 105 orang siswa guru Major Bahasa Melayu di Institut Pendidikan guru Kampus Sultan Mizan. Instrumen yang digunakan ialah soal selidik yang diadaptasi daripada Munirah & Kamariah (2020) bagi aspek tahap pengetahuan, Juhazren & Madihah (2012) bagi Tahap Kemahiran dan Melvina & Jamaludin (2010) bagi Tahap Komitmen.

Instrumen soal selidik terdiri daripada tiga bahagian iaitu Demografi, Bahagian A Tahap Pengetahuan siswa guru dalam AI, Bahagian B Tahap Penggunaan AI dalam PdP Bahasa Melayu manakala Bahagian C ialah Tahap Komitmen Siswa Guru mempelajari AI. Instrumen menggunakan skala Likert persetujuan iaitu nilai 1 (Sangat Tidak Setuju), 2 (Tidak Setuju), 3 (Kurang setuju), 4 (Setuju) dan 5 (Sangat Setuju). Kombinasi beberapa kaedah metodologi di atas dapat memberikan pemahaman yang holistik tentang kesediaan siswa guru dalam menggunakan AI dalam PdP Bahasa Melayu di Institut Pendidikan Guru di negeri Terengganu.

Secara umumnya, data ini dianalisis secara deskriptif. Setiap item tersebut menggunakan Skala Likert yang meminta responden untuk menanda di ruang yang disediakan dengan jawapan seperti berikut:

5 = Sangat Setuju (SS)

4 = Setuju (S)

3 = Tidak Pasti (TP)

2 = Kurang Setuju (KS)

1 = Sangat Tidak Setuju (STS)

Jadual 1: Interprestasi Skor Min

Skor Min	Interpretasi
1.00 -1.89	Sangat rendah
1.90 - 2.69	Rendah
2.70 - 3.49	Sederhana
3.50 - 4.29	Tinggi
4.30 – 5.00	Sangat tinggi

Sumber : Bahagian Perancangan dan Penyelidikan Dasar Pendidikan (2006)

Demografi Responden

Jadual 2: Demografi Responden

Kategori		Kekerapan	Peratus (%)
Jantina	Lelaki	43	40.6
	Perempuan	63	59.4

Bahagian ini terbahagi kepada dua soalan berkaitan demografi responden untuk dianalisis. Seramai 105 orang responden yang terdiri daripada Siswa guru yang mengajar Bahasa Melayu Semester Lapan terlibat dalam kajian ini. Responden terdiri daripada 43 orang siswa guru lelaki (40.6%) dan 63 orang siswa guru perempuan (59.4%).

DAPATAN DAN PERBINCANGAN

Tahap Pengetahuan Siswa Guru Terhadap Kesediaan Menggunakan Artificial Intelligence (AI) Dalam Pengajaran Bahasa Melayu

Jadual 3: Tahap Pengetahuan Siswa Guru Terhadap Kesediaan Menggunakan Artificial Intelligence (AI) Dalam Pengajaran Bahasa Melayu

Bil.	Item	Min	Sisihan Piawai	Tahap Pengetahuan
1.	Saya tahu aplikasi AI dapat mencari rujukan untuk bahan Bahasa Melayu.	4.06	1.12	Tinggi
2.	Saya tahu aplikasi AI dapat mencari bahan pengajaran Bahasa Melayu.	4.07	1.05	Tinggi
3.	Saya tahu aplikasi AI dapat menyemak ejaan atau tatabahasa dalam tugasan Bahasa Melayu.	4.00	1.07	Tinggi

4.	Saya tahu aplikasi AI menyemak plagiat dalam tugasan Bahasa Melayu.	4.13	1.02	Tinggi
5.	Saya tahu AI dapat meningkatkan mutu pengajaran saya dalam Bahasa Melayu.	4.14	1.03	Tinggi
6.	Saya tahu AI dapat mempelbagai kaedah pengajaran saya dalam Bahasa Melayu.	4.18	0.94	Tinggi
7.	Saya tahu AI dapat membantu saya melakukan tugasan Bahasa Melayu.	4.14	1.04	Tinggi
8.	Saya tahu kelebihan dan keburukan teknologi AI dalam pengajaran Bahasa Melayu.	4.21	0.89	Tinggi
9.	Saya tahu cara menggunakan AI dalam pengajaran Bahasa Melayu.	4.18	1.00	Tinggi
10.	Saya tahu AI membantu dalam menarik minat murid dalam pembelajaran Bahasa Melayu	4.28	0.86	Tinggi

Berdasarkan Jadual 3. Tahap Pengetahuan Siswa Guru Terhadap Kesediaan Menggunakan AI dalam Pengajaran Bahasa Melayu menunjukkan bahawa secara keseluruhan, pengetahuan siswa guru tentang aplikasi AI dalam konteks pengajaran Bahasa Melayu adalah pada tahap yang tinggi. Skor purata bagi semua item adalah di atas 4.00, menunjukkan keyakinan dan kesediaan yang kuat dalam kalangan siswa guru untuk menggunakan teknologi AI dalam pengajaran mereka.

Data tertinggi dicatatkan dalam item "Saya tahu AI membantu dalam menarik minat murid dalam pembelajaran Bahasa Melayu" dengan purata 4.28 dan sisihan piawai 0.86. Ini menunjukkan bahawa siswa guru mempunyai kesedaran yang tinggi terhadap potensi AI dalam meningkatkan minat murid, mungkin kerana AI dapat menyediakan pendekatan pembelajaran yang lebih interaktif dan disesuaikan dengan keperluan murid. Rendahnya sisihan piawai menunjukkan bahawa hampir semua responden bersetuju dengan peranan AI dalam aspek ini.

Sebaliknya, item dengan min paling rendah 4.00 dengan sisihan piawai 1.07 iaiu Saya tahu aplikasi AI dapat menyemak ejaan atau tatabahasa dalam tugasan Bahasa Melayu. Walaupun masih pada tahap tinggi, ini menunjukkan bahawa siswa guru mungkin mempunyai sedikit keraguan atau kurang pengetahuan mengenai keupayaan AI dalam menyemak ejaan atau tatabahasa. Ini mungkin disebabkan oleh alat AI yang tersedia masih kurang efektif dalam mengenal pasti kesalahan bahasa yang lebih kompleks dalam bahasa Melayu berbanding bahasa lain seperti Inggeris.

Secara umum, tahap pengetahuan siswa guru mengenai pelbagai fungsi AI dalam pendidikan adalah konsisten tinggi. Misalnya, mereka menyedari bahawa AI dapat membantu mencari bahan pengajaran min 4.07 dengan sisihan piawai 1.05 dan rujukan dengan min 4.06 dan sisihan piawai 1.12 serta menyemak plagiat dalam tugasan dengan min 4.13, Sisihan piawai 1.02. Pengetahuan ini penting kerana ia menunjukkan bahawa siswa siswa guru sudah bersedia untuk memanfaatkan AI dalam meningkatkan mutu pengajaran mereka.

Tahap Kemahiran Siswa guruTerhadap Kesediaan Menggunakan Artificial Intelligence (AI) Dalam Pengajaran Bahasa Melayu

Jadual 4: Tahap Kemahiran Siswa Guru Terhadap Kesediaan Menggunakan Artificial Intelligence (AI) Dalam Pengajaran Bahasa Melayu

Bil	Item	Min	Sisihan Piawai	Tahap
1.	Saya menggunakan AI dalam menghasilkan bahan yang menarik.	4.13	0.98	Tinggi
2.	Saya menggunakan AI bagi mempelbagai kaedah pengajaran.	4.06	1.03	Tinggi
3.	Saya menggunakan AI untuk mencari bahan pengajaran bahasa Melayu.	4.15	0.99	Tinggi
4.	Saya menggunakan AI untuk mencari bahan rujukan Bahasa Melayu.	4.06	1.02	Tinggi
5.	Saya menggunakan AI untuk membuat tugasan.	4.11	1.03	Tinggi
6.	Saya menggunakan AI untuk memperbetul ejaan atau tatabahasa.	3.97	1.03	Tinggi
7.	Saya menggunakan AI untuk menyemak plagiat dalam tugasan.	4.13	1.02	Tinggi
8.	Saya menggunakan AI dalam proses PdP bahasa Melayu.	4.06	1.09	Tinggi
9.	Saya menggunakan sistem rekomendasi berasaskan AI untuk menemukan bahan pembelajaran tambahan.	4.11	1.00	Tinggi
10.	Saya menggunakan alat AI untuk membantu menganalisis data dalam tugasan atau penelitian saya	4.14	1.01	Tinggi

Berdasarkan Jadual 4. Tahap Kemahiran Siswa Guru Terhadap Kesediaan Menggunakan AI dalam Pengajaran Bahasa Melayu menunjukkan bahawa siswa guru secara keseluruhannya mempunyai kemahiran yang tinggi dalam memanfaatkan teknologi AI untuk pelbagai tujuan dalam pengajaran. Purata bagi semua item melebihi 3.97, menunjukkan keyakinan yang kuat terhadap penggunaan AI dalam proses pengajaran dan pembelajaran. Sebagai contoh, penggunaan AI untuk menghasilkan bahan yang menarik mencatat purata 4.13 dengan sisihan piawai 0.98. Ini menunjukkan bahawa siswa guru berkemahiran tinggi dalam menggunakan AI untuk menghasilkan bahan yang kreatif dan mampu menarik minat pelajar. Alat seperti visualisasi data, video interaktif, dan pembentangan digital mungkin menjadi pilihan mereka dalam menghasilkan bahan pengajaran.

Dari segi penggunaan AI untuk mempelbagaikan kaedah pengajaran pula mencatat purata 4.06 dan sisihan piawai 1.03. Ini menunjukkan siswa guru mempunyai kemahiran yang baik dalam memanfaatkan AI untuk mencipta kaedah pengajaran yang pelbagai, termasuk pendekatan yang lebih personal atau berpusatkan pelajar. Namun, sisihan piawai yang lebih besar menunjukkan terdapat sedikit variasi dalam tahap kemahiran dalam kalangan responden, yang mungkin disebabkan oleh perbezaan pengalaman atau pendedahan kepada alat AI tertentu.

Selain itu, penggunaan AI untuk mencari bahan pengajaran Bahasa Melayu mencatat purata tertinggi min 4.15 dengan sisihan piawai 0.99, menunjukkan bahawa siswa guru sangat mahir dalam menggunakan AI untuk mempercepat dan mempermudah proses pencarian bahan pengajaran. Ini mungkin melibatkan penggunaan enjin carian pintar atau aplikasi yang menyediakan akses kepada bahan pembelajaran yang relevan dan berkualiti. Secara keseluruhannya, tahap kemahiran siswa gurudalam menggunakan AI untuk menyokong tugas-tugas pengajaran adalah tinggi, yang menunjukkan kesiapsiagaan mereka untuk mengintegrasikan teknologi ini dalam pengajaran Bahasa Melayu secara efektif.

Tahap Komitmen Siswa Guru Terhadap Kesediaan Menggunakan Artificial Intelligence (AI) Dalam Pengajaran Bahasa Melayu

Jadual 5: Tahap Komitmen Siswa Guru Terhadap Kesediaan Menggunakan Artificial Intelligence (AI) Dalam Pengajaran Bahasa Melayu

Bil	Item	Min	Sisihan Piawai	Tahap
1.	Saya akan mempelajari cara penggunaan AI secara lebih mendalam.	4.35	0.76	Sangat Tinggi
2.	Saya akan mengikuti kursus teknologi AI untuk meningkatkan kemahiran teknologi.	4.29	0.74	Tinggi
3.	Saya akan melayari internet untuk mendapatkan maklumat tambahan tentang teknologi AI.	4.39	0.70	Sangat Tinggi
4.	Saya akan mengaplikasikan teknologi AI dalam pengajaran Bahasa Melayu	4.28	0.74	Tinggi
5.	Saya akan meluangkan waktu secara rutin untuk belajar tentang teknologi AI	4.26	0.81	Tinggi
6.	Saya akan menerapkan pengetahuan tentang AI dalam tugasan saya	4.29	0.78	Tinggi
7.	Saya akan memastikan diri saya sentiasa mengikuti perkembangan aplikasi AI terkini	4.35	0.72	Sangat Tinggi
8.	Saya akan berusaha memahami bagaimana AI dapat digunakan untuk meningkatkan proses pembelajaran Bahasa Melayu	4.29	0.72	Tinggi
9.	Saya akan berbincang dengan teman sebaya dan mentor tentang penggunaan AI dalam pengajaran bahasa Melayu	4.29	0.80	Tinggi
10.	Saya akan mempelajari AI untuk perkembangan profesional saya sebagai guru Bahasa Melayu	4.32	0.73	Sangat Tinggi

Berdasarkan Jadual 5. Tahap Komitmen Siswa Guru Terhadap Kesediaan Menggunakan AI dalam Pengajaran Bahasa Melayu menunjukkan tahap komitmen yang sangat tinggi dalam kalangan siswa

guruuntuk menerapkan teknologi AI dalam pengajaran mereka. Semua item dalam soal selidik mencatatkan purata di atas 4.20, menunjukkan keyakinan dan kesediaan mereka untuk memperdalam pengetahuan dan kemahiran dalam bidang ini. Item dengan purata tertinggi, items Saya akan melayari internet untuk mendapatkan maklumat tambahan tentang teknologi AI, mencatat min 4.39 dengan sisihan piawai 0.70, menunjukkan bahawa siswa guruberkomitmen untuk meneroka sumber maklumat tambahan yang dapat membantu mereka memahami dan menggunakan AI dengan lebih efektif.

Selain itu, item seperti Saya akan mempelajari cara penggunaan AI secara lebih mendalam dan Saya akan memastikan diri saya sentiasa mengikuti perkembangan aplikasi AI terkini mencatat purata 4.35 dengan sisihan piawai 0.72, menandakan kesediaan siswa guruuntuk melibatkan diri secara aktif dalam pembelajaran berterusan dan mengikuti perkembangan terkini dalam teknologi AI. Komitmen ini penting kerana ia menunjukkan bahawa mereka tidak hanya berpuas hati dengan pengetahuan semasa tetapi juga ingin terus meningkatkan diri mereka dalam bidang yang sentiasa berkembang ini.

Siswa guru juga menunjukkan komitmen yang tinggi untuk mengaplikasikan teknologi AI dalam pengajaran Bahasa Melayu, dengan purata 4.28 dengan sisihan piawai 0.74. Ini menunjukkan kesediaan mereka untuk menerapkan pengetahuan yang diperoleh dalam konteks praktikal, berusaha untuk meningkatkan mutu pengajaran mereka. Sisihan piawai bagi semua item yang mencatat di bawah 0.81 menunjukkan bahawa terdapat keseragaman dalam pandangan dan komitmen responden terhadap penggunaan AI.

Secara keseluruhan, dapatan ini menggambarkan tahap komitmen yang sangat tinggi dalam kalangan siswa guru untuk mengintegrasikan AI dalam pengajaran Bahasa Melayu, menunjukkan kesedaran mereka tentang pentingnya teknologi dalam pendidikan dan keinginan untuk terus belajar dan berkembang sebagai pendidik yang berkualiti.

KESIMPULAN

Kajian menunjukkan bahawa tahap pengetahuan, kemahiran, dan komitmen siswa guru mempengaruhi kesediaan mereka dalam menggunakan kecerdasan buatan (AI) dalam pengajaran Bahasa Melayu. Dapatan menunjukkan bahawa tahap kesediaan siswa guru untuk menggunakan AI dalam pengajaran Bahasa Melayu adalah tinggi secara umum, namun terdapat perbezaan dalam aspek-aspek tertentu. Siswa guru yang mempunyai pengetahuan yang baik tentang AI, kemahiran praktikal dalam mengaplikasikannya, dan komitmen yang tinggi untuk mempelajari dan mengintegrasikan teknologi ini dalam pengajaran Bahasa Melayu cenderung memperoleh skor kesediaan yang lebih tinggi. Hal ini seiring dengan pembelajaran abad ke-21 yang memerlukan penggunaan teknologi seperti AI dalam merangsang pemikiran kognitif kanak-kanak dalam aspek tumpuan, pemahaman, pengetahuan dan penerokaan. Dapatan ini seiring dengan aspirasi Kementerian Pendidikan Malaysia melalui Dasar Pendidikan Digital untuk melahirkan Pendidik Kompeten Digital.

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INTEGRATING FREUD'S THEORY ON SEXUAL BEHAVIOR ASSESSMENT FOR CHILDREN WITH INTELLECTUAL DISABILITIES

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ABSTRAK

Sexual behaviour assessment is conducted to identify adaptive and maladaptive sexual behaviours displayed by children, so that it can easily determine the target behaviour to be identified. The use of the St Andrew's Sexual Behaviour Assessment (SASBA) Instrument for children with intellectual disabilities is not appropriate because the behavioural indicators contained in it cannot describe the condition of sexual behaviour of children with intellectual disabilities at school. This study aims to explore the integration of Freud's psychosexual theory and its importance in assessing the sexual behaviour of children with intellectual disabilities. The methods used were theory analysis, observation, and interviews. Based on the results of the study, it was found that sexual behaviour often occurs in a sequential series, rather than a single behaviour, so the SASBA behavioural indicators require adjustment to capture the continuum of sexual behaviour (id, ego, and superego interactions) more comprehensively, which allows for more appropriate interventions according to the child's developmental stage. The integration of Freud's theory enriches the understanding of sexual behaviour, enabling more adaptive interventions according to children's developmental stages.

***Kata Kunci**: Assessment, Sexual behaviour, Children with intellectual disabilities.*

INTRODUCTION

Assessment has an essential role in the learning process, especially as a tool for assessing and comprehensively describing students' learning profiles. The information obtained through assessment becomes the main basis for designing learning programmes that suit the individual needs of learners. On the behavioural aspect, assessment serves to record and measure emergent behaviours to trace developmental tasks that have been achieved and identify unmet developmental tasks or as an observation of behavioural targets to be intervened (Ollendick & Hersen, 1985).

Sexual behaviour is one aspect of development that needs to be considered when children reach adolescence or enter puberty. This is because puberty is a complex and diverse developmental period, characterised by physical and psychological changes. During this period, the maturation of reproductive organs that occurs during puberty leads to sexual changes in individuals that affect their psychological changes (Santrock, 2008; Lidiawati, Simanjuntak, & Dewi, 2020). Puberty is characterised by the appearance of secondary sex characteristics, such as menstruation in females and wet dreams or ejaculation in males, which signify reproductive capabilities. This period also involves the activation of reproductive hormones that stimulate sexual behaviour.

Poppen (1988) explains that behaviour is a dependent variable, which means that human behaviour is bound and influenced by various other factors, such as the social environment, genetics, emotions, neuropsychological factors, and external stimuli. In the context of sexual behaviour, the actions that arise are individual responses to sexual stimuli, both those that come from within and those that are triggered by external factors (Notoatmodjo, 2007; Muzni, Prihandani, & Makhrian, 2023). Therefore,

biological maturity at puberty needs to be accompanied by psychological maturity so that children can regulate stimuli and control themselves in eliciting sexual behaviour.

The ability to control themselves in regulating positive sexual behaviour, children need to integrate their role in society by internalising the norms and values that exist as part of society (Dupe, 2020). In optimising these abilities, children need to be prepared as early as possible so they can optimally develop their potential in accordance with their developmental tasks. However, in children with intelligence barriers, the fulfilment of developmental tasks cannot be done optimally, so the chronological age and psychological age are different. Nevertheless, parents and schools can still optimise other skills so that children with intellectual disabilities can control themselves to bring out positive sexual behaviour at puberty.

Reproductive health and sexuality education (RHE) is one of the school programs that can accommodate the abilities and skills of students with intellectual disabilities in regulating positive sexual behaviour. Assessments conducted before designing learning programs are not only on cognitive aspects or understanding, but also on behavioural aspects and other aspects that are carried out comprehensively (Matson, 2007). So far, there have been many studies on the development of sexual behaviour assessment instruments, such as The Child Sexual Behaviour Inventory (CSBI) developed by Friedrich et al. (1989) and The St Andrew's Sexual Behaviour Assessment (SASBA) developed by Knight et al. (2008). Both assessments aim to measure and predict inappropriate sexual behaviour in adolescents. The CSBI is a test-based or self-report sexual behaviour assessment using a Likert scale, making it unsuitable for children with intellectual disabilities. Whereas, SASBA is an observation-based sexual behaviour assessment that can be done by parents, caregivers, or teachers that aims to determine the severity of unnatural sexual behaviour displayed by children. Although SASBA can be used in assessing sexual behaviour in children with intellectual disability, the indicators of sexual behaviour contained in SASBA only describe sexual behaviour in the puberty phase, while other phases of development are not described. In fact, sexual behaviour or sexuality occurs throughout life from birth to old age (Greydanus & Pratt, 2016).

This study will discuss the importance of integrating Sigmund Freud's psychosexual theory in the process of assessing sexual behaviour in children with intellectual disability. Understanding Freud's stages of psychosexual development such as oral, anal, phallic, latency, and genital stages can help in identifying the dynamics of children's sexual behaviour. With this approach, assessments can be conducted more comprehensively, considering not only biological aspects but also psychological and emotional factors that influence their sexual development. This is important so that the intervention provided is appropriate to the needs and developmental stage of the child.

LITERATURE REVIEW

In essence, the development of students with special needs and students in general is the same. However, psychologically, children with special needs experience obstacles or delays in their development. However, physically, children with special needs will reach puberty during early adolescence, characterised by physical changes (weight, height, etc.), changes in body shape, and even changes in sexuality (Santrock, 2008; Arifah, 2021). Sexual development involves not only anatomical and physiological functions, but also relates to sexual knowledge, beliefs, attitudes and values. Sexuality should be considered in a context that goes beyond genital sex to include gender role socialisation, physical maturation and body image, social relationships, and future social aspirations (Farakhiyah et al., 2018). The sexual development of individuals based on Freud's psychosexual development theory (in Hasanah, Fithriyah, & Mufrihah, 2021), as follows:

a. Oral phase (0-18 months)

This phase is the initial phase of humans in living their lives, so that the fulfilment of their needs is done naturally. In this phase, humans cannot distinguish between what satisfies their needs and what they need. For example, when hungry, the baby's lips and his mother's nipple touch so that he can suck his mother's milk until he feels full. In this activity, the baby cannot associate satiety and breastfeeding as fulfilling its needs. The baby will only realise its needs if it is given a long enough waiting time until it finally feels frustrated and only realises that there is a need-satisfying object that meets its needs. This experience is what causes the baby's first primitive reaction. The behaviour that arises is to try to put all the objects he holds into the mouth because at this time the baby feels that the mouth is a place of gratification (oral gratification). The baby's needs, perceptions, and ways of expression are primarily focused on the mouth, lips, tongue, and other organs in the oral region. Simply put, at this stage the mouth is the source of individual pleasure. If this phase is fulfilled or the individual is traumatised, they will experience sexual behavioural disorders in their adult life, such as oral sadistic personality manifested in the form of sadistic sexual deviant behaviour.

b. Anal phase (2-3 years)

This phase is the transfer of libido from the oral region to the anal region. The pleasure is obtained when holding defecation (defecation), when defecation is done, the pleasure disappears. This phase is the right phase for parents and families to introduce the rules of genital and anal hygiene through toilet training.

c. Phallus phase (2/3 - 5/6 years)

In this phase, individuals begin to recognise the differences between their genitals and those around them (parents/brothers/sisters/siblings/friends). In this phase, the point of satisfaction is still on his genitals, but the satisfaction is obtained when he plays with his genitals. In this phase, the desire to have attention from parents of the opposite sex begins to emerge. Boys want to get attention from their mothers and get rid of their fathers, this condition is called the Oedipus Complex. On the other hand, girls want to get their father's attention and get rid of their mother, called the Elektra Complex. Usually, the Elektra Complex is accompanied by a sense of inferiority in girls because they do not have genitals like boys. In addition, during this phase, the child's curiosity about sex begins to grow. This is shown by the behaviour of groping their mother's breasts, fingering their parents' genitals, or even opening their mother's skirt. If the complex cannot be passed well, it will cause emotional disturbances in the future. In this phase, boys have the greatest fear of being circumcised (having their penis cut off). If the fear experienced by children in this phase is getting bigger and cannot be overcome properly, it will result in the emergence of sexual disorders such as impotence or homosexuality.

d. Latency phase (5/6 years - 11/13 years)

During this phase, the child's social skills also increase so that their sexual activities and fantasies seem to be suppressed and do not appear because the child is more focused on interactions outside the home. Nonetheless, children's curiosity about sexuality remains so that children will capture the information from the surrounding environment. In fact, it is not uncommon for children to get information that is incorrect and misleading, resulting in a lack of self-control in children to divert their energy effectively.

e. Genital phase (11/13 years - 18 years)

This phase is the final phase of the child's sexual development, characterised by the active sexual organs and the functioning of sexual hormones. Therefore, in this phase two changes occur at once, namely physical and psychological changes. Physical changes begin with bone growth and maturation of the sex organs and secondary sex signs. In adolescent girls, this growth takes place in the age range of 12-13 years. Meanwhile, in boys, it ranges from 14-15 years of age.

RESEARCH METHODOLOGY

This study adopted an in-depth qualitative approach using theoretical analysis, observation, and interview methods. The purpose of this approach was to explore and understand the importance of integrating Sigmund Freud's psychosexual theory in the assessment of sexual behaviour in children with intellectual disability.

The theoretical analysis was conducted through an in-depth evaluation of the use of the St Andrew's Sexual Behaviour Assessment (SASBA) instrument to assess sexual behaviour in children with intellectual disabilities, and a linkage analysis with key concepts in Freud's psychosexual theory. Using the SASBA, the researcher aims to identify sexual behaviours that emerge in children, which includes data on the type, frequency, and pattern of behaviours. The results of this assessment were not only documented, but also critically analysed using Freud's psychosexual theory framework. This analysis aims to identify the relationship between Freud's stages of psychological development - including the oral, anal, phallic, latency, and genital stages - and the behavioural patterns observed in students. Through a better understanding of behaviour in the context of this psychological development, educators can design more adaptive and inclusive interventions to meet students' needs.

In addition, interviews were conducted to dig deeper into how teachers respond to assessing children's sexual behaviour and their responses regarding students' psychosexual development related to their sexual behaviour. The interview process also aimed to understand how teachers implement sexual education strategies that are in line with students' developmental needs. This approach provides important insights in the development of more targeted interventions, as well as enhancing the understanding of students' behaviour as an integral part of their psychological growth and development process. Through a combination of theoretical analysis methods, careful observation and in-depth interviews, this research aims to present comprehensive and relevant findings, which can serve as a basis for better educational practices in inclusive contexts.

OBJECTIVES

This study aims to integrate Freud's psychosexual theory with the St Andrew's Sexual Behaviour Assessment (SASBA) to enhance the understanding of sexual behaviors in children with intellectual disabilities. It explores how Freud's developmental stages can provide insight into the sequential nature of these behaviors, which are often misunderstood as isolated incidents. By incorporating Freud's theory, the assessment process becomes more comprehensive, aiding educators and caregivers in crafting interventions that better align with the child's developmental needs and psychological stages. For further exploration as follows:

1. To analyze the application of Freud's psychosexual theory in assessing sexual behaviors of children with intellectual disabilities.
2. To evaluate the effectiveness of St Andrew's Sexual Behaviour Assessment (SASBA) in identifying sequential patterns of sexual behavior, rather than isolated incidents.
3. To explore how integrating Freud's stages of development (oral, anal, phallic, latency, and genital) can help in providing a more comprehensive understanding of sexual behaviors in children with intellectual disabilities.

FINDINGS

ST Adrew's Sexual Behaviour Assessment (SASBA) is a measurement scale used to measure maladaptive or inappropriate sexual behaviour (ISB) developed by Knight et al. (2008). In its definition, maladaptive sexual behaviour is the possibility of overt behaviour that arises due to neurological damage or brain damage such as aggressive behaviour, sexual agitation, sexual inhibition, hypersexuality, inappropriate sexual expression, deviant sexual behaviour, seductive behaviour, inappropriate genital touching, or verbal inappropriate social norms.

This instrument is used to measure the maladaptive sexual behaviour of neurologically impaired individuals in a conventional setting and is used for medical purposes. Not only does it record the occurrence of maladaptive sexual behaviour, but in SASBA there are also three aspects that are assessed and observed, namely 1) behaviour; 2) antecedents; and 3) interventions. Each of these aspects is related to each other and in each aspect there are indicator points that can be used as an illustration of how the behaviour arises from the antecedents and interventions provided.

In the SASBA instrument, sexual behaviour is categorised based on the frequency of occurrence and severity of the behaviour. There are four levels of severity of sexual behaviour, including:

a. Level 1: sexual behaviour in the form of words and touches that are non-genital or do not lead to genitals or breasts:
b. Level 2: exhibitionism or the act of exposing genital organs and masturbation;
c. Level 3: touching genital organs
d. Level 4: sexual violence or harassment

The four levels were further categorised based on the type of maladaptive sexual behaviour that was displayed, which consisted of 1) verbal; 2) no contact; 3) exposure or showing limbs; and 4) touching others. These four categories are used as aspects of behavioural assessment in which each aspect has indicators of maladaptive sexual behaviour and is ranked based on the severity of the behaviour. The higher the indicator of sexual behaviour, the more severe the level of sexual behaviour deviation experienced. The aspects contained in SASBA include:

a. Verbal, this aspect consists of indicators:
    1) Issuing personalised utterances of mild severity, such as "do you have a girlfriend?", "I love you", "you're pretty."
    2) Making sexualised remarks that are not directed at a specific person, such as "I have a big dick"
    3) Expressing sexualised phrases directed at others, e.g. "your bum is nice" "your boobs are big"
    4) Expressing explicitly about sexual intentions, requests or activities, e.g. "show me your panties", "I want to make love to you"
b. Without contact, this aspect consists of indicators:
    1) Blow or blow on oneself, stare at another person's crotch, breasts, or buttocks, or make obscene gestures
    2) Touching one's own crotch, breasts or buttocks over or under clothing
    3) Mansturbation in a closed room with people in it
    4) Mansturbation in an open or public space but without exposing the genitals
c. Exposure or showing body parts, this aspect consists of indicators:
    1) Unconsciously exposing genitals, breasts or buttocks in public places
    2) Not wearing clothes in public of one's own free will
    3) Intentionally exposing genitals, breasts or buttocks to another person
    4) Mansturbation in an open or public space with genitals exposed
d. Touching others, this aspect consists of indicators:
    1) Touching (more than two seconds) or fondling another person not on the groin, breasts or buttocks
    2) Kissing other people
    3) Lifting skirts, pinching, or touching bottoms, or sitting on another person's lap
    4) Touching another person's crotch, breasts or buttocks, or rubbing their genitals or breasts against another person.

Measurements in the SASBA instrument are carried out on an ongoing basis by recording the date, time, initials of the subject being assessed, triggering factors for the emergence of the behaviour, the sexual behaviour displayed, and the intervention provided. Based on observations using SASBA, it was found that the behaviour patterns of children with intelligence barriers were similar. Children often expressed their feelings of affection verbally, such as saying "I love you" to a new female teacher who entered the

classroom. In addition, they show expressions of affection, such as giving a "flying kiss," and when approached, they show physical intentions such as holding, hugging, or embracing. On several occasions, children also looked at the teacher's breasts and buttocks when the teacher was giving explanations in class. Based on interviews related to the SASBA assessment implementation test, teachers stated that this instrument was helpful in identifying adaptive and maladaptive sexual behaviours. However, there was criticism that the behavioural indicators in the assessment were too extreme and did not reflect accompanying behaviours or causal sequences between behaviours. During observations, students' sexual behaviours often appear in a sequential form, where one behaviour triggers another, so the assessment needs to be more adaptive to such complexities. From this instrument, teachers were only able to determine which behaviours to target for intervention but not why these behaviours were occurring or the signs that they were about to occur. This makes it difficult to determine an appropriate intervention programme.

DISCUSSION

Based on Sigmund Freud's psychoanalysis theory, the process involves the interaction between the id, ego and superego. The psychological and biological changes that occur during puberty lead to an increase in sexual urges or libido, which originates from the id. Furthermore, the ego and superego work together to regulate and control these urges in accordance with social norms and rules. If there is an imbalance between the id, ego, and superego, the ability of self-control will be lower. Uncontrolled sexual urges (dominant id role) can cause problems, such as inappropriate behaviour in the social environment and will hamper the social and emotional development of children. In some cases it was found that children who have a dominant id role gave rise to behaviours such as touching the vital organs of themselves or others, masturbation, dating, even some of them did it in public, and were not ashamed to leave the room naked (Handayani, Pandia, Putri, Wati, & Rizki, 2019).

Based on the findings of the SASBA instrument, it was found that the behavioural indicators were considered too extreme, did not describe accompanying behaviours, and did not include a sequence of behaviours. Sexual behaviour often appears as part of a continuum of actions, where one behaviour triggers another, for example from the verbal expression "I love you," to physical expressions such as holding, hugging, or giving a "flying kiss." Which is a continuum of behaviours when analysed the child has the experience that showing affection is through hugging, holding, or giving a "flying kiss". In Freud's theoretical analysis, this behaviour is around the phallic and latency phases. In this phase, libido or sublimated sexual stimulation appears in the form of social and cultural achievements (Syams, 2017). Therefore, it could be that this child's sexual behaviour arises because they see from the social environment or are even taught by their parents to bring up this behaviour when they feel like or like someone.

This is relevant to Sigmund Freud's psychosexual theory, in which children's sexual behaviour develops according to psychosexual stages such as the oral, anal and phallic stages, before reaching the latency and genital stages. In children with intellectual disabilities, these stages often do not run optimally, resulting in behaviours that may not be appropriate for their chronological age. For example, behaviour such as holding or hugging without regard to social context can be explained as an expression of sexual urges that are not yet fully controlled by the ego and superego.

Freud explained that this behaviour is related to the interaction between the id, ego and superego. Children with intellectual disability may have limited ego control, so the sexual drive of the id is more dominant, and the sexual behaviour that emerges is more difficult to control. This is an impact of their limited intelligence so that they have difficulty in regulating themselves to cope with the changes that occur, such as difficulty in problem solving, planning, abstract thinking, and making judgements about something (Mash & Wolve, 2015). This lack of integration between ego and superego creates challenges in conducting appropriate behavioural assessments and interventions. Therefore,

assessments need to consider the dynamics of emergent behaviours sequentially and not just focus on a single isolative or maladaptive behaviour.

Based on the findings, it was also found that the identification process in learning about sexual behaviour in learners with intelligence barriers is only based on the experience and subjective assessment of the teacher, not considering the instinctive needs of learners based on their developmental phase. Whereas naturally the sexual behaviour of each individual will appear and cannot be avoided in each phase of development (Hasanah et al., 2021). Therefore, the existence of sexual behaviour assessment is an essential aspect in conducting learning about sexual behaviour so that learning is in accordance with the developmental needs of students (Marlina, 2015). The existence of instruments in carrying out assessments is crucial and needed by teachers in conducting assessments, especially in conducting behavioural assessments. This is because behavioural assessment is broad and continuous (Marison et al., 1994) so that in its implementation teachers need examples of behaviours that are targeted for change (Ollendick & Hersen, 1985). In this case, the behavioural assessment instrument serves as a guidline for teachers in conducting sexual behaviour assessments in determining behavioural problems and desired behaviour change targets.

With these aspects in mind, adjustments in the SASBA need to be made to make it more adaptive to the context of behaviour that occurs in children with intellectual disabilities. In addition, the instrument should also pay more attention to the complexity of behaviour and the dynamics that occur between the stages of psychosexual development, in accordance with Freud's theory, so that interventions can be tailored to the developmental needs of children more comprehensively.

CONCLUSION

The integration of Freud's theory with sexual behaviour assessment shows that the sexual behaviour of children with special needs is influenced by the stages of psychosexual development, as described in the concept of id, ego and superego. In children with intellectual disabilities, the imbalance between these three components results in sexual behaviour that is not in accordance with social norms. The use of SASBA, which focuses on isolated behaviours, needs to be refined to capture a sequence of behaviours. By understanding the interaction between the id, ego and superego in children, interventions can be tailored to their psychological and biological needs, providing more comprehensive guidance in the education and treatment of sexual behaviour.

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THE READINESS OF EARLY CHILDHOOD EDUCATION (ECE) TEACHERS IN FACING NATURAL DISASTERS: A CASE STUDY OF EARTHQUAKE EXPERIENCES IN CIANJUR

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ABSTRACT

Natural disasters, particularly earthquakes, have a significant impact on the educational environment and the well-being of children, especially in vulnerable areas like Cianjur. This study aims to explore the preparedness of Early Childhood Education teachers in facing earthquake disasters, focusing on their experiences during and after the disaster. The research employs a qualitative approach with a case study method, involving in-depth interviews with 11 ECE teachers in Cianjur, analyzed using a grounded theory approach. The findings show that ECE teachers have varying levels of preparedness, influenced by the training they received, community support, and their understanding of disaster mitigation procedures. The main challenges faced include limited resources, lack of access to effective training, and the need to raise awareness among parents and the community about disaster mitigation. This study suggests the importance of continuous training programs for ECE teachers and collaboration with relevant stakeholders to enhance preparedness and disaster response in the future.

Keywords: *Teacher Preparedness, Natural Disasters, Early Childhood Education (ECE) Teachers*

INTRODUCTION

Natural disasters are unpredictable phenomena that highlight vulnerability and generally describe the relationship between humans, the environment, and social forces (Bandrova et al., 2015). Indonesia, as a country located in the Pacific Ring of Fire, is highly prone to natural disasters such as earthquakes, tsunamis, volcanic eruptions, and floods (Atmojo, 2020; Murdiaty et al., 2020). Indonesia lies in a highly active tectonic zone due to the convergence of three major world plates and nine other smaller plates that interact with each other, forming complex plate convergence zones. These plate interactions make Indonesia highly susceptible to earthquakes (Kusmajaya & Wulandari, 2019). One of the regions frequently hit by earthquakes is Cianjur, which has experienced significant earthquake intensity in recent years.

The earthquake that struck Cianjur, West Java, has raised concerns, especially for people living in earthquake-prone areas (Muksin et al., 2023). Community preparedness in facing disasters is crucial, particularly in educational institutions like Early Childhood Education (ECE), which is a place for young children who are highly vulnerable to the impacts of natural disasters. The preparedness of ECE teachers in facing natural disasters plays a critical role, as teachers are responsible for the safety of children while they are at school (Lilianti et al., 2023; Stough et al., 2018).

Kruger (2018) found that children spend most of their time at school and are highly vulnerable to the emotional and behavioral impacts of disasters, such as anxiety, depression, social relationship disorders, and poor academic performance. This raises concerns about school-based emergency planning that may not adequately meet the unique needs of children and the adults who support them. Additionally, young children have unique developmental characteristics, as they do not fully understand the concept of disasters or how to protect themselves. Therefore, the role of ECE teachers is not only limited to academic learning but also includes disaster preparedness education (Mulyani et al., 2023). ECE teachers must have specific skills to recognize disaster signs, conduct emergency evacuations, and calm and protect children during crisis situations. This preparedness involves not only the provision of emergency response facilities but also a deep understanding by ECE teachers of the actions that need to be taken when an earthquake occurs. The lack of training and education on disaster mitigation in ECE institutions exacerbates this vulnerability.

This study aims to assess the preparedness and experiences of ECE teachers in facing earthquakes in the Cianjur region. The focus of the research is to explore the extent of teachers' preparedness in responding to emergency situations and the challenges faced in implementing disaster mitigation measures. The main research questions are: "How prepared are ECE teachers in Cianjur to face earthquakes?" and "What are the challenges and strategies implemented by ECE teachers in dealing with earthquakes?"

LITERATURE REVIEW

Disaster mitigation education at an early age plays a crucial role in fostering children's awareness and preparedness for potential environmental hazards from a young age. Child development theory, as proposed by Lev Vygotsky, emphasizes the importance of social interaction in a child's cognitive development (Angga Saputra & Lalu Suryandi, 2021). According to Vygotsky, children learn through guidance and interaction with more experienced adults or peers, a concept known as the Zone of Proximal Development (ZPD) (Agustyaningrum et al., 2022; Hyun et al., 2020). In disaster mitigation education, this theory is highly relevant because young children can learn how to respond to disasters more effectively if guided by teachers, parents, or more experienced professionals.

The concept of scaffolding in Vygotsky's learning theory is well-suited for disaster mitigation education, where teachers can provide gradual support through explanations and disaster simulation drills, such as how to take cover during an earthquake or follow evacuation routes (Agustyaningrum et al., 2022; Putu et al., 2020). Scaffolding can be applied in disaster mitigation education as teachers offer step-by-step support through explanations and disaster drills, such as showing how to protect oneself during an earthquake or how to follow evacuation routes. As children gain a better understanding of the necessary actions, this guidance can be reduced, allowing them to independently remember and implement those actions.

As children's understanding improves, the guidance can be minimized, enabling them to independently recall and apply the actions. Disaster preparedness by educators, particularly in educational institutions, has become a key focus in various studies. Research conducted by Hanifah & Kurniati (2024) highlights the crucial role of Early Childhood Education (ECE) teachers as facilitators in educating young children about disaster preparedness through digital comic media. Teachers serve not only as educators but also as guides who help children understand preparedness concepts in a developmentally appropriate manner. Research by Lilianti (2023) suggests that the teacher's role as a learning facilitator has a significant impact on building a culture of safety. Teachers do not merely provide information about disasters but also act as role models by demonstrating safe behavior and teaching practical skills to children. Additionally, Marpaung (2023) states that the role of teachers as facilitators and innovators in disaster education is crucial in creating a more prepared and responsive generation to disasters.

Meanwhile, Cianjur, located in West Java Province, Indonesia, has a geographical condition highly prone to natural disasters, especially earthquakes (Nadiyyah, 2024). This region lies in a subduction zone where the Indo-Australian Plate subducts beneath the Eurasian Plate (Aprianti et al., 2023). One significant event occurred in 2023, when an earthquake in Cianjur, West Java, caused 14 tremors (Mohadib, 2024). The impact of the Cianjur earthquake on Early Childhood Education (ECE) institutions was significant, including physical damage to buildings, disrupting the teaching and learning process, as well as psychological effects on children and teachers (Herlina et al., 2023). Children experienced trauma from the earthquake, which can hinder emotional and social development. On the other hand, ECE teachers faced challenges in creating a safe and comfortable learning environment post-disaster (Wulansuci et al., 2023). Therefore, rehabilitation and reconstruction efforts are essential for ECE institutions to resume operations and provide optimal services to children. This underscores the need to improve disaster preparedness in educational institutions to minimize negative impacts in the future.

RESEARCH METHODOLOGY

This research employs a qualitative approach with a case study design to explore in-depth the preparedness and experiences of Early Childhood Education (ECE) teachers in Cianjur who have experienced an earthquake disaster. A case study is a method used to thoroughly examine a particular case (Aziza, 2017; Yusanto, 2019). The participants in this study consist of 11 ECE teachers from earthquake-affected areas, who have direct experience dealing with such emergency situations. Data collection was carried out through in-depth interviews with these teachers, field observations to understand the preparedness measures implemented, and document analysis of related materials, such as disaster protocols and school policies. The collected data was analyzed using thematic analysis techniques, where the main themes regarding the teachers' experiences, challenges, and preparedness strategies were identified and understood in depth. This approach aims to provide a comprehensive overview of the preparedness of ECE teachers in facing earthquakes and how their experiences can serve as lessons to enhance future preparedness.

OBJECTIVES

In general, this study aims to assess the preparedness of Early Childhood Education (ECE) teachers in dealing with natural disasters, particularly earthquakes, with a focus on the experiences that occurred in Cianjur. Specifically, this study analyzes the preparedness of ECE teachers from the following aspects:

1. Teachers' Knowledge of Disaster Preparedness
2. Disaster Preparedness Training and Simulations
3. Teachers' Perception of Emergency Response Plans
4. School Resources and Infrastructure

FINDINGS

From the research conducted, teachers' preparedness before a disaster is a crucial initial step in facing potential disasters in the Cianjur area. The study found that many Early Childhood Education (ECE) teachers have participated in disaster training and simulations organized by educational institutions and local governments. These trainings cover evacuation techniques, managing children in emergency situations, and using safety equipment. With this training, teachers feel more confident and ready to face disaster situations, although not all teachers have the same opportunity to participate in such training.

> *Partner organizations such as IGTKI, HIMPAUDI, along with the local education office and PKG, were gathered at a central location representing each district. They were provided with disaster mitigation understanding and training. (Interview with Nina, May 2024)*

In addition to training, teachers' preparedness is also supported by their involvement in disaster awareness activities within the school and the community. Teachers often act as a bridge between the school and parents, making it essential for them to have a good understanding of evacuation procedures and risk mitigation. Some teachers also organize educational sessions for children and parents about the steps to take before, during, and after a disaster. By raising awareness and knowledge about disaster preparedness, teachers can help create a safer environment for children.

> *Now, regarding the door, back then the door opened inward, so it was a bit stuck. But now, according to the institution's earthquake SOP, the door must open outward. And the children must be gathered in an open space, like in the yard. (Interview with Nona, May 2024)*

During the earthquake, the experiences of ECE teachers varied significantly depending on their level of preparation and previous experiences. Many teachers were directly involved in ensuring the safety of children in the classroom. They quickly took actions such as directing children to safe places, reminding them not to panic, and monitoring the physical and mental conditions of the children. This experience shows that trained teachers tend to be more effective in managing emergency situations, although some teachers felt confused and unsure of what to do.

The challenges faced by teachers in disaster situations are quite diverse. The school's infrastructure, which is not fully safe, is one of the main obstacles. Some schools sustained severe damage during the earthquake, making evacuation processes difficult. Additionally, the lack of safety equipment and limited access to emergency response resources are also significant challenges. Community awareness still needs improvement, especially regarding cooperation during emergencies. This indicates the need for synergy between schools and the community to build a better preparedness system.

> *Because in Cugenang all the buildings are new, the building SOP automatically includes earthquake SOPs as well. (Interview with Neni)*
> *Creating disaster-prone maps, like here, for example. If there's a disaster, where should people be gathered? That's the idea. There must be drills, so that in the event of an earthquake, educators know where to direct the children. So, we need to create disaster maps. At that time, I had a 5-day training. It was also organized by some NGO. (Interview with Nina)*

The efforts of ECE teachers to enhance their readiness for earthquakes and post-disaster mitigation are varied. Some teachers develop preparedness strategies through outreach to parents and the community about the importance of knowledge and skills in facing disasters. Moreover, teachers also create contingency plans and conduct regular simulations with children to familiarize them with evacuation procedures. Teachers strive to improve communication between schools and parents to ensure that information about preparedness is effectively conveyed.

After a disaster occurs, ECE teachers engage in mitigation efforts that involve the psychological recovery of children. Many teachers hold counseling sessions to help children cope with trauma and fear following the disaster. They also involve children in creative activities, such as drawing and storytelling, to express their feelings. These efforts aim not only to rebuild a sense of safety but also to strengthen the social bonds between children and teachers.

> *In those tents, there is trauma healing. We received assistance from the Ministry of Health. As for the Department of Education, of course, they are involved as well. There's also support from the Ministry of Social Affairs and the social services department. Basically, all government agencies from every sector came out to help us. Especially partner organizations like IGTKI and HIMPAUDI, they not only provide support but also help directly. From across provinces, they came to provide support… even storytellers came down to help. (Interview with Neni)*

Overall, the research results indicate that ECE teachers' preparedness in facing earthquake disasters is inseparable from the training received, experiences had, and challenges faced. Adequate training provides the necessary knowledge and skills to handle emergency situations, while direct experiences during disasters can enhance teachers' resilience and quick response. Despite facing many obstacles, such as inadequate infrastructure and a lack of safety equipment, the efforts made by teachers demonstrate a high level of dedication and commitment to the safety of children. This shows that teachers not only play a role as educators but also as protectors for children in high-risk situations

DISCUSSIONS

Teachers' Preparedness Before Disaster: Training and Disaster Simulations

The preparedness of Early Childhood Education (ECE) teachers before a disaster is crucial for ensuring the safety of children. Trained teachers are able to provide quick and effective responses in emergency situations, thus protecting children from potential dangers. Systematic training and disaster simulations are essential components in building this preparedness. Educational institutions, especially ECE, have implemented training that includes evacuation procedures, recognizing danger signs, and how to respond to emergencies. According to Rahmat (2023), the importance of disaster preparedness in educational institutions is expected to enhance teachers' understanding of risk management and the actions that should be taken when a disaster occurs. This preparedness includes not only theoretical understanding but also practical skills that every teacher must possess.

Disaster simulations are often conducted periodically to test teachers' abilities to direct children to safe locations. In these simulations, teachers are trained to prioritize children's safety and minimize panic. This is particularly important because, in emergency situations, children may feel confused and scared, making the role of teachers in calming and directing them essential. Research by Kasanah (2023) shows that effective training and socialization can enhance teachers' competencies in disaster management, enabling them to better protect children and reduce risks during emergencies. Therefore, strengthening this understanding and skill set is necessary to create a safe and protected learning environment while also fostering a more sensitive and prepared generation for disasters.

Through training and disaster simulations, teachers not only acquire theoretical knowledge but also practical experience that can be implemented during a disaster. With this foundation, teachers are expected to adapt quickly and make appropriate decisions in potentially urgent situations. This aligns with research by Hanifah & Kurniati (2024) dan Kurniati et al. (2020), which indicates that disaster preparedness training programs can enhance teachers' abilities to handle emergency situations in schools. The preparedness of ECE teachers in facing disasters will create a safer environment for children, allowing them to feel protected and remain focused on learning, even in unexpected situations. This highlights the need for disaster preparedness to be a top priority in every educational institution, particularly for teachers dealing with young children.

Teachers' experiences during the earthquake are crucial for ensuring the safety of children at school. In emergency situations like an earthquake, teachers serve as guides and protectors for their students. Teachers must know clear and effective evacuation procedures. When an earthquake occurs, teachers promptly direct children to exit the classroom calmly and orderly to safe areas. Research by Tero (2024) demonstrates that teachers trained in disaster management can reduce panic among students and improve safety during disasters. In this context, strong communication skills are essential, as teachers must be able to calm children who may feel frightened and anxious.

Challenges Faced by Teachers

The main challenge teachers face in disaster situations is often the inadequate infrastructure of schools. Many schools in disaster-prone areas lack earthquake-resistant buildings or safety measures against other risks such as flooding or landslides. This inadequacy makes it difficult for teachers to evacuate

safely and quickly when disasters occur. A study by Tero (2024) states that inadequate school infrastructure significantly hinders teachers' ability to effectively manage disaster recovery, impacting students' learning environments and requiring comprehensive recovery strategies and timely repairs. Additionally, Fernández et al., (2023) support the notion that inadequate school infrastructure significantly impairs teachers' ability to respond effectively to disasters, jeopardizing safety and functionality, thereby affecting the overall quality of education during emergencies.

Apart from infrastructure, safety equipment also poses a challenge for teachers in disaster situations. Many schools lack adequate safety equipment, such as personal protective gear, evacuation tools, and emergency communication systems. Without the right equipment, teachers cannot provide optimal protection for students. According to research by Hyder (2020) safety equipment is crucial for teachers as it enhances their ability to respond effectively during disasters. However, the study shows a lack of such resources in schools in Pakistan. The availability of adequate safety equipment greatly influences the level of school preparedness for disasters. Therefore, it is essential for the government and related institutions to provide sufficient resources so that teachers can better protect children.

Furthermore, community awareness is also a significant challenge. Many parents and community members may not be aware of the existing disaster risks or do not know how to respond to emergency situations. Teachers often face difficulties in educating students and parents about disaster mitigation if the surrounding community does not support these efforts. Research by Nadiyyah (2024) emphasizes that raising community awareness and student preparedness regarding earthquake risks through effective socialization programs not only conveys information about mitigation actions but also engages students and the community in an interactive learning process.

Preparedness Strategies and Quick Response

Preparedness strategies and quick responses are a primary focus in efforts to enhance ECE teachers' readiness to face earthquakes. According to research by Dewi (2024), the government or educational authorities can mandate disaster mitigation programs in schools and provide training for teachers to ensure they possess the knowledge and skills necessary to protect children in emergency situations. Through the implementation of this policy, it is expected that ECE teachers can more effectively educate children about the actions to take during disasters while creating a safe and prepared environment.

In addition to training, parental and community involvement is also crucial in disaster preparedness strategies. Research by Lilianti (2023) indicates that integrating disaster education can foster a better safety culture in ECE and the surrounding community regarding natural disasters. Therefore, collaboration between teachers, parents, and the community is key to creating a safer and more resilient environment against disasters. By involving parents, teachers can ensure that the information provided to children is also reinforced at home. Additionally, community involvement in disaster simulations will enhance a sense of togetherness and concern in facing emergency situations, thereby minimizing the impact of disasters on children.

After a disaster occurs, a quick response becomes vital in addressing the resulting impacts. Training on how to provide first aid to children and manage post-disaster trauma should be conducted regularly. Research by Fitria et al., (2022) indicates that storytelling methods have proven to be effective tools for helping children recover from trauma after disasters, including in the context of the Cianjur earthquake. Using stories as a medium for conveying information can help children understand traumatic experiences in a more acceptable way. Furthermore, according to research by Nuraeni et al., (2020) mitigation strategies should be designed with a focus on preparedness before a disaster occurs, prompt and appropriate response during a disaster, and post-disaster recovery. One effective way to increase community awareness, especially among young children, is through disaster mitigation education programs that teach preparedness and emergency response continuously.

Overall, the author argues that preparedness strategies and quick responses are key elements in enhancing ECE teachers' readiness to face earthquakes. With government policy support mandating disaster mitigation programs in schools and training for teachers, it is hoped that teachers can educate children about the actions to take in emergency situations. In addition to training, parental and community involvement is also critical in creating a safety culture within ECE environments. Collaboration between teachers, parents, and the community will strengthen preparedness and build a more resilient environment against disasters, enabling quick responses and effective post-disaster recovery.

CONCLUSION

The findings of this study indicate that the preparedness of ECE teachers in facing disasters is significantly influenced by several factors, such as the training received, community support, and understanding of disaster mitigation procedures. Although there is variability in the levels of preparedness among teachers, the challenges they face persist, including limited resources and lack of access to effective training. Furthermore, efforts are needed to raise awareness among parents and the community regarding the importance of disaster mitigation to create a safer environment for children in ECE institutions. By addressing these challenges, it is hoped that the preparedness of ECE teachers can be enhanced, enabling them to better manage emergency situations.

Recommendations

1. Regular Training for ECE Teachers
   ECE teachers should receive routine training on how to respond to disasters, particularly earthquakes. This training should include safe evacuation procedures and how to manage children during emergencies. Disaster simulations are also crucial to ensure teachers are better prepared.
2. Collaboration with Relevant Stakeholders
   ECE schools need to collaborate with parents, the community, local government, the Regional Disaster Management Agency and local organizations to enhance preparedness. This collaboration could involve joint training, assistance with emergency equipment, and the development of improved emergency response procedures.
3. Improvement of School Facilities
   Schools must ensure their buildings are safe and earthquake-resistant. Additionally, there should be accessible evacuation routes and emergency equipment, such as first aid kits. Regular evacuation drills should also be conducted so that everyone knows what to do in the event of a disaster.

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INTEGRATION OF PROJECT BASED LEARNING IN IMPROVING LITERACY IN PAUD

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ABSTRACT

This study aims to evaluate the effectiveness of the implementation of Project-Based Learning (PjBL) in improving literacy in Early Childhood Education (PAUD). Literacy, which includes the ability to read, write, and understand texts, is a basic skill that is crucial to be developed early on. Project Based Learning (PjBL), as a learning approach that emphasizes the active involvement of children through creative and collaborative projects, is believed to be able to provide a more meaningful context for the development of literacy skills. This study uses a classroom action research, method involving teachers and students at Mawar Cugenang Kindergarten. Through observation, interviews, and analysis of project products, this study evaluates how Project Based Learning (PjBL) can be used to teach basic literacy skills, such as letter, word, and sentence recognition, and to foster children's interest in reading and writing. The results of this study are expected to show how Project Based Learning (PjBL) not only improves technical literacy skills, but also increases children's motivation, creativity, and involvement in the learning process. In addition, this study will provide practical recommendations for educators in integrating Project Based Learning (PjBL) into the PAUD curriculum to support the development of more holistic and contextual literacy.

Keywords*: Project Based Learning, Literacy, Early Childhood*

INTRODUCTION

Reading interest or literacy in Indonesia is very low. The low interest in reading in children is caused by the lack of early habituation to reading from parents and teachers so that when they grow up children will be lazy to read. If children are not accustomed to reading from an early age, children will easily accept incorrect information. With literacy or frequent reading, children will know the information available and by reading, children will gain knowledge. Read the ways that can be done to foster children's interest in reading from an early age, namely by reading fairy tales to children before going to bed, taking children to the library, providing books at home for children to read, taking time to read with children and so on, (Zati, 2018).

Literacy is the ability to read and write that children must have from an early age, this ability or skill will later become a provision for children for their future in everyday life. But the low interest in reading in Indonesia is a complicated problem that occurs in the world of education, (Ekowati & Suwandayani, 2018), (Zati, 2018).

Literacy is very useful for the future of children, namely in receiving information or reading existing information without seeing its truth or clarifying it first and spreading the news. If children have good literacy skills, children will see or clarify the information first. So as not to spread false news or hoaxes. Therefore, we must develop children's interest in reading from an early age so that a culture of literacy will be embedded in children from an early age and children will be accustomed to reading until they grow up. So that in reading there is no more coercion or children are forced to read but reading becomes a habit or hobby for children, (Rinaningsih, 2021), (Zati, 2018).

Project Based Learning is considered an approach that focuses on children and is in accordance with the characteristics of early childhood, (MacDonell, 2006). According to Sofia Hartati, early childhood has characteristics such as egocentricity, great curiosity, social nature, uniqueness, high creativity, and great learning potential (Hartati, 2005). Therefore, it is very relevant for children to learn through in-depth involvement and exploration according to their own learning styles. Katz & Charld, referred to by Christianti, state that projects can also develop character, knowledge, and skills (Christianti, 2011).

This concept is also supported by the study The Implementation of Project-Based Approach at Preschool Education Program, which shows that through the project approach, teachers can improve the cognitive and social abilities of early childhood (Rahman et al., 2011). Therefore, it can be concluded that in addition to improving cognitive aspects, Project Based Learning also has the potential to improve social competence, character, and emotional state in children.

Project Based Learning (PjBL) is a learning method that places projects as the center of the learning process. This approach is designed as a means to facilitate understanding of complex problems. Project Based Learning (PjBL) focuses on developing children's skills through investigation and implementation of research to find solutions to the problem. This process involves exploration, assessment, interpretation, synthesis, and analysis of information, with the aim of gaining a comprehensive understanding through overall learning outcomes, (Mulyasa, 2012).

Project based learning as a teaching method that has been used since the early 1900s. This condition was emphasized by Kilpatrick in his 1918 book "The Project Method." Since then, Project Based Learning has been elaborated in detail and implemented in various subjects and learning situations in schools, (Ulrich, 2016). Project Based Learning is a learning approach that creates a "constructivist" learning environment, which conditions children to build their own knowledge, (Halimah & Marwati, 2022).

Project Based Learning (PjBL) is beneficial for the development of early childhood literacy and numeracy, because it encourages children to explore, ask questions, and solve problems (A. Y. Sari, 2018). This has been successfully applied in various contexts, such as improving teachers' literary literacy skills, (Setyorini & Masulah, 2020), stimulating children's creativity, (Hayati et al., 2019), (Hayati et al., 2019), (Lestari, 2022), and improving collaboration skills, (Wulandari & Suparno, 2020). The emphasis of Project Based Learning (PjBL) on direct and real project-based learning makes it an effective tool to engage students and encourage their holistic development.

LITERATURE REVIEW

A number of studies have shown the effectiveness of Project Based Learning (PjBL) in improving various skills in early childhood education. (Wulandari & Suparno, 2020) found that Project Based Learning (PjBL) significantly improves children's collaboration skills, while (Setyorini & Masulah, 2020) reported a 90% success rate in improving literacy skills through Project Based Learning (PjBL). (A. Y. Sari, 2018), (A. Y. Sari, 2018) emphasized the importance of Project Based Learning (PjBL) in developing children's projects, and (Hartini, 2017) highlighted its role in improving children's critical thinking skills.

These findings collectively indicate that Project Based Learning (PjBL) is a valuable method for improving various skills in early childhood education. Furthermore, several studies are also on Project Based Learning as studied by several experts (Tyaningsih et al., 2023), (A. M. Sari et al., 2023), (Yusrizal & Pulungan, 2021). Research conducted by (Tyaningsih et al., 2023) namely on the effectiveness of the Project-Based Learning model in improving children's numeracy literacy skills through Lesson Study practices in schools, the results of the study showed that the Project Based Learning (PjBL) model is effective in improving children's numeracy literacy skills through Lesson

Study practices in schools. Therefore, the Project Based Learning (PjBL) model can be used as an alternative learning that can develop children's literacy and numeracy skills. Furthermore, research conducted by (A. M. Sari et al., 2023) on the effectiveness of the Project Based Learning (PjBL) model in the Implementation of the Independent Curriculum in Kindergartens, the results of the study explain that the Project Based Learning (PjBL) model is known to play a better role in stimulating children and is able to improve child development.

Another study from (Yusrizal & Pulungan, 2021) entitled "the effect of the Project Based Learning model with the visit home method and learning motivation, shows that through Project Based Learning (PjBL) there is a significant difference in the average learning outcomes of children with the visit home approach compared to online, (Yusrizal & Pulungan, 2021), in addition, the results of research from (Nurhayati et al., 2024) show that project based learning has an effect on the literacy and numeracy skills of early childhood children. Based on the research results that have been described, that project based learning (PjBL) has so far been more focused on developing various early childhood skills, such as improving children's cooperation skills, improving literacy skills, improving critical thinking skills, increasing learning motivation and also being able to improve child development.

Meanwhile, the practice of project based learning (PjBL) research in relation to Literacy skills has not been found, so this study focuses on the Literacy skills of early childhood. With this study, it is also hoped that it can see in more detail how far the integration of project based learning in improving literacy in PAUD.

METHOD

The researcher used a qualitative descriptive research method, and used a Classroom Action Research approach. Classroom Action Research is research carried out by students in class through self-observation which aims to optimize their effectiveness as teachers so that student learning outcomes increase (Wardhani et al., 2021),(Wardyaningrum, 2013) (Wardhani, 2013). The author designed a group activity study based on Kemmis and McTaggart (1997) which consists of planning, implementation, observation and reflection (Figure 1).

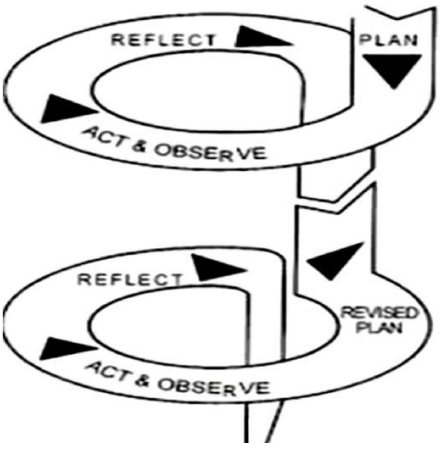

Figure 1. Kemmis and Mc Taggart Classroom Action Research Model

The research began by formulating the problem which was carried out in collaboration with 2 class teachers, namely group B teachers, namely Mrs. R and Mrs. P. to express opinions, thoughts and ideas regarding the problems that occurred in the field. Then together they sought information about the causes or a number of things that caused the problem to arise. The researcher limited the problem to

Literacy in PAUD which was aimed at group B children at Mawar Cianjur Kindergarten. If the cause of the problem has been understood, the next stage is to review the related theory or research in order to plan activities to improve learning practices in the classroom.

The next step is the implementation of the action. The end of the cycle in the implementation of the research action is reflection. In the following stages, researchers collaborate with other teachers to discuss in depth and critically the results of observations accompanied by previous attitudes. Through reflection, researchers can find better solutions, find new and more effective learning strategies to optimize learning outcomes and problems that occur in the field and improve the quality of learning practices (Qodir, 2021).

Data collection techniques are carried out through observation and interviews. The implementation of observations is focused on the following observations (1) the implementation of the program or teaching module that has been designed; (2) the growth of interest in reading or literacy in PAUD.
The instrument grid in the implementation of observations is shown in tables 1 and 2. Meanwhile, the checklist is used as an observation tool in directly observing the implementation of the program or teaching module implemented by the teacher.

Table 1 Observation Guidelines Grid

No	Problem formulation	Data obtained	Data Source	Technical Data Collection
1.	What are the objective conditions of Literacy skills of group B children at Mawar Kindergarten?	Objective conditions of Literacy skills of group B at Mawar Kindergarten Cianjur	Teacher, Child	Observation
2	How does project-based learning (PjBL) in the theme of morality in animals improve Literacy skills in group B children at Mawar Kindergarten Cianjur.	The steps for implementing project-based learning to develop environmental care characters are: 1. Determining essential questions 2. Designing project planning 3. Preparing a project implementation schedule 4. Monitoring children and project progress 5. Assessment of the project process and results 6. Evaluation of the project process and results	Teacher, Child	Observation
3	What Literacy skills have improved in group B children at Mawar Kindergarten, on the theme of morality in animals through project based learning (PjBL)?	Literacy that develops using project-based learning. 1. Understanding Language 2. Expressing Language 3. Literacy	Children	Observation

Furthermore, in table 2 below, it is presented in detail and in detail regarding the teacher observation guidelines related to the stages of implementing learning activities with project-based learning which are specifically designed to assess various aspects of teachers during the implementation of project-based learning, namely in the form of a checklist as follows:

Table 2 Teacher Observation Guidelines Stages of Implementation of Learning Activities with Project-based Learning

Source: The George Lucas Educational Foundation (Nurohman, 2015)

No	Activity	Observed Aspects	Orientation		Observation description results
			Yes	No	
1	Determination of essential questions	The teacher's ability to start learning with essential questions, namely trigger questions that assign children to explore.			
2	Designing project plans	Teachers and children collaboratively design a project plan containing game rules, selection of activities to answer essential questions and determining the tools and materials that can be accessed to complete the project.			
3	Preparation of project implementation schedule	Teachers and children collaboratively prepare a schedule of activities to be carried out in completing the project.			
4	Monitoring children and project progress	Teachers monitor children's activities starting from planning, process and completion of projects, monitor project progress, and guide children if they experience difficulties.			
5	Assessment of project processes and outcomes	Teachers assess children's achievements, evaluate children's progress, provide feedback on the level of understanding that children have achieved, and teachers develop strategies for subsequent learning.			
6	Project evaluation and project results	Teachers and children reflect on the activities and results of the projects that have been carried out.			
		Teachers and children reflect on the activities and results of the projects that have been carried out.			
		Teachers and children develop discussions in order to improve performance during the learning process.			

OBJECTIVE

Overall, this research aims to explore and analyze the application of project based learning (PjBL) in the theme of morality in animals to develop literacy skills in PAUD, in detail the objectives of this research are:

1. To determine the objective condition of literacy skills in group B children at Mawar Cianjur Kindergarten
2. To determine the application of project based learning (PjBL) in the theme of morality in animals in group B at Mawar Kindergarten

3. To determine the literacy skills that develop in group B children at Mawar Kindergarten on the theme of morality in animals through project based learning (PjBL).

FINDINGS

The following research results present research findings from data that have been collected and analyzed based on facts from observations and interviews about Literacy skills in Teaching and Learning Activities through the implementation of project based learning at Mawar Cianjur Kindergarten. Where the presentation and discussion in the following research.

1. Objective Conditions of Literacy Skills in Group B Children at Mawar Cianjur Kindergarten

In the initial stage, researchers conducted research to obtain a complete picture of literacy skills in group B children at Mawar Cianjur Kindergarten. However, based on the results of observations and initial interviews with 2 group B teachers as class teachers, namely Mrs. R and Mrs. P, it turned out that literacy skills at Mawar Cianjur Kindergarten were not optimal, although so far both Mrs. R and Mrs. P have tried to stimulate literacy skills for group B children at Mawar Kindergarten have been carried out through daily habits and learning activities through worksheets, so that implementation of other learning methods and solutions is needed. The results of the interviews conducted with 2 class teachers of group B are as follows:

> *"When the teaching and learning activities began, it seemed that some students were still confused about working on the worksheet, namely the activity of matching pictures with words. Then the teacher provided assistance by asking the child to draw a line, it seemed that the students were still confused. and the teacher gave an example of the line drawing activity. There were some children who only colored the pictures in the worksheet and there were also some who were still not right when matching pictures with words. "* (Interview with group B teacher, September 2, 2024).

Based on the results of the interview, the researcher concluded that children's literacy skills were still low. From the results of the interview, the teacher stated that children were confused when learning literacy using worksheet, namely the activity of drawing lines between pictures and words and must be given support, to strengthen the results of the interview, the researcher conducted direct observations when learning activities in group B took place. Based on the results of direct observations, it was still seen that the literacy skills of group B children had not developed optimally. The teacher only occasionally reminded them and when the activity was carried out, the teacher gave examples and helped complete the drawing activity. The next interview was conducted with Mrs. P.

> *"When the theme of morality is on animals, the teacher facilitates the children to make a string of animal names, the children seem confused when arranging the letters into animal names in their strings. When the teacher asks the children to arrange the letters according to the names of the animals, they still seem confused. Then the teacher helps them to arrange them first on the table before stringing them".* (Group interview with Mrs. P on September 6, 2024).

From the information presented above, it is evident that literacy skills are still low, because teachers have limitations in arranging the environment to apply learning methods. For this reason, the right strategy is needed so that literacy skills in children develop optimally. This is in line with what was expressed by (Susanto, 2021) that Understanding the characteristics of early childhood thinking shows the need to apply an integrated learning approach. This aims to facilitate the development of children's thinking and creativity optimally, and in learning before being given worksheets (LKPD), children are not optimally facilitated in cognitive development, especially literacy, as expressed by Piaget, (Yusuf, 2007) that early childhood is in the pre-operational period, so it needs to be emphasized that children's

learning is not yet fully able to master mental operations logically which is only given by activities using Student Worksheets (LKPD).

2. Implementation of Project Based Learning to Improve Literacy Skills in TK Mawar Cianjur

Based on the results of observations and agreements, researchers together with class teachers of group B agreed that in one cycle they would carry out three actions by fully implementing project based learning in learning activities. If in one cycle it is still declared unsuccessful, then the next cycle will be carried out again, namely the second cycle and so on until finally Literacy in PAUD increases from before. The process of implementing project-based learning in the following research begins with the creation of learning. Then continued through the implementation of learning as well as observation and reflection on each activity. The implementation of project-based learning in the following research involves a number of steps based on the theory presented in the publication of Katz (1994) that projects can be planned and implemented in three sequential projection phases, including the following:

Phase 1: Start Project
In the following phase, the class teacher together with children in group B at TK Mawar Cianjur discussed choosing a topic to be studied in depth and based on the agreement, the topic raised was animal morals. Next, the sub-topics that will be used in the project activities are discussed again, there are three sub-topics that will be used as project learning topics, namely pets, livestock, and insects. In this stage, group B children at Mawar Cianjur Kindergarten together with the class teacher create a concept map related to the chosen topic.

Phase 2: Developing Projects
In the project development phase, the class teacher invites and facilitates group B children at Mawar Cianjur Kindergarten to carry out learning activities according to the concept map that has been mapped into a program or teaching module designed as a reference in developing learning activities related to increasing literacy. The teacher is tasked with facilitating assistance to help children find real problems according to the stages of children's understanding of knowledge in completing their projects. The teacher is also tasked with facilitating tools and materials with various loose parts that children may need in playing their projects.

The teacher creates learning objectives that are adjusted to the learning topic of the day, then compiles a learning scenario with a choice of various project challenges as ideas to spark children to work. In this phase, the teacher introduces the topic through a story book made by the teacher according to the agreed sub-topic, namely animal morals, then from what the child hears, sees and touches, the teacher asks what is interesting to the child and allows the child to make a project from the challenge he chooses using the basic Literacy Concept, At the beginning, the child's project planning will start from determining what ideas or play ideas can possibly be done (Probability), Children will also estimate the amount of tools and materials needed (probability), classify materials that have the shape according to what is needed, when carrying out learning activities, children will choose play activities according to their interests, which have been provided by the teacher, such as let's show the body parts of a bee, there the child will imitate the writing of the bee parts, then they will look for words according to the picture on the body parts of the bee, and in the next activity the trigger word is how do you make a label for the name of your homemade honey?, Children's learning activities are children making word labels for honey that will be sold, there they will play the role of a trader.

According to (Kemendikbudristek, 2024) regarding learning achievements in PAUD in the Merdeka Curriculum, the basic elements of Literacy are that children recognize and understand various information, communicate feelings and thoughts verbally and in writing or using various media and build conversations, children show interest, hobbies and participate in pre-reading and pre-writing activities.

Phase 3: Completing the Project
In this phase, children in group B at Mawar Cianjur Kindergarten together with the class teacher carry out reflection and assessment on the project activities that have been carried out, and invite children to analyze the results of their projects by presenting their work using language such as how their ideas are carried out through the process of comparing the selected problem with the project that was made, how many tools and materials have been used and children are invited to convey the reasons chosen for the need for tools and materials so as to produce new findings or works, children are also invited to mention groups of images that have the same sound, Communicate verbally, so that children have vocabulary, and recognize symbols to prepare for reading, writing and arithmetic.

3. Literacy skills that develop in children in group B at Mawar Kindergarten on the theme of morality in animals through project based learning (PjBL).

The literacy skills of early childhood children are very limited before being given learning through Project Based Learning. Children are given literacy reinforcement one by one according to the indicators in literacy by using worksheet which limits children to be creative and do play activities according to their interests and talents. Where this is not in accordance with the outline of the characteristics of early childhood thinking as conveyed by (Bredekamp & Copple, 1997). Understanding the characteristics of early childhood thinking shows the need to apply an integrated learning approach. This aims to facilitate the development of children's thinking and creativity optimally, (Susanto, 2021).

In project-based play learning (Project Based Learning), children are involved in choosing themes or learning topics that suit their interests, both individually and in groups. They have the opportunity to choose topics that interest them and want to learn more about, both individually and in groups. John Dewey also said that the learning by doing learning model means that the learning process is obtained through activities or activities carried out independently by children according to the stages and systems that children understand with various forms of attitudes and skills (Moeslichatoen, 2004). The knowledge insights gained by building themselves through various stages will remain longer in children's memories (Wena, 2011), (Wena, 2011b). By adopting project-based learning, a learning process occurs that involves inquiry. Through Project Based Learning (PjBL), children will independently formulate their discoveries with full confidence.

When teachers provide literacy support to each child, it looks different, really following the interests, needs and flow of their play projects. It is also seen that children get the widest possible opportunity to try various things with all their senses and body movements to conquer the world using more literacy indicators that are directly and tangibly supported to understand what, why, where, when and how with their play activities. In addition to when making their projects, children also seem to train their large muscle functions when doing and completing their work and stimulating the ability to be maximally stimulated in the development of receiving language, and children's pre-literacy to find new experiences related to literacy in various ways and forms of their work and communication, (Dewi et al., 2018). Children are also stimulated in the ability to be maximally stimulated in the development of receiving language, and children's pre-literacy to find new experiences. (Febriana & Iswantiningtyas, 2022).

DISCUSSION

Initially, literacy skills were still low because teachers had limitations in arranging the environment to apply learning methods. Based on the results of observations and agreements, researchers together with class teachers in group B agreed that in one cycle they would carry out three actions by fully implementing project-based learning in learning activities.

Project-based learning, teachers invite children to find new knowledge when they are given new experiences related to literacy indicators that gradually increase as material for children to explore. Children will associate their knowledge to then change their attitudes, knowledge and skills to be better. Vygotsky is famous for social constructivism that children will be influenced by the environment, both peers, adults at home, school and the environment to continue to develop, which is usually called scaffolding theory and ZPD. Vygotsky in Berk and Winsler (1995) there is a difference between actual development which is shown through how children solve challenges independently and with the guidance of older or more knowledgeable people.

The project-based learning cycle or project-based learning steps integrate literacy as an effort to achieve maximum achievement as follows:

a) Start With The Essential Question

Learning begins with essential questions, namely questions that can assign students to do an activity. The assignment topic is in accordance with the real world that is relevant to students and begins with an in-depth investigation. During the learning activity, it is seen that the teacher tries to create various play activities that provide children with the breadth to integrate children's literacy skills such as: 1) Come on, show the body parts of the bee. 2) How do you make a label for the name of your homemade honey? 3) The beauty of my homemade insect animal writing. 4) The unique shape of my homemade beehive.

b) Design A Plan For The Project

Planning is done collaboratively between teachers and students. Thus, students are expected to feel "ownership" of the project. Planning contains rules of the game, selection of activities that can support in answering essential questions, by integrating various subjects that may be an effort in knowing the tools and materials that can be accessed to help complete the project. Children are given the opportunity to choose play activities, tools and materials in completing the project according to their ideas and concepts first in the form of sketches or drawings to answer the play challenges they choose from the challenges provided by the teacher. Some children with limited drawing skills when asked can convey in detail the meaning of the picture they made, both from the plan for using materials, tools and how to do it.

c) Create Schedule

Students with teacher support identify the time needed to play their project, so that they can create a schedule of activities in completing the project. Activities at this stage are carried out to ensure that their work will be completed according to the core activity hours, which are 90 minutes, then will present alternately in the closing 30 minutes. And the teacher will help provide support when they still have difficulty finding solutions in the form of provocative questions.

d) Monitoring Students and Project Progress.

The teacher has the responsibility to supervise student activities during the project completion process. Supervision is carried out by providing guidance to students at each stage of their project implementation. The role of the teacher is as a mentor in accommodating student activities. To facilitate the supervision process, a rubric is prepared that records all important activities in the assessment plan in the teaching module.

It appears that several children made it using different tools and materials, besides that the method is also different. Some children have immediately found a way to arrange the blocks if they are arranged

upwards to make them sturdy, some children try several times before they can find a way. Among them, it seems that they are testing the sturdiness of the arrangement of blocks arranged based on the surface area of the blocks. Likewise, when making a water installation, children are seen trying to find a way to connect two straws with the same surface area. They try to find a way to treat one surface of the straw so that its surface can be smaller. In making the marketing office fence pattern, children can be seen expressing themselves in various forms, some using color patterns, sizes or shapes that they work on together on different sides. In making a unique nameplate shape, children try to combine several geometric shapes into a new unique shape.

e) Assessing the Outcome

The assessment aims to support teachers in measuring standard achievement, acting as a tool for evaluating individual student progress, providing feedback on the level of understanding that students have achieved, and helping teachers in designing the next learning strategy. When playing and presenting, children are also invited to assess their work, whether they are satisfied or there is still something that needs to be improved. With the rubric that is made, it is easier for teachers to make assessments both in checklists and in analyzing their series of photos.

f) Assessing the Experience

After the learning process is complete, teachers and students evaluate the activities and results of the project that has been carried out, how numeracy literacy can help them find solutions more effectively and efficiently. Reflection is carried out individually or in groups after the learning process. At this stage, students are asked to convey their feelings and experiences during the completion of the project. Teachers and students discuss to improve performance during learning, with the hope of finding new findings that can answer the problems raised in the early stages of learning. When children feel that numeracy literacy is very much needed in everyday life, the motivation to learn it will grow and because it is done from the perspective of each child's understanding, numeracy literacy feels fun, especially when learning is designed in activities that are really playing.

And I argue that from this study it can be concluded that Project Based Learning (PjBL) can encourage active involvement in learning through project activities, children can be actively involved in learning experiences. Project Based Learning (PjBL) provides opportunities for early childhood to teach basic literacy skills, such as recognizing letters, words, and sentences, and to foster interest in reading and writing in children. By creating projects related to their lives, children can more easily understand the importance of literacy in real contexts, motivating them to learn. Through Project Based Learning (PjBL), children learn to work together in groups and communicate effectively. Involvement in projects develops social skills and the ability to share ideas, which also contributes to the development of Literacy.

Thus, Project Based Learning (PjBL) provides an effective learning approach in developing early childhood literacy skills through active involvement, contextual relevance, collaboration, development of problem-solving skills, motivation, and holistic assessment.

CONCLUSION

The integration of project-based learning in PAUD has shown positive results in improving early childhood literacy. Through this approach, children are invited to actively explore real-world problems and challenges, which not only improve their knowledge but also literacy skills. Project-based learning allows children to engage in a variety of in-depth and contextual activities, which help them develop reading, writing, and critical thinking skills.

The Pancasila student profile strengthening project implemented in project-based learning also plays an important role in shaping children's character according to the dimensions of the Pancasila student profile. By using assessment data during the project, educators can create a description of achievements that show the development of children's literacy and character. Initial reflection on the readiness of educational units in implementing project-based learning is also important to ensure the success of this program.

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THE EFFECT OF THE IMPLEMENTATION OF HTML 5-BASED MOBILE LEARNING ON STUDENTS' LEARNING OUTCOMES IN ICT SUBJECTS ON BLOG CREATION MATERIALS

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ABSTRACT

The advancement of information and communication technology is increasingly unstoppable, so various aspects of human activities have been shifted to the digital world, especially after experiencing the COVID-19 pandemic. This technological advancement can have a positive impact if utilized regularly and optimally, but technological advancement can also have a negative impact if misused or even not utilized properly and correctly. With this technological advancement, the world of education must also be technologically literate, such as collecting assignments sent via electronic messages or email and creating assignments by writing on each blog so that the completed assignments do not become just fried food wrappers, but can be read by many people and make our writing can provide many benefits to others. One of the fields or programs that can facilitate the utilization of digitalization is HTML 5-based Mobile Learning, the implementation of which can affect student learning outcomes in ICT subjects on blog creation material. This study uses a quantitative research method. The type of research is true experiment research or pure experiment. This study does not use a comparison class but has used an initial test so that the magnitude of the effect or influence of the treatment can be known with certainty. The results of this study show that the application of HTML 5-based Mobile Learning has a significant effect on the ability to create e-mails in ICT subjects on blog creation material. The application of HTML 5-based Mobile Learning has a significant effect on learning outcomes in ICT subjects on blog creation material.

Keywords: *Mobile Learning, HTML 5, Learning outcomes, ICT lessons.*

INTRODUCTION

The development of Android-based smartphone technology has also had a little influence on the development of today's education world. This gives a signal that our education world must be aware of the development of cellphone technology in influencing student behavior in acting. (Chusna, 2021); (Chusna, 2017), Therefore, the world of education must prepare various strategies to face these developments and anticipate the negative effects of current mobile phone technology. So the existence of this android-based smartphone technology provides positive value for the student learning process..

The increasing use of smartphones has an effect on the development of the world of education which is online and computer-based. This study is widely discussed in Darmawan, D. (2013) about Learning Technology. The learning process can be disrupted by the large number of students who have and use smartphones during learning. Therefore, teacher skills are needed to be able to utilize the development of this android technology into a technology that supports the learning process. The existence of Android-based mobile phone technology is no longer a challenge but can be an opportunity to be utilized in supporting the learning process that has been carried out so far. So this opportunity requires learning innovation, as explained in Darmawan, D. (2014), namely the need to carry out Educational Innovation: Practical Approach to Multimedia Technology and Online Learning.

It should be, the presence of Android-based smartphones that are increasingly widespread can be utilized by teachers to support the learning process to encourage students to be more independent in their learning. The use of Android-based smartphones by students is no longer something that must be avoided but how with the help of this technology students' learning activities can be improved to be more positive (Swart et al., 2019).

If we examine more deeply the development of smartphone technology can provide opportunities for students to build their learning independence so that it can have a positive impact on the achievement of the learning outcomes they follow. The increasing popularity of smartphone technology, (Cubukcu et al., 2020; Darmawan et al., 2016; Hussain et al., 2020) owned by students provides an illustration that currently all elements need to realize that cellphone or smartphone technology can no longer be separated from the lives of students in particular, therefore the existence of cellphone or smartphone technology needs to be utilized to support student learning independence and learning outcomes in the future.(Ahmad, Rivai dan Sujana, 2020; Vlachou & Drigas, 2017; Wohllebe et al., 2020)

Based on field observations, in the environment of SMA Sirojul Huda Sukawening Garut, almost 100% of students have mobile phones that have applications and internet facilities as well as audio, and video, on average parents buy them smartphones because of trends and for communication only, because smartphones are easily available and currently the price is also affordable for anyone. Therefore, the role of schools through teachers needs to be an effort to help utilize the facilities owned by students in encouraging independent learning to support their teaching and learning activities. Teachers' attention is very much needed in supporting the independence of their students' learning by utilizing facilities such as smartphones not only for prestige but also how they utilize the smartphone for their students' learning activities. The reality that occurs in the environment of SMA Sirojul Huda Sukawening Garut, students still use smartphones not to help with their learning activities, learning is still conventional which relies solely on books and teacher sources, and many teachers have not been able to utilize the use of their students' smartphones to support their teaching and learning activities, so that it seems as if Android smartphones only have a negative impact, while the positive impact is only for communication.

Observing the above reality, one of the learning strategies used by teachers is to use the Mobile Learning model by utilizing Android-based smartphones. This refers to a study from (Cubukcu et al., 2020; Darmawan et al., 2016; Vlachou & Drigas, 2017), regarding Mobile Learning: An Application of Learning Technology. With this model, students will be taught how to utilize technology from their smartphones to study the material that has been prepared by the teacher, so that in addition to being used for learning, it can also educate students to be more independent in studying the material that will be delivered. This is in line with the opinion (Darmawan & Indonesia, 2019) which states that the basis for the emergence of mobile learning, is that mobile devices can be used as learning media. As is known, media is a supporter in supporting and optimizing the learning process as a whole (Rahadi, 2008:6), with the presence of a mobile learning approach when utilized or used in a learning process, will provide a significant effect or influence, which will later result in a phenomenon of an effective, efficient, innovative, communicative, creative, integrated, integrated, and enjoyable learning process. So in education, there will be a learning process that was previously centered on teachers and becomes centered on students, meaning that teachers as controllers, controllers, and evaluators, while the learning process is centered on students in other words students will be more active, critical, independent, and responsible. This will give students more time to study by using and utilizing the role of mobile learning. (Hernawan, 2017).

This condition makes the product of learning technology or Mobile Learning programs able to overcome students' learning difficulties related to material or theory in learning, this is because learning with the Mobile Learning approach is learning that can encourage optimal student development, which in turn can develop the abilities of each student, and as a way to increase cognitive knowledge.

Thus, the use and utilization of Android-based smartphones that they have will have a positive impact on the development of student learning. The role of schools through teachers in making students aware and directing them to use technology wisely is very necessary today because the existence of technology that is used by students properly will have a positive impact on the development of their learning. The purpose of this study was to determine the effect of the application of HTML 5-based Mobile Learning on the ability to create e-mail and blog accounts in ICT subjects on blog creation material.

LITERATURE REVIEW

1. Learning Media

Learning media can be developed on mobile devices that are easy to carry anywhere, such as smartphones and tablets. (Squire., 2009). In addition, students can also easily interpret data, improve understanding, condense information, present data, and raise students' motivation and interest in learning so that students not only listen to explanations from teachers but through learning media, students can also make more observations and demonstrations. (Ahmad, Rivai dan Sujana, 2020).

The development of media in the form of mobile learning can meet the criteria for learning objectives and content, suitability to student characteristics, efficiency of learning time, and ease of use by students. The characteristics of using smartphones as learning media or called mobile learning because they are considered to have a very high level of flexibility. (Wirawan., 2018)

As a complement to existing learning, mobile learning allows its users to access materials, directions, and information related to learning anytime and anywhere. Mobile learning is one alternative for developing learning media that can be used as a learning supplement so that it can train students to learn independently. (Arief, 2014).

Several researchers have researched the use and utilization of mobile devices in learning, namely: (Kattayat, Josey, & J.V, 2017) which discusses the application of Mobile Learning as a medium of learning. Next, it discusses the development of Android-based Mobile Learning learning media in science subjects for junior high school students.,(Cubukcu et al., 2020; Darmawan et al., 2016; Kattayat, Josey, & Asha, 2017; Kattayat, Josey, & J.V, 2017; Sulisworo et al., 2016) who found that m-learning significantly supports student independence and learning outcomes in geography subjects, (Hapidz, Radif, 2019) which discusses the design and creation of mobile learning media for the subject of air conditioning systems and installations.

2. Mobile Learning

Mobile learning is a learning model that utilizes information and communication technology. In this learning concept, m-learning brings the benefits of the availability of teaching materials that can be accessed at any time and an interesting visualization of the material. It is important to note that not every teaching material is suitable for utilizing m-learning. Therefore, mobile learning can be defined as a facility or service that provides general electronic information to learners and educational content that helps achieve knowledge without considering location and time. The mobility of handheld/mobile devices, such as mobile phones and PDAs, provides a learning function that can be done anywhere and anytime (Rozhkov et al., 2020).

Some important capabilities that must be provided by m-learning learning devices are the ability to connect to other equipment, especially computers, the ability to present learning information, and the ability to realize bilateral communication between teachers and learners. M-learning is a unique learning because learners can access learning materials, instructions, and applications related to learning, anytime and anywhere. This will increase attention to learning materials, make learning pervasive, and encourage learner motivation for lifelong learning. In addition, compared to conventional learning, m-learning allows for more opportunities for direct collaboration and informal interaction between

learners.(Darmawan et al., 2019).

3. Learning Outcomes

According to (Purwanto., 2021), Learning outcomes can be explained by understanding the two words that form it, namely "results" and "learning". The definition of results refers to an achievement resulting from an activity or process that results in a functional change in input, while learning is carried out to try to change behavior in the individual who is learning. Learning outcomes also according to Winkel (Purwanto., 2021) is a change that causes humans to change their attitudes and behavior. Learning outcomes are often used as a measure to determine how far someone has mastered the material that has been taught. Learning outcomes can be measured to reflect teaching objectives. Thus, learning outcomes can be interpreted as changes in student behavior due to learning. These behavioral changes are caused by students' mastery of several materials given in the teaching and learning process. Achievement is based on the teaching objectives that have been set. These results can be in the form of changes in cognitive, affective, and psychomotor aspects.

Learning outcomes are changes in abilities resulting from learning experiences designed by teachers so that students can learn. According to (Sudjana, 2018)" learning outcomes are the abilities that students have after students receive their learning experiences. There are several opinions that learning events are divided into three points of view, namely (a) seeing learning as a process, (b) seeing learning as a result, and (c) seeing learning as a function. These three ways of looking at it are necessary for teachers because the teacher's job is to foster, guide, and direct students' learning activities, to obtain previously designed results.

4. ICT lessons

Entering the 21st century, the field of information and communication technology is developing rapidly, triggered by discoveries in the field of microelectronic material engineering. This development has a major impact on various aspects of life, even human behavior and activities now depend heavily on information and communication technology. The subject of Information and Communication Technology is intended to prepare students to be able to anticipate this rapid development. This subject needs to be introduced, practiced, and mastered by students as early as possible so that they have the provisions to adapt to global life which is marked by very rapid changes. To face these changes, the ability and willingness to learn throughout life are needed quickly and intelligently. The results of information and communication technology have helped humans to learn quickly. The speed of learning can be measured from the aspects of analysis and synthesis, as explained by Darmawan, D., Ruyadi, Y., Abdu, W.J., Hufad, A., (2017) which explains about, *Efforts to Know the Rate at which Students Analyze and Synthesize Information in Science and Social Science Disciplines*. Thus, in addition to being part of everyday life, information and communication technology (ICT) can be utilized to revitalize the learning process which can ultimately adapt students to the environment and the world of work. In this study of ICT, researchers refer to Darmawan, D. (2012), regarding Information and Communication Technology Education.

The subject of Information and Communication Technology is taught as one of the Skill subjects whose implementation can be done separately or together with other skill subjects. As in e-learning as explained by Darmawan, D. (2014), about the steps of E-Learning Development Theory and Design. The overall learning time allocation for junior high school/Islamic junior high school level is 72 teaching hours for 3 years, or equivalent to 2 teaching hours per week for 1 year if this subject is studied separately and independently.

RESEARCH METHODOLOGY

1. Research Model

This type of research is true experimental research or pure experiment, referring to (Darmawan, 2019), in his book entitled Quantitative Research Methods. This research does not use a comparison class but has used an initial test so that the magnitude of the effect or influence of the treatment can be known with certainty. According to (Darmawan, 2019) This study includes a single group pattern, its application shows that researchers can compare the achievement of learning outcomes before being given treatment in any form that is studied with the achievement of learning outcomes after being given treatment. In other words, the term is comparing the results of the pretest with the results of the posttest.

2. Research subject

The subjects in this research were class XI SMA Sirojul Huda Sukawening Garut, 1 class with a total of 43 students.

3. Collecting and Analysis data

Data collection techniques are the methods used by researchers to develop and assess the feasibility of this interactive multimedia. The technique used by researchers is the questionnaire method. According to (Darmawan, 2019), A questionnaire is a data collection technique that is carried out by giving a set of written questions or statements to respondents to answer. A questionnaire is an efficient data collection method if the researcher knows for sure the variables being measured and knows what is expected from the respondents. This technique is used to assess the feasibility of interactive multimedia according to validation from material experts, media experts, and students. The data analysis technique used is using normality testing with the Chi-Square test. The Chi-Square test is used on interval data, namely data in the form of groups.

Table 1: Helper Distributions for Data Normality Testing

Class Interval	Class Limits	Z - Class Limits	Wide Z-table	Ei	Fi	$\frac{(fi-Ei)^2}{Ei}$

1) Determine the calculated Chi-square value;

$$x^2 = \sum \frac{(fi-Ei)^2}{Ei}$$

2) Determine the Chi-square table: x^2-table = $x^2(\alpha)$ (k-3), with k = number of interval classes.
3) Test criteria: if x^2count< x^2table, then the data is normally distributed.

4. Research Data Collection and Analysis Techniques

Questionnaires or surveys are data collection techniques carried out by giving a set of written questions or statements to respondents to be answered. Thus, the questionnaire is intended as a list of questions to obtain data in the form of answers from respondents. The purpose of this questionnaire is to obtain information that is relevant to the research objectives and to obtain reliable and valid information. In this case, the researcher determined the use of a psychological scale questionnaire to find data on the development of HTML 5-based mobile learning in improving student learning outcomes in the material for making Blogs at Senior High School Sirojul Huda Sukawening Garut.

Table 2: Likert Scaling

No	Alternative Answers	Assessment Weight
1	Strongly agree (SS)	4
2	Agree (S)	3
3	Not agree (TS)	2
4	Very Not Agree (STS)	1

The questionnaire score in this study uses a measurement scale with an ordinal scale. The variable measurement index in this study is increased to data on an interval scale. This is done for data analysis with correlation analysis which requires a variable measurement level of at least interval. Data that meets the requirements will be used in the analysis process using the appropriate statistical method.

5. Hypothesis Testing

The normality test is used to determine whether the data population is normally distributed or not. This is important to know concerning the selection of statistical tests to be used, if the data is normally distributed then the next process uses parametric statistical calculations, conversely if the data is not normally distributed, then the calculation uses non-parametric statistics. In this study, the researcher used normality testing with the following steps:

1) Determine the average value and standard deviation;
2) Sort the data from the smallest to the largest;
3) Change discrete data (raw data) into interval data;
4) Create a data normality table with columns.

After obtaining data with a normal distribution, the next step in the hypothesis testing process is to conduct a regression analysis through the correlation process using SPSS version 21.

OBJECTIVES

The object of this research is the influence of the application of HTML 5-based Mobile Learning on the ability to create blogs in ICT subjects on blog creation material, as can be described below.

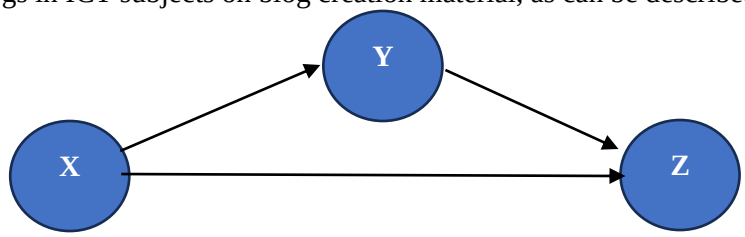

Figure 1. Relationship chart between the implementation of HTML 5-based Mobile Learning and the ability to create blogs

Information: X: Mobile Learning
` Y: HTML5
Z: Development Blog Competences

Before obtaining student responses to the implementation of HTML 5-based Mobile Learning in creating blogs obtained from respondents' answers in the distributed questionnaire, a score was first given for each questionnaire item from 1 to 20. To interpret the average score of student responses, the following interpretation guidelines were created.:

Maximum Score = 5 x number of questionnaire items = 5 x 20 = 100
Minimum Score = 1 x number of questionnaire items = 1 x 20 = 20
Range = Maximum score – Minimum score = 100 – 20 = 80
Interval length = range/number of classes = 80/5 = 16

Table 3: Student Response Interpretation Withdrawal Guidelines

No	Score Range	Quality
1	20 – 36,0	Not very agree
2	36,1 – 52,1	Not Agree
3	52,2 – 68,2	Enough
4	68,3 – 84,3	Agree
5	84,4 – 100	Very agree

After distributing the questionnaire, the total score of the level of student responses to the implementation of HTML 5-based Mobile Learning can be determined. This finding supports the learning communication process which must also be carried out on mobile, as explained by Darmawan, D., Suryadi, E, and Wahyudin, D. (2019) in his research on Smart Digital for Mobile Communication. The average student response to the implementation of HTML 5-based Mobile Learning was 75.21, including the agreed criteria, when they had to create an email. To determine the effect of the implementation of HTML 5-based Mobile Learning on the ability to create e-mails after students use Mobile Learning, first the table below shows the data on students' e-mail creation abilities after using Mobile Learning. The evaluation technique is carried out in an integrated manner in the mobile learning system with the principle of Computer Based Test, as explained in Darmawan, D., Harahap, E. (2016), namely regarding Communication Strategy For Enhancing Quality of Graduates Nonformal Education Through Computer Based Test (CBT). The results of the assessment of the Implementation of HTML 5-based Mobile Learning have a significant effect on the ability to create e-mails in ICT subjects on the material for creating blogs.

a. Relationship between HTML 5-based Mobile Learning Creation Capabilities and Blog Creation

Before calculating the influence, several prerequisite tests were first carried out, namely the normality test. After the prerequisite test was carried out, a correlation test was then carried out to determine the effect of using HTML 5-based Mobile Learning on the ability to create a Blog, the results of which can be seen in the table below.

Table 4: Result of Correlation Analysis

Correlations			
		Response	E-mail
Response	Pearson Correlation	1	.866**
	Sig. (2-tailed)		.000
	N	43	43
Email	Pearson Correlation	.866**	1
	Sig. (2-tailed)	.000	
	N	43	43

**. Correlation is significant at the 0.01 level (2-tailed).

Testing criteria:

JIf t count > t table means the correlation coefficient is significant, or

If t count ≤ t table means the correlation coefficient is not significant

From the table above, the r-count value = 0.866**, which means that the magnitude of the correlation between the two variables is 0.866. While the Sig. (2-tailed) value is 0.000 which is significantly smaller than the critical value $\alpha = 0.05$, meaning that there is a significant relationship between the two variables. In other words, the Implementation of HTML 5-based Mobile Learning is significantly correlated with the ability to create Blogs in ICT subjects (Ha as the proposed Hypothesis is accepted). This finding supports research from Darmawan, D., Kiyindou A., Pascal,

C., Setiawati, L., and Risda, D. (2021) regarding Applied Bio-Communication For Language Competence.

b. The influence of implementing HTML 5-based Mobile Learning on student competence in creating blogs in ICT subjects.

In correlation research according to experts, it will be related to influence research, meaning that when calculating the influence coefficient (regression), the researcher must also calculate the correlation coefficient to answer the research question about correlation, and so on. In this section, it has been calculated that the influence of the application of HTML 5-based Mobile Learning on student competence in creating blogs. The calculation results use the calculation output via SPSS version 21 as the following results.

Table 5: Correlation Analysis Results to find the Regression Coefficient

Correlations			
		Response	E-mail
Response	Pearson Correlation	1	.564**
	Sig. (2-tailed)		.000
	N	43	43
Email	Pearson Correlation	.564**	1
	Sig. (2-tailed)	.000	
	N	43	43
**. Correlation is significant at the 0.01 level (2-tailed).			

In other words, the proposed research hypothesis is that "The implementation of HTML 5-based Mobile Learning has a significant effect on the learning outcomes of creating blogs in ICT subjects on blog creation material (H_a is accepted)". This finding is marked by the magnitude of the correlation coefficient which is also a Regression coefficient, which is 0.564, with a significance level of 0.000 which is smaller than alpha 0.05.

FINDINGS

1. The effect of implementing HTML 5-based Mobile Learning on the ability to create blogs

After distributing the questionnaire on the implementation of HTML 5-based Mobile Learning in learning, the results of the research data obtained related to student responses, it appears that the average student response to the implementation of HTML 5-based Mobile Learning is 75.21, including the good criteria. This condition means that students respond positively to the implementation of HTML 5-based Mobile Learning. This finding follows the findings of (Deni Darmawan, Dinn Wahyudin, Dian Rahadian & Risda, 2022).

It is necessary to explain first what is meant by Mobile Learning (m-learning) is a learning approach that involves mobile devices such as mobile phones, PDAs, Laptops, and tablet PCs, where learners can access materials, directions, and applications related to lessons without being limited by space and time, wherever and whenever they are. In addition, mobile learning is part of electronic learning, so it is also part of distance learning (d-learning) as has been researched (Darmawan et al., 2018).

The results of the research and data analysis show that the implementation of HTML 5-based Mobile Learning in learning has a significant influence on the aspect of the ability to create HTML 5-based mobile learning.(Deni Darmawan, Dinn Wahyudin, Dian Rahadian & Risda, 2022). The management of online electronic learning refers to research results from (Darmawan et al., 2018). Development of Web-Based Electronic Learning System (WELS) in Improving the Effectiveness of the Study. As is known, the aspect of the ability to create HTML 5-based mobile learning (Deni Darmawan, Dinn

Wahyudin, Dian Rahadian, Andri Suryadi, 2022), is an aspect of student practice that includes the psychomotor domain. Practice as a form of learning activity is also part of a series of learning processes. Assessment of practice does not only cover the affective aspect but also emphasizes the cognitive and psychomotor aspects. (Darmawan, 2014). One of the important aspects of assessment in practice is the psychomotor aspect (skills) because it is closely related to skills. According to Firman (1995), psychomotor abilities can be developed through practice (de Jong et al., 2019). According to (Decaprio, 2013), Practice has many benefits, including activities centered on developing process skills, motor skills, and the formation of scientific attitudes.

2. The effect of implementing HTML 5-based Mobile Learning on learning outcomes in creating blogs in ICT subjects on blog creation material.

Psychomotor learning outcomes appear in the form of skills and individual acting abilities. Skinner (1998) stated that psychomotor learning outcomes appear in the form of individual skills and acting abilities. Psychomotor learning outcomes are a continuation of cognitive and affective learning outcomes, which will appear after students demonstrate certain behaviors or actions following the meaning contained in both domains in students' daily lives. This finding supports research from (Kivunja, 2015).

The success of cognitive domain development will also have a positive impact on the development of students' psychomotor domains. Psychomotor skills are all physical actions that are concrete and easy to observe both in quantity and quality, because of their open nature. However, in addition to psychomotor skills, they are inseparable from cognitive skills, they are also closely tied to affective skills caused by the structure of the lesson material as explained (Tsybulsky & Levin, 2019). So, students' psychomotor skills are a manifestation of insight, knowledge, awareness, and mental attitude. Thus, as humans, learning must be measured as in research. (Darmawan et al., 2017), Who has measured individual students using the bio-communication model approach for revolutionary human numerical competencies?

Based on the understanding of the psychomotor domain that has been put forward, the assessment of learning outcomes in the psychomotor domain is focused on motor skills. (Leekitchwatana et al., 2013). Based on these limitations, in this blog creation lesson (Leekitchwatana et al., 2013), Student competence in the psychomotor domain is assessed, among others, when students are practicing in the laboratory in particular and discussions in problem-solving. In learning activities, there is a close relationship between the objectives to be achieved, the learning methods and evaluations to be used. Therefore, there is a slight difference in the emphasis of psychomotor and cognitive learning objectives, so the learning strategies and approaches are slightly different. Learning that reveals psychomotor abilities will be effective if carried out using the principle of learning by doing. This finding is in line with a study from (Darmawan et al., 2016) about Biological Communication Through ICT Implementation: New Paradigm in Communication and Information Technology for Accelerated Learning. Thus learning will be faster using mobile Blogs.

From the results of the research and data analysis, it is known that the implementation of HTML 5-based Mobile Learning in learning has a significant effect on the aspect of the ability to load blog accounts. As is known, the aspect of the ability to create blog accounts is an aspect of student practice that is included in the psychomotor domain. The findings of this research are in line with the findings (Darmawan & Indonesia, 2019). Where the ability to create a blog is one of the competencies in the Industrial Era 4.0 (Mohiuddin et al., 2022). Thus, this finding is closely related to the competence of high school students in the field of ICT.

DISCUSSIONS

Through a simple research study on the analysis of several competencies from students in mastering ICT, especially in supporting the achievement of competencies in implementing and utilizing HTML 5-based Mobile Learning products, it can be proven at least when students can create a Blog. The ability to manage mobile learning through mastery of HTML 5 is one of the keys to success in utilizing several online applications that are the strength of the development and utilization of mobile learning systems to build Blogs. Of course, students' abilities in designing and developing systems aimed at managing learning content become easier, when they understand how to use mobile learning products developed based on HTML 5, then, students' memory when logging out and logging in must remember their competence in developing HTML 5-based mobile learning that they use.

In addition to the benefits of mastering the creation and implementation of specific HTML 5-based mobile learning, it turns out that the findings of this research are useful. When they develop their blogs containing assignments and learning materials that they receive during the learning process from their teachers. Thus, when students develop a blog, the ability to utilize open sources such as HTML 5 is very important. This skill, although it looks simple, whenever and learn anything in the world of ICT, it turns out that mastering the creation of mobile learning will be the key to their success.

From mastering HTML 5-based mobile learning, then making an easier and user-friendly application system, students are then able to develop other blogs according to their needs. This competency requirement is a standard for students to graduate from ICT subjects, so this is confirmed by the opinions of students who show a very significant correlation coefficient for their responses regarding mastery in developing HTML 5-based mobile learning, which is 0.866.

Furthermore, regarding the measurement results in the competency of implementing HTML5-based mobile learning that has been made by students, it turns out to be a supporting factor in creating professional blogs, in ICT learning. This finding is proof of the competency mastered by students in mastering mobile learning that is simple and fast using HTML 5. They become proficient in creating the blogs they want when they have mastered HTML 5, because, through the open-source HTML system, students will be more capable of achieving all of Bloom's Taxonomy (1998). Thus, from the testing process, in addition to the cognitive and affective aspects, also to the cognitive strategy ability to regulate the psychomotor of students, becomes better organized. Students are better able to demonstrate real competency in their success in ICT learning at the high school level.

CONCLUSION

Based on the results of the study on the effect of the application of HTML 5-based Mobile Learning on student learning outcomes in the ICT subject of blog creation material, it can be concluded that the variable of the application of HTML 5-based Mobile Learning has a significant effect on the variables of creating a blog. The application of HTML 5-based Mobile Learning significantly affects the ability to create blog accounts in the ICT subject of blog creation material. Concerning the research that has been carried out, the researcher recommends several suggestions as follows: (a) For schools, schools that have adequate and good facilities and infrastructure in the field of information and communication technology, the researcher recommends implementing learning media in the form of HTML 5-based Mobile Learning in teaching and learning activities in each subject; (b) For teachers, the researcher recommends compiling and developing HTML 5-based Mobile Learning to improve students' knowledge and skills and make the learning process more enjoyable. This is because HTML 5-based Mobile Learning helps teachers explain the material to students. Therefore, teachers are expected to be more creative and active in implementing learning which includes planning, making learning designs, and media used for evaluation so that it has positive implications for student learning; (c) For further research, the results of this study may be used as reference material for conducting further research.

Other researchers should develop research objects and research methods and deepen theories related to research variables. This aims to obtain better research results to improve the quality of learning assisted by Mobile Learning.

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INTERVENSI PADA ASPEK BAHASA BAGI ANAK DENGAN AUTISM SPECTRUM DISORDER (ASD) MELALUI PENERAPAN PROGRAM PEMBELAJARAN INDIVIDUAL DI PENDIDIKAN ANAK USIA DINI

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ABSTRAK

Anak dengan Autism Spectrum Disorder (ASD) di Pendidikan Anak Usia Dini banyak mengalami kesulitan dalam mengembangkan keterampilan berbahasa dan memahami apa yang orang lain ucapkan serta dalam mengenali emosi yang ada di lingkungannya sehingga memiliki perilaku yang berbeda dengan anak lainnya. Intervensi penting untuk dilakukan pada masa anak usia dini untuk membantu anak ASD dalam mengembangkan keterampilan bahasa yang akan membantunya untuk berkomunikasi. . Penelitian ini bertujuan untuk mengetahui intervensi pada aspek bahasa bagi anak ASD melalui penerapan program pembelajaran individual di sekolah. . Penelitian ini menggunakan metode studi kasus dengan subyek penelitian tiga anak dengan ASD beserta tiga orang guru kelas dan guru pendamping di sekolah. Pengumpulan data dilakukan melalui observasi dan wawancara dan data di analisa dengan ketekunan pengamatan, triangulasi dan uraian rinci. Hasil dari penelitian adalah intervensi dilakukan melalui langkah-langkah; asesmen kemampuan dan kesulitan anak ASD dalam aspek bahasa, menyusun program pembelajaran individual dan menerapkan dalam kegiatan pembelajaran di sekolah. Hasil dari penerapan program pembelajaran individual berupa peningkatan kemampuan dalam aspek bahasa yang meliputi aspek bahasa resptif dan ekspresif dan pemerolehan kata-kata dalam kategori gramatikal dan semantik

***Kata Kunci**: intervensi dini, autism spectrum disorder , kemampuan bahasa autisme, program pembelajaran individual.*

PENGENALAN

Pada masa usia dini, anak dengan Autism Spectrum Disorder (ASD) menghadapi banyak masalah perkembangan. Anak dengan gangguan spektrum Autisme mengalami kesulitan dalam mengembangkan keterampilan berbahasa dan memahami apa yang orang lain ucapkan. Anak-anak ini memiliki berbagai variasi tingkat kesulitan dalam berbicara dan berbahasa yang merupakan bagian dari gangguan komunikasi sosial yang menjadi ciri khas pada gangguan spektrum autisme (Prelock&Nelson., 2012). Gejala-gejala ASD biasanya terjadi sebelum anak berusia 3 tahun dan sebagian anak sudah menampakkan gejala sejak lahir. Gangguan Spektrum Autisme (ASD) merupakan gangguan perkembangan syaraf yang ditandai dengan defisit yang terus menerus dalam keterampilan komunikasi dan interaksi sosial dan pola perilaku yang terbatas dan berulang-ulang (APA, 2013)

Aspek komunikasi sosial yang diidentifikasi sebagai kesulitan atau defisit pada anak autis berupa komunikasi verbal dan non verbal. Komunikasi non verbal diantaranya meliputi kontak mata, bahasa tubuh, ekspresi wajah. Dan komunikasi verbal mencakup bentuk komunikasi yang menggunakan ujaran atau bicara. Komunikasi merupakan proses dimana individu bertukar informasi menyampaikan

pikiran dan perasaan. Ada pihak yang bertindak sebagai pengirim pesan dan ada yang bertindak selaku penerima pesan. Anak-anak dengan ASD mengalami kesulitan untuk menyampaikan pesan dan menerima pesan. Perkembangan bahasa berasal dari kebutuhan untuk berkomunikasi dengan orang lain, oleh karena itu pada Anak ASD kemampuan bahasa nya dipengaruhi oleh gangguan komunikasi yang dialaminya karena berdampak pada kurangnya minat untuk menjalin hubungan dengan orang lain dan minat pada suatu topik pembicaraan (Hage et.al, 2021).

Kemampuan komunikasi dan penggunaan bahasa pada anak dengan ASD juga bergantung pada perkembangan intelektual. Beberapa anak dengan ASD mungkin tidak mampu berkomunikasi melalui ucapan atau bahasa dan beberapa anak mungkin memiliki kemampuan berbicara yang sangat terbatas. Banyak yang mengalami kesulitan dengan makna dan irama kata dan kalimat. Anak-anak ini juga kesulitan dalam memahami bahasa tubuh dan makna suara yang berbeda. Secara keseluruhan , kesulita-kesulitan itu berdampak pada kemampuan anak ASD untuk berinteraksi dengan orang lain, terutama teman sebaya.

Di TK Islam Fathia terdapat tiga orang anak ASD. Ada anak yang tantrum dan tidak mau masuk kelas. Ada anak yang sudah bisa masuk ke kelas namun tidak mau di dekati dan belum bisa berkomunikasi dengan teman dan guru. Dan ada anak yang berkeliling-keliling terus di halaman sekolah dan melemparkan barang-barang yang ada di dekatnya. Dalam kegiatan pembelajaran, guru berupaya unutk melakukan pendampingan melalui berbagai cara. Hambatan utama yang teratami pada anak-anak ini adalah kesulitan untuk mengkomunikasikan apa yang diinginkan dan memahami situasi yang ada di sekelilingnya.

Proses komunikasi terjadi melalui bahasa. Perkembangan setiap anak dalam dalam memperoleh bahasa menggunakan pola yang berbeda antara anak yang satu dengan yang lainnya (Callen & Miller , 2021). Bahasa melibatkan lima sistem aturan yaitu fonologi, morfologi, sintaksis, semantik dan pragmatik. Perkembangan bahasa tersebut dapat dipelajari seorang individu di masa bayu, masa kanak-kanak awal, pertengan dan akhir, serta masa remaja (Hamidah et.al, 2021). Gangguan interaksi dan komunikasi pada anak ASD berperan dalam kesulitan anak autis dalam menggunakan bahasa pragmatik dan semantik sehingga kesulitan dalam menggunakan bahasa dalam konteks sosial (Lopez, 2015). Dalam aspek pragmatik kesulitannya meliputi menggunakan bahasa tubuh dengan tepat dan memahami pembicaraan dan dalam aspek semantik kesulitannya dalam memahami makna kata walaupun kosakatanya telah dikuasai apalagi memahami makna kata tersebut dalam kalimat yang kompleks.

Intervensi dini diperlukan oleh anak-anak berkebutuhan khusus pada tahap awal perkembangannya. Semakin dini anak diidentifikasi mengalami keterlambatan atau hambatan perkembangan dan mendapat intervensi, semakin besar manfaatnya dari program intervensi yang sesuai dengan kebutuhan anak. Berbagai studi juga menjelaskan pentingnya intervensi bagi anak ASD dilakukan di masa pra sekolah (Camarata, 2014). Namun guru-guru di sekolah tidak memiliki kompetensi khusus untuk menangani anak berkebutuhan khusus. Secara umum masalah bahasa yang menjadi dasar untuk berkomunikasi menjadi capaian pembelajaran yang akan diraih. Dalam upaya memberikan layanan pendidikan yang optimal bagi anak, maka guru kelas dan guru pendamping berupaya untuk menyusun program pembelajaran individual

KAJIAN LITERATUR

Autism dan Gangguan Bahasa

Autism Spectum Disorder adalah gangguan perkembangan syaraf dengan karakteristik gangguan kualitatif dalam interaksi dan komunikasi sosial serta adanya ganggau perilaku dan terbatas baik dalam minat maupun aktivitas (APA, 2022). Walau gangguan Bahasa tidak secara ekplisit dicantumkan dalam gangguan utama anak dengan ASD, namun banyak penelitian yang menunjukkan bahwa mereka

memiliki hambatan dalam bahasa reseptif maupun ekspresif (Kwok, dkk., 2015; Hudry, dkk 2010; Arutiunian, dkk. 2021).

Hambatan terbesar bagi anak dengan autism adalah hambatan dalam bahasa (fonologi, semantik dan sintaksis) dan perkembangan kognitif (Whalon & Hart, 2011). Penggunan bahsa pragmatic adalah hamabatan bahasa yang secara spesifik dimiliki anak dengan autism. Mereka kesulitan untuk menanggapi dan memahami percakapan orang lain, terutama jika ada bahasa yang tidak familiar, abstrak, atau bahasa kiasan (Charman & Stone, 2008). Merkeka tidak menggunakan bahasa untuk mengungkapkan pengalamannya terhadap orang lain serta tidak menggunakan bahasa untuk mendapatkan informasi dengan cara bertanya (Charman & Stone, 2008). Bahkan sekitar 50% anak dengan autism tidak berkembang kemampuan bahasa verbalnya (Whitman, 2000; Charman & Stone, 2008).

Intervensi dini bagi Anak ASD

Manfaat dari intervensi dini bagi anak berkebutuhan khsuus telah dibahas oleh berbagai penelitian yang melakukannya pada bayi dan anak-anak (Algra, et al, 2016). Intervensi dini dimaknai sebagai serangkaian upaya yang dimulai dari proses identifikasi, langkah untuk mengurangi atau meminimalisir dampak yang lebih parah dari gangguan yang dialami dan meningkatkan potensi perkembangan yang lebih baik pada anak-anak yang mengalami hambatan perkembangan (Bird,et.al, 2018). Hambatan interaksi dan komunikasi sosial yang dialami anak ASD dapat berdampak pada berbagai aspek kehidupan di masa yang akan datang dan berlangsung terus menerus sepanjang hidupnya bila upaya intervensi tidak dilakukan. Oleh karena intervensi anak ASD yang dilakukan secara dini pada masa anak-anak memiliki tingkat validitas tinggi dibandingkan yang diberikan di kemudian hari. Aspek yang terutama ditangani adalah pada bicara dan perkembangan bahasa (Camarata, 2014)

Autism dan Pendidikan inklusif

Inklusif adalah filosofi tengang bagaimana kita hidup dengan keberagaman. Dalam kontek Pendidikan, Pendidikan inklusif berfokus pada menciptakan lingkungan yang adil dan setara (Armstrong, 2007). Inklusif dianggap sebagai sebuah proses yang dinamis, di mana sekolah harus terus beradaptasi dan mengembangkan strategi untuk melayani siswa dengan berbagai kebutuhan (Florian, 2014). Banyak penelitian menujukkan bahwa inklusif telah membawa dampak perubahan dalam praktik pembelajaran, pernerimaan sosial dan penerimaan terhadap kebaragaman peserta didik (Mag, Sinfield, & Burns, 2017; Lindsay, 2003; Vinodrao, 2016). Saat ini pendidikan inklusif semakin berkembang, deiring dengan itu, saat ini banyak anak-anak dengan autism ikut bergabung dalam pendidikan umum (Chiang & Lin, 2007; Flores, dkk., 2013; Calberry 2014). Lynch dan Irvine (2009) menjelaskan bahwa pendidikan iklsuf penting bagi anak ASD, lingkungan inklusif memungkinkan anak-anak dengan ASD dapat berkembang secara sosial dan akademis bersama teman-teman sebaya mereka. Namun, pendidikan inklusif harus diimplementasikan dengan strategi yang terstruktur dan mendukung kebutuhan khusus anak dengan ASD.

IEP untuk Anak dengan ASD

Individualize Educational Program (IEP) adalah dokumen tertulis yang dirancang untuk memenuhi kebutuhan indivual anak disabiltas termasuk didialamnya anak dengan ASD (Kurth, & Mastergeorge, 2010). Guna menjamin IEP yang baik Ruble dkk (2010) menjelaskan bahwa setidaknya terdapat 5 dimensi utamya yaitu: 1) kejelasan tujuan, 2) relevasi tujuan 3) keberlajutan; 4) dukungan yang didasarkan pada data dan 5) kolaborasi tim. Autism merupakan sebuah spektrum maka, antara satu anak dengan anak anak lainnya dengan ASD sangat mungkin memiliki kondisi yang sangat berbeda sehingga memiliki kebutuhan yang berbeda. Mengingat hal tersebut makan Individualize educational Program (IEP) menjadi sangat penting bagi anak dengan ASD, dan IEP bagi anak denga ASD menjadi sangat beragam (Ruble, dkk. 2010)

Bahasa Pragmatik Dan Semantik Anak ASD

Secara umum kesulitan anak ASD dalam memiliki kemampuan bahasa pragmatik disebabkan anak tidak melihat ke arah orang yang berbicara, tidak melihat isyarat atau objek yang diinginkan oleh pembicara yang berakibat tidak terjadi proses mengkonfirmasi instruksi. Hal inilah yang berakibat pada kurangnya perolehan kosa kata pada masa kanak-kanak sehingga hambatan dalam bahasa pragrmatik ini berhubungan kemampuan semantiknya. Anak ASD mengenali kata namun kesulitan untuk menggunakannya sesuai makna (Lopez, 2015)

METODOLOGI

Penelitian ini menggunakan pendekatan kualitatif dengan metode penelitian studi kasus. Rancangan penelitian studi kasus bertujuan untuk mengungkap kekhasan atau keunikan karakteristik yang terdapat di dalam kasus yang diteliti. Kasus itu sendiri merupakan penyebab dilakukannya penelitian studi kasus oleh karena itu tujuan dan fokus utama dari penelitian studi kasus adalah pada kasus yang menjadi objek penelitian. (Syampadzi, 2017). Studi kasus memungkinkan peneliti memahami individu atau subyek penelitian lebih mendalam sehingga data yang dieproleh dapat digunakan untuk memberikan solusi atas permasalahan subyek penelitian.

Rancangan penelitian studi kasus dipilih oleh peneliti karena penelitian ini memiliki tujuan untuk memahami fenomena tentang apa yang di alami oleh subyek penelitian yang meliputi kemampuan aspek bahasa, perilaku, tindakan dan lain-lain pada suatu konteks khusus yang dialami oleh 3 anak dengan Autism Spectrum Disorder (ASD) dan 3 orang guru Pendidikan Anak Usia Dini yang menjadi subyek penelitian. Fokus analisis dalam penelitian ini adalah aspek bahasa dan sosial emosi.

Pemilihan subyek dalam penelitian ini dilakukan berdasarkan kriteria tertentu (purposive) yaitu dengan memilih individu-individu dengan kriteria berikut yaitu individu yang memiliki karakteristik gangguan spektrum Autisme yang diperkuat oleh diagnosis ahli dan merupakan siswa di TK Fathia, Kota Sukabumi, Indonesia. 3 anak laki-laki yang berusia 5,6 dan 7 tahun. Subyek penelitian lain adalah 3 orang guru yang terdiri dari dua orang guru kelas dan satu orang guru pendamping di sekolah tersebut.

OBJEKTIF KAJIAN

Secara umum, penelitian ini memiliki empat pertanyaan penelitian yaitu

1. Kemampuan dan hambatan pada aspek bahasa yang dialami oleh anak ASD
2. Intervensi yang dilakukan oleh guru kelas dan guru pendamping di pendidikan anak usia dini melalui penerapan program pembelajaran individual
3. Dampak dari intervensi yang telah dilakukan pada aspek bahasa anak dengan Autism Spectrum Disorder (ASD)

DAPATAN KAJIAN

TK Islam Fathia mengimplementasikan kurikulum merdeka dan melaksanakan pembelajaran berdiferensiasi. Dalam pembelajaran , sekolah berupaya memberikan layanan pendidikan yang dapat mengakomodasi kebutuhan semua peserta didik termasuk untuk anak dengan ASD dan anak-anak berkebutuhan khusus lainnya. Langkah awal yang dilakukan untuk merancang pembelajaran yang sesuai dengan kebutuhan belajar siswa yang beragam adalah dengan melakukan asesmen awal . Asesmen awal ini dilakukan pada semua siswa , namun bagi siswa yang telah diidentifikasi memiliki kebutuhan belajar yang khusus maka guru melaksanakan asesmen awal lebih lengkap untuk mendapatkan data mengenai kemampuan dan hambatan dalam perkembangan yang dialami oleh anak. Asesmen awal yang dilakukan oleh 3 orang guru mengacu pada instrumen asesmen perkembangan yang mencakup aspek : (1) motorik kasar, (2) motorik halus ; (3) kognitif ; (4) bahasa ; (5) sosial emosi dan (6) kemandirian. Instrumen untuk sub aspek bahasa meliputi : (1) mendengar dan membedakan bunyi

suatu bahasa; (2) mengekspresikan diri menggunakan kata dan kalimat yang lebih luas; (3) memahami dan dapat mengikuti instruksi verbal dan (4) menjawab pertanyaan.
Secara umum data awal yang diperoleh adalah :

1. Anak A : Mampu makan sendiri dengan variasi yang terbatas (snack kentang, teh kotak dan yakult), anak hanya mau berkeliling di area bermain (play ground), tidak mau masuk kelas. Anak memiliki kemampuan motorik kasar sesuai usianya namun memiliki kesulitan dalam motorik halus. Tidak mau menggunakan seragam, hanya mau memakai baju tidur dan belum dapat mengikuti instruksi.
2. Anak B : Awal pembelajaran anak dapat langsung beradaptasi dengan guru kelas guru pendamping khusus, namun belum dapat beradaptasi dengan teman-temannya, seperti tidak mau didekati dan tidak mau diajak berkomunikasi, anak belum bisa mengontrol gerakan tangannya meskipun tidak sedang tantrum, gerakan memukul ke orang yang ada didepannya bisa terjadi dengan refleks, makanan yang dimakannya hanya tertentu saja contoh suka makan buah mangga dan hampir satu bulan ini anak terus maunya makan buah itu, menyukai kegiatan yang berhubungan dengan air.
3. Anak C: Awal pembelajaran anak belum bisa beradaptasi dengan guru kelas, pembimbing khusus dan juga lingkungan, ananda sering tantrum ketika memasuki ruangan yang baru, setiap berada disekolah ananda selalu pakai masker, peralatan yang di kelas terutama alat tulis suka di lempar jika anak tidak suka, dan juga suka lari-lari dikelas sambil mencolek bagian kepala teman-teman, anak masih menggunakan diapers.

Berikut data mengenai kemampuan bahasanya:
Tabel 1.1 Hasil Asesmen

Aspek	Anak A	Anak B	Anak C
Mengidentifikasi /membedakan suara yang ada di lingkungan	Mampu	Belum Mampu	Mampu
Mengikuti nyanyian kata berulang dan lagu	Mampu	Belum Mampu	Belum Mampu
Menggunakan bahasa tubuh	Mampu	Mampu	Mampu
Menggunakan satu kata	Mampu	Mampu	Mampu
Menggunakan dua kata	Mampu	Belum Mampu	Belum Mampu
Mengikuti instruksi verbal disertai gestur	Mampu	Belum Mampu	Belum Mampu
Mengikuti satu tahapan instruksi	Mampu	Mampu	Mampu
Mengikuti 2 tahapan instruksi	Belum Mampu	Belum Mampu	Belum Mampu
Menyatakan ya/tidak menggunakan gesture	Mampu	Mampu	Mampu
Menyatakan ya/tidak menggunakan verbal	Belum Mampu	Belum Mampu	Belum Mampu
Menyatakan keinginan menggunakan gesture	Mampu	Belum Mampu	Mampu

Berdasarkan hasil asesmen tersebut, secara umu program pembelajaran individual dalam aspek bahasa adalah sebagai berikut :

1. Anak A

   Guru menggunakan kartu gambar untuk membantu anak mengucapkan kata , anak diarahkan

untuk melakukan kontak mata, distimulus untuk mengucapkan kata dan melihat gambar. Guru melakukan pola mengucapkan kata, contohnya "senang", anak memegang pipi guru, guru menunjukkan ekspresi senang, anak diminta untuk mengucapkan kata senang. Pembiasaan membaca buku bersama, rutin berdzikir, bernain mengikuti instruksi melalui permainan tradisional

2. Anak B

   Guru menggunakan kartu gambar untuk membantu anak mengucapkan kata , anak diarahkan untuk melakukan kontak mata, distimulus untuk mengucapkan kata dan melihat gambar. Guru melakukan pola mengucapkan kata, contohnya "senang", anak memegang pipi guru, guru menunjukkan ekspresi senang, anak diminta untuk mengucapkan kata senang

   Mengajak anak bicara dengan menunjukkan ekspresi wajah yang beragam, membaca buku bersama, dan melibatkan anak dalam berbagai permainan permainan dengan teman-temannya.

3. Anak C: Guru menggunakan kartu gambar untuk membantu anak mengucapkan kata , anak diarahkan untuk melakukan kontak mata, distimulus untuk mengucapkan kata dan melihat gambar. Guru melakukan pola mengucapkan kata, contohnya "senang", anak memegang pipi guru, guru menunjukkan ekspresi senang, anak diminta untuk mengucapkan kata senang. Bernyanyi dan bermain peran bersama teman-teman.

Melalui penerapan dari program pembelajaran individual, hasil yang di didapatkan adalah

1. Anak A : Anak dapat menyebutkan seperti nama ayah, adik dan nama beberapa temannya, kata buka, tutup, takbir, tahlil, menghitung dalam bahasa inggris 1-100, melafadzkan huruf hijaiyah secara berurutan namun tidak terlalu jelas, senang membuka-buka buku, menunjuk barang yang diinginkan, mengeluarkan kata-kata namun tidak jelas maknanya ketika anak tidak menyukai barang atau makanan yang ada dihadapannya, dan dapat mengikuti kegiatan permainan tanpa menangis.
2. Anak B : Anak dapat mengungkapkan keinginan dan kebutuhan dengan gestur dan merengek, sudah mau tersenyum dan memegang wajah gurunya ketika sedang diajak berbicara
3. Anak C : Anak dapat mengungkapkan keinginan dan kebutuhan dengan gestur, menyebutkan beberapa suku kata, satu kata seperti ayah, ibu, rafa, makan.

PERBINCANGAN

Asesmen memegang peranan penting dalam membantu pendidik untuk membuat keputusan terkait program khusus yang akan dilakukan (Frey, 2019). Guru telah melaksanaka asesmen sesuai dengan kemampuannya dengan menggunakan instrumen yang merujuk pada tahapan perkembangan anak secara umum. Langkah asemmen dalam melihat atau memonitor perkembangan anak autism telah sangat diperlukan. Asesmen ini juga disebut sebagai asesmen fungsional untuk melihat secara spesifik perilaku tertentu yang sering menantang guru dan orangtua untuk melakukan langkah strategis penanganan sehingga diperlukan pengamatan di berbagai situasi. Asesmen ini juga dapat melibatkan orangtua melalui wawancara (Chahin, 2020).

Hasil asesmen telah digunakan guru untuk merancang program pembelajaran individual. Dan upaya ini telah menunjukkan hasil yang signifikan melalui perolehan bahasa pada dua anak dan pemahaman gestur serta kemampuan untuk mulai berinteraksi pada satu anak. Hal tersebut menunjukkan bahwa program pembelajaran individual sangat diperlukan dalam membantu perkembangan anak ASD di pendidikan anak usia dini. Mereka dapat distimulus melalui kegiatan bermain secara klasikal dan pada saat-saat tertentu, guru membantu untuk secara khusus mengenalkan kata melalui ucapan, gestur dan gambar sambil mendorong interaksi dengan teman-temannya.Perkembangan yang secara signifikan ditunjukkan oleh anak ASD menjadi bukti bahwa intervensi dini penting untuk dilakukan. Kegiatan ini erat hubungannya dengan identifikasi dini. Permasalahannya adalah banyaknya anak ASD yang belum

teridentifikasi pada masa usia dini sehingga berdampak pada penanganan yang terlambat. Padahal bukti peneltiian menunjukkan implikasi yang positif dari identifikasi secara dini sehingga dapat dilakukan langkah intervensi yang tepat (Camarata, 2014).

Kemampuan bahasa anak ASD yang diperoleh melalui penerapan program pembelajaran individual ini akan berpengaruh pada kualitas atau kemampuan interaksi dan komunikasi anak. Ketika anak mulai dapat mengucapkan kata sesuai dengan konteksnya maka arah komunikasi mulai berjalan. Guru dan teman mulai dapat memahami apa yang dimaksud dan dapat menyampaikan instruksi dan bertanya. Gangguan fungsi eksekutif pada anak ASD menyebabkan proses kognitif yang berbeda sehingga menyebabkan kesulitan untuk memperoleh kemampuan bahasa pragmatik dan semantik secara spontan (Ozzonof, South & Provencall, 2005). Disanalah peran strategis dari intervensi yang dilakukan secar terus menerus dapat memperlihatkan hasil positif (Grodner, et.al, 2020).

Guru menerapkan pola melihat gambar lalu memberi contoh ekspresi atau gestur dan mengucapkan kata dengan menstimulus gerakan mata atau eye contact anak. Prinsip intervensi menggunakan "eye tracking" dengan mengarahkan gerakan mata untuk melihat stimulus visual diikuti stimulus auditori diyakini akan merangsang munculnya perhatian, dan gerakan mata serta adanya suara ini akan membantu proses memaknai bahasa atau kata , sehingga anak akan menggabungkan kedua gerakan ini menjadi satu pemahaman kata (Altmann& Kamide, 2007). Dengan cara inilah anak ASD mendapatkan informasi tentang bahasa dan dengan dilakukan secara terus menerus anak mendapatkan skema baru dalam memahami kata dan menggunakannya sebagai bahasa (Lopez, 2015).

RUMUSAN

Langkah awal yang dilakukan guru untuk merancang pembelajaran yang sesuai dengan kebutuhan anak ASD adalah dengan melakukan asesmen awal untuk mendapatkan data mengenai kemampuan dan hambatan dalam perkembangan yang dialami oleh anak. Asesmen awal yang dilakukan oleh 3 orang guru mengacu pada instrumen asesmen perkembangan yang mencakup aspek : (1) motorik kasar, (2) motorik halus ; (3) kognitif ; (4) bahasa ; (5) sosial emosi dan (6) kemandirian. Instrumen untuk sub aspek bahasa meliputi : (1) mendengar dan membedakan bunyi suatu bahasa; (2) mengekspresikan diri menggunakan kata dan kalimat yang lebih luas; (3) memahami dan dapat mengikuti instruksi verbal dan (4) menjawab pertanyaan.

Hasil asemen memperlihatkan bahwa kemampuan anak dalam aspek bahasa berada rentang usia 1-3 tahun dan hal berdampak pada hambatan yang cukup menantang dalam berinteraksi dan berkomunikasi sosial dengan guru dan teman-teman. Oleh karena itulah aspek ini dikembangkan melalui program pembelajaran individual yang menekankan pada aspek pragmatik dan semantik yaitu pengenalan kata dan pemahaman makna kata melalui stimulus visual dan audttori secara simultan.

Hasil dari penerpapan program individual tersebut adalah pada dua anak secara signifikan meningkatkan pemerolehan bahasa berupa kata yang berhubungan dengan diri dan lingkungan terdekatnya serta satu anak yang belum mencapai kemampuan ujaran namun sudah dapat memahami gestur dan verbal guru sehingga ketiga anak ASD dapat mulai berdaptasi dan terlibat dalam kegiatan bermain secara penuh di dalam kelas.

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