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DR NUR SYAZWANIE BINTI MANSOR,
ACADEMY OF LANGUAGE STUDIES,
UNIVERSITI TEKNOLOGI MARA (UiTM)KEDAH BRANCH, MALAYSIA

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ACADEMY OF LANGUAGE STUDIES,
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UNIVERSITI TEKNOLOGI MARA (UiTM)KEDAH BRANCH, MALAYSIA

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ACADEMY OF LANGUAGE STUDIES,
UNIVERSITI TEKNOLOGI MARA (UiTM)KEDAH BRANCH, MALAYSIA

YANG SALEHA ABD GHANI,
ACADEMY OF LANGUAGE STUDIES,
UNIVERSITI TEKNOLOGI MARA (UiTM)PERLIS BRANCH, MALAYSIA

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KECEMERLANGAN DALAM AL-QURAN SEBAGAI STRATEGI PEMERKASAAN GENERASI MUDA MELAYU BUMIPUTERA

[1]Noor Syahidah Mohamad Akhir

Academy Contemporary Islamic Studies,
Universiti Teknologi MARA (UiTM), Kedah Branch, Kedah, MALAYSIA

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Corresponding Author:
noorsyahidah9177@uitm.edu.my

ABSTRACT

Generasi muda Melayu Bumiputera merupakan aset penting untuk kemajuan dan pembangunan masa hadapan negara. Justeru itu, usaha kearah pemerkasaan generasi ini dilihat perlu untuk memastikan ia berjaya. Artikel ini menfokuskan pembinaan model kecemerlangan mengikut acuan al-Quran untuk generasi muda. Kajian ini menggunakan kaedah kualitatif dengan metode kajian perpustakaan dan analisa kandungan. Rujukan berbentuk artikel, buku, statistik dan analisis kandungan al-Quran digunakan. Perkataan *Muflihin*, *Muflihun* dan *Ulul al-Bab* dipilih dalam kajian ini. Hasil kajian merupakan model kecemerlangan yang boleh diterapkan kepada generasi muda Melayu Bumiputera dalam memperkasakan golongan ini.

Young Malay Bumiputeras are an important asset for the progress and future development of the country. Therefore, efforts towards empowering this generation are seen as necessary to ensure their success. This article focuses on the construction of a model of excellence for the younger generation based on the Quran. The study employs the qualitative methods, including library research and content analysis. References in the form of articles, books, statistics, and content analysis of the Quran are utilized. The terms "Muflihin," "Muflihun," and "Ulul al-Bab" are selected in this study. The research outcome is a model of excellence that can be applied to empower the younger generation of Malay Bumiputeras.

1. Pengenalan

Pepatah Melayu menyebut "Pemuda tiang negara, pemudi harapan bangsa". Pepatah ini menggambarkan bahawa tunggak kekuatan sesebuah masyarakat dan negara terletak pada kualiti generasi muda (Sidek Baba 2010). Hal ini diibaratkan seperti tiang asas sokongan yang menjadi harapan kepada bangsa dan negara. Seandainya ramai generasi muda yang terlibat dengan isu keruntuhan moral dan akhlak, maka fenomena ini petanda awal kepada kemunduran sesuatu bangsa (Zazak Soraya 2017). Justeru itu, isu melibatkan generasi muda sering menjadi perbahasan dan fokus kepelbagaian kajian agar tindakan dan pencegahan dapat diambil lebih awal.

Globalisasi menjadikan dunia tanpa sempadan. Situasi ini memberi kesan positif dan negatif. Dari sudut positif dapat meningkatkan komunikasi dan pencarian maklumat dengan lebih pantas. Kemahiran komunikasi khusus dalam menguasai bahasa juga dapat ditingkatkan. Namun, kesan negatif menjadi kebimbangan, khususnya dalam kemasukan budaya asing yang bercanggah dengan budaya dan norma sesuatu masyarakat (Umar Sholahudin, 2019). Pelbagai pengaruh ideologi pemikiran mempengaruhi kehidupan dan gaya pemikiran, khususnya remaja. Unsur-unsur bercanggah antara agama dan budaya tempatan dilihat sebagai ancaman yang perlu diberi perhatian serius.

Statistik tangkapan juvana di Malaysia antara tahun 2016-2021 menunjukkan peningkatan tangkapan antara tahun 2016 (7,985) hingga 2017 (8,118), manakala tahun 2019-2021 menunjukkan penurunan tangkapan, iaitu 1311 tangkapan pada tahun 2021 (Portal Rasmi Malaysia Youth Data Bank System). Penurunan kes berkemungkinan rentetan Perintah Kawalan Pergerakan (PKP). Walaupun terdapat penurunan kes, bilangan angka masih membimbangkan. Pemerkasaan sahsiah dan akhlak generasi muda adalah perlu kerana mereka merupakan nadi kemajuan sesebuah negara.

Sehubungan itu, artikel ini melihat kepada keperluan pembangunan model berteraskan al-Quran dalam pemerkasaan golongan muda atau belia. Pemerkasaan golongan ini penting agar kecemerlangan pada masa hadapan terjamin. Integrasi antara Falsafah Pendidikan Kebangsaan, kecemerlangan dalam al-Quran dan peranan beberapa pihak yang dimuatkan dalam pembangunan model ini diharapkan mampu memperkasakan belia negara.

2. Tinjauan Literatur

2.1 Konsep Kecemerlangan

Hasil tinjauan lepas mendapati pelbagai kajian kecemerlangan berkaitan generasi muda. Artikel yang ditulis oleh Eneng Martini (2018) berkaitan model pembelajaran abad 21 dalam membangunkan karekter generasi muda yang perlu mengasah kemahiran *soft skill* dan *hard skill*. Menerusi artikel Mohd Ismail Mustari (2004), memaparkan pandangan sarjana Islam dan sarjana Barat berkaitan pemuda cemerlang. Berdasarkan perspektif Islam, seorang pemuda cemerlang perlulah mempunyai kerohanian yang baik, pengurusan diri, kemahiran bersosial, berorganisasi, kemahiran kepimpinan, berkomunikasi dan berdakwah. Mazdi Marzuki (2021) bersetuju bahawa universiti sebagai tempat pembentukan akhlak mahasiswa memandangkan universiti tempat melahirkan manusia yang berilmu dan beradab. Kajian-kajian yang dilihat adalah kajian umum yang berbentuk konseptual yang tidak berkaitan dengan pembangunan model.

Al-Quran banyak memaparkan berhubung kecemerlangan. Beberapa kajian lepas berkaitan kecemerlangan dalam al-Quran telah dirujuk. Berdasarkan artikel Abdul Mukti Baharudin (2020) bertajuk "*Al-Falah Menurut Perspektif Al-Quran*" memaparkan konsep *al-falah* disebut sebanyak 40 kali dalam al-Quran dalam dua bentuk, iaitu kata nama dan kata kerja. Kata nama yang disebut adalah *Al-Muflihun* dan *Al-Muflihin*. Manakala kata kerja adalah *Aflaha, Yuflihu, Yuflihun, Tuflihuu* dan *Tuflihun*. Kajian tersebut memaparkan terdapat 13 ayat kata nama dan 27 ayat kata kerja yang menjurus kepada kecemerlangan dalam al-Quran. Ini lengkap dengan paparan setiap surah dan nombor ayat berkaitan. Artikel tersebut berkaitan kajian tematik dan tiada pembangunan model kecemerlangan khusus kepada generasi muda.

Seiring dengan pembangunan arena pendidikan di Malaysia, model *Ulul al-Bab* banyak dibahaskan dan diketengahkan. Menurut Nur Anis Abdullah (2018) menerusi artikel "Pembinaan Modul Pemantapan Sahsiah *Ulul Al-bab* bagi Pelajar Islam" memaparkan terdapat 16 kali perkataan *Ulul al-Bab* disebut dalam al-Quran. Kaji selidik berhubung modul sahsiah yang telah dilaksanakan itu memberi impak positif. Menurut Mohd Radzi Taib (2016), *Ulul al-Bab* merupakan orang-orang yang berfikir dan bertindak dengan kemurnian suara hati. Artikel tersebut memaparkan model kepimpinan *Ulul al-Bab* menurut persepsi pelajar dan guru. Hasil kajian tersebut mendapati terdapat persamaan persepsi pelajar dan guru yang membentuk model masing-masing, antaranya kerohanian, emosi dan persekitaran.

2.2 Generasi Muda

Ungkapan "Takkan Melayu hilang di dunia, selagi Melayu berpegang dengan agama Islam". Kata-kata keramat ini menggambarkan bahawa seandainya bangsa Melayu menolak agama dalam kehidupan, maka akan rosaklah bangsa tersebut. Bangsa Melayu diangkat menjadi bangsa bertamadun setelah kemasukan Islam ke Nusantara (Halim et al., 2013). Tamadun Melayu Islam terhasil atas penguasaan masyarakat terhadap ilmu dan pendidikan, bahasa dan tulisan, politik dan pemerintahan yang tersusun, sistem perundangan, sistem kepercayaan, sistem ekonomi, sistem sosial masyarakat dan kesenian Melayu Islam (Mohammad, 2005). Elemen-elemen tersebut menjadi garis ukur kepada pencapaian kehidupan bertamadun masyarakat Melayu dan bumiputera sejak era sebelum kedatangan penjajah.

Budaya dan adat Melayu banyak dipengaruhi oleh agama Islam (Kori Lilie Muslim 2018). Islam antaranya mengajarkan masyarakat Melayu berhubung sikap toleransi, hormat menghormati, kasih sayang, tolong menolong, tidak membuat kerosakan dan tidak berbuat kemungkaran (Halim et al., 2013). Rentetan peraturan tersebut terhasilnya undang-undang dalam kerajaan Melayu Islam, dan ini dibuktikan melalui penemuan Batu Bersurat Terengganu dan Hukum Kanun Melaka (Abdul Rahim et al., 2010). Adat budaya harian masyarakat turut diwarnai oleh agama Islam seperti etika pakaian, etika makan dan etika pergaulan. Agama Islam telah membentuk masyarakat yang bermoral tinggi, seterusnya pemangkin kepada kualiti generasi muda.

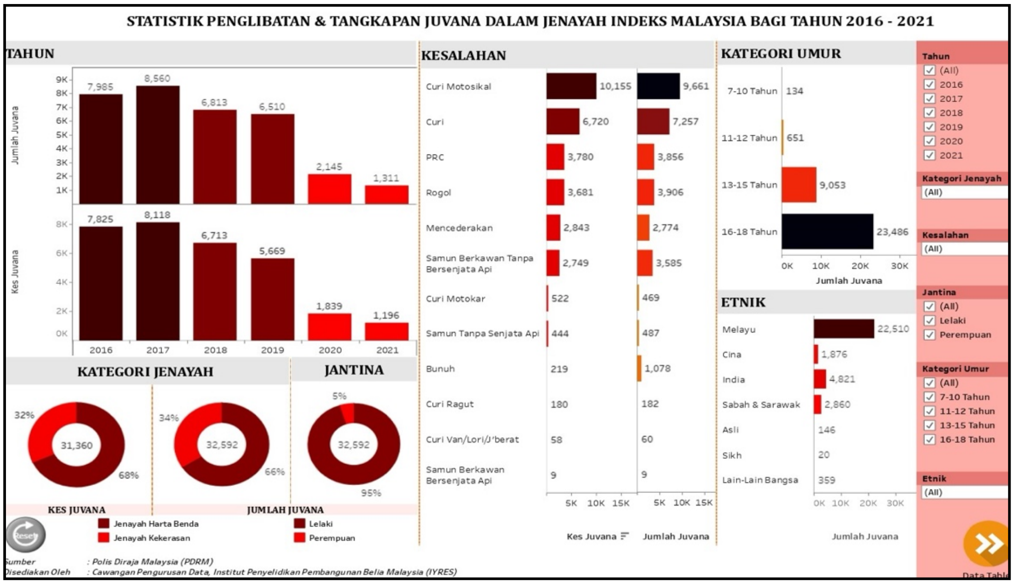
Generasi muda atau belia merupakan aset terpenting negara. Golongan ini adalah pemacu kepada kemajuan dan transformasi sesebuah negara. Menurut Nik Safiah Nik Abdullah (2015), pembangunan belia daripada sudut perspektif Islam adalah penting, iaitu dengan pembentukan akhlak belia dan kemahiran untuk belia yang terdiri daripada elemen kemahiran kerohanian, pengurusan diri, sosial dan kepimpinan. Berdasarkan kajian yang dilakukan oleh Siti Sarawati Johar (2021), kecerdasan emosi sangat mempengaruhi psikologi dan tingkah laku belia.

Kecerdasan emosi memerlukan transformasi adalah keupayaan mengurus emosi diri, motivasi diri, emosi empati dan emosi kemahiran sosial.

2.3 Gejala Sosial

Realiti kini telah jauh berubah seiring kepesatan kemajuan teknologi menyebabkan dunia seolah-olah tiada sempadan. Kepelbagaian budaya dan ideologi telah mempengaruhi minda generasi muda, khususnya melalui pelbagai saluran, antaranya media massa, media cetak dan media elektronik (Nanang Andhiyan Mergining Mei, 2022). Wadah ini menjadi perantaraan pantas serangan budaya dan pemikiran generasi muda. Antaranya, ideologi hedonisme yang mementingkan keseronokan hiburan semata-mata dan mengabaikan hakikat kehidupan (Ismail, 2020). Kesannya, generasi muda seolah-olah 'ditidurkan' daripada cakna dengan realiti situasi kini. Pembaziran masa berlaku sedangkan generasi muda sepatutnya menggunakan masa ini untuk mengembangan potensi diri.

Justeru, kajian berhubung generasi muda turut menjadi fokus utama dalam kajian akademik yang membincangkan hal-hal berkaitan pemerkasaan generasi ini. Berikut merupakan statistik penglibatan dan tangkapan juvana dalam jenayah indexs Malaysia bagi tahun 2016-2021 :



Rajah 1 : Statistik Penglibatan Dan Tangkapan Juvana dalam Jenayah Indexs Malaysia bagi Tahun 2016-202. Sumber : Portal Rasmi Malaysia Youth Data Bank System.

Merujuk statistik di atas, penglibatan dan tangkapan juvana pada tahun 2016 berjumlah 7,985 tangkapan. Jumlah ini meningkat pada tahun 2017 iaitu sebanyak 8,118 tangkapan. Kadar didapati berkurang khusus pada tahun 2019-2021. Kadar penurunan ini kebarangkalian disebabkan faktor pandemik COVID-19 yang mengehadkan pergerakan rakyat melalui Perintah Kawalan Pergerakan (PKP). Walaupun statistik menunjukkan penurunan kadar jenayah juvana di Malaysia, namun tetap masih ditahap yang membimbangkan jika dilihat kepada jenis kes kesalahan, iaitu mencuri motosikal, curi, rogol, mencederakan dan samun.

Justeru, langkah pencegahan perlu diambil bagi membendung masalah ini dari menjadi lebih buruk pada masa hadapan. Langkah-langkah sewajarnya perlu diambil oleh semua pihak untuk membendung masalah ini. Oleh itu, artikel melihat kepada keperluan kembalinya kepada fitrah dalam mendepani sebarang situasi. Ini disebabkan elemen keagamaan atau kerohanian amat penting dalam membentuk nilai sahsiah diri generasi muda. Kajian ini menjadikan al-Quran sebagai sumber primer dalam membina satu model kecemerlangan yang boleh dijadikan strategi dalam memperkasakan generasi muda Melayu Bumiputera pada masa hadapan.

3. Metodologi Kajian

Kajian menggunakan kaedah kualitatif dengan metod kajian perpustakaan. Sumber rujukan adalah berbentuk primer dan sekunder. Sumber primer adalah al-Quran al-Karim, tafsir al-Quran dan statistik berkaitan kajian. Artikel-artikel jurnal serta kajian tesis juga turut dirujuk untuk mengukuhkan kajian.

Analisa kajian menggunakan kaedah analisa kandungan, iaitu al-Quran al-Karim. Beberapa pengkajian terdahulu menerusi artikel-artikel jurnal berkaitan istilah kecemerlangan dalam al-Quran dirujuk. Hasil penelitian menerusi artikel-artikel terdahulu mendapati terdapat 40 ayat berkaitan konsep *al-falah* yang dipaparkan dengan kata nama dan kata kerja. Kata nama yang disebutkan dalam al-Quran adalah *Muflihin* dan *Muflihun*, manakala kata kerja adalah *Aflaha, Yuflihu, Yuflihun, Tuflihuu* dan *Tuflihun*. Rentetan jumlah ayat yang banyak, maka kata nama sahaja yang dijadikan sebagai sampel kajian.

Istilah *Ulul al-Bab* diketengahkan dalam pembangunan model kecemerlangan rentetan istilah tersebut antara isitlah yang kerap digunakan dalam bidang pendidikan dan modul pembangunan pendidikan kini. Artikel-artikel dirujuk untuk mengenalpasti ayat-ayat al-Quran yang menyebut *Ulul al-Bab*. Hasil rujukan mendapati terdapat 16 ayat al-Quran yang menyebut istilah ini. Terjemahan al-Quran dan kamus al-Idris al-Marbawi turut dirujuk. Ayat-ayat al-Quran berkaitan diteliti dan ditematikkan menggunakan tema dan dirumuskan ciri-ciri kecemerlangan.

Pembangunan model diintegrasikan dengan peranan pelbagai pihak dan falsafah pendidikan kebangsaan kearah mengoptimumkan pontensi individu dan seimbang dari segi intelek, rohani, emosi dan jasmani. Hasil integrasi ini, “Model kecemerlangan dalam Al-Quran sebagai Strategi Pemerkasaan Generasi Muda Melayu Bumiputera” diketengahkan dalam kajian ini.

4. Dapatan Kajian dan Perbincangan

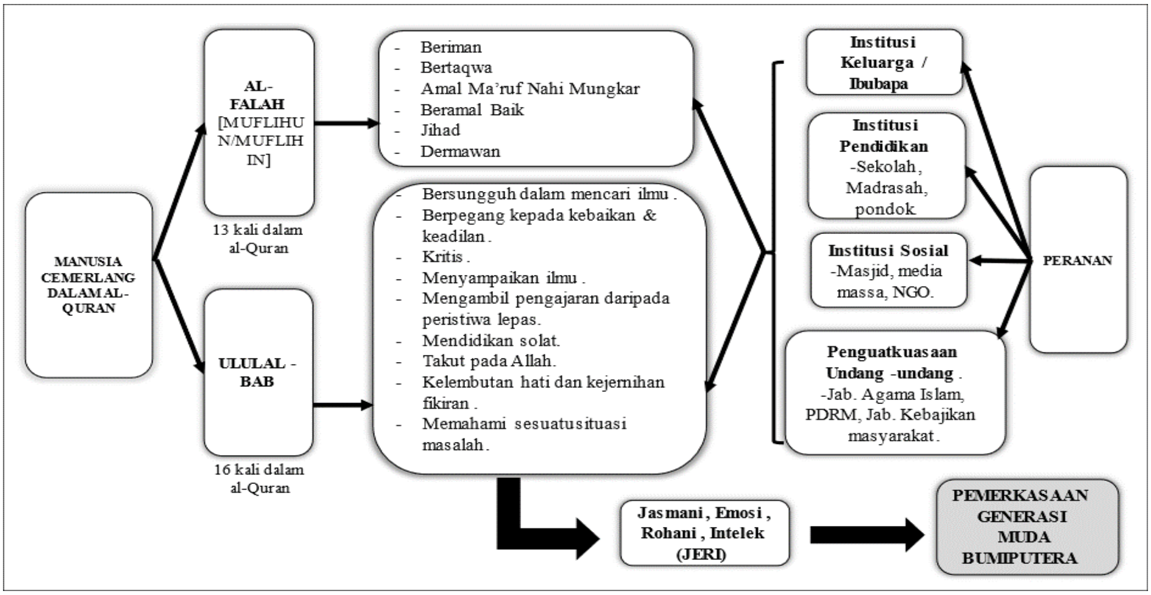
Artikel ini membincangkan kepentingan untuk kembali kepada fitrah atau *sunnatullah* dalam membentuk insan cemerlang di masa hadapan. Sehubungan itu, satu model dicadangkan dengan melihat kepada maksud kecemerlangan yang disebutkan dalam al-Quran dan diadaptasi kepada pembentukan generasi muda, khususnya Melayu Bumiputera.

Konsep *al-Falah* menjurus kepada kejayaan, kecemerlangan dan keberuntungan. Konsep ini disebutkan dalam al-Quran sebanyak 40 kali menerusi kata *isim* (kata nama) sebanyak 13 ayat dan kata *fi'il* (kata kerja) sebanyak 27 ayat. Kata kerja yang disebutkan dalam al-Quran adalah *Aflaha, Yuflihu, Yuflihun*, *Tuflihuu, dan Tuflihun*. Manakala kata nama yang disebutkan dalam al-Quran adalah *Muflihin* dan *Muflihun*” (Abdul Mukti Baharudin, 2020). Rentetan jumlah ayat al-

Quran yang banyak, maka skop kajian artikel ini hanya melibatkan kata nama sahaja, iaitu istilah *Muflihin* dan *Muflihun*.

Istilah kedua yang digunakan dalam kajian ini adalah *Ulul al-Bab.* Ini mempunyai pelbagai takrifan, antaranya kelompok manusia yang mempunyai intelektual, hikmah dan kebijaksanaan yang tinggi (Azizah Herawati, 2015). *Ulul al-Bab* merupakan gabungan dua perkataan iaitu *Ulul* dan *al-Bab*. Dalam kamus al-Idris al-Marbawi, *Ulul* bermaksud mempunyai atau memiliki. Manakala perkataan *al-Bab* berasal daripada perkataan *lubb* yang bermaksud akal dan hati yang bersih (al-Marbawi, 1990). *Ulul al-Bab* menggambarkan ketinggian nilai kemuliaan manusia yang menjurus kepada mereka yang berakal, dan mempunyai kebijaksanaan dalam kepelbagaian bidang (Nur Anis Abdullah et al., 2018).

Berikut merupakan cadangan model kecemerlangan yang menganalisis konsep *al-falah* menerusi kata *isim* dan *Ulul al-Bab*.



Rajah 2 : Model Kecemerlangan dalam Al-Quran sebagai Strategi Pemerkasaan Generasi Muda Melayu Bumiputera

Berdasarkan rajah di atas, perkataan *Muflihun* dan *al-Muflihin* disebut sebanyak 13 kali dalam al-Quran (Abdul Mukti Baharudin, 2020). Perkataan tersebut ditemui di dalam Surah al-Baqarah : 5, Surah Ali Imran : 104, Surah al-A'raf: 8, Surah al-A'raf : 157, Surah at-Taubah : 88, Surah al-Mu'minun : 102, Surah an-Nur : 51, Surah ar-Rum : 38, Surah Luqman : 5, Surah al-Mujadalah : 22, Surah al-Hasyr : 9, Surah at-Taghabun : 16, Surah Qasas : 67 (Fikriyah, 2017). Merujuk kajian disertasi yang menganalisa 13 ayat tersebut berdasarkan *Tafsir al-Maraghi* dan *Tafsir Fi Zilal al-Quran*, orang-orang yang diertikan sebagai *al-Falah* atau berjaya adalah mereka yang beriman, bertaqwa, '*Amal ma'ruf nahi mungkar*, beramal baik, jihad dan dermawan (Fikriyah, 2017). Selain itu, kajian lain merumuskan bahawa asas kejayaan seseorang adalah hasil gabungan akidah, syariah dan akhlak (Abdul Mukti Baharudin, 2020).

Istilah *Ulul al-Bab* pula disebutkan sebanyak 16 kali dalam al-Quran iaitu menerusi Surah al-Baqarah : 179, 197 dan 269, Surah Ali Imran : 7 dan 190, Surah al-Maidah : 100, Surah Yusuf : 111, Surah ar-Ra'd : 19, Surah Ibrahim : 52, Surah Saad : 29, Surah az-Zumar : 9,18 dan 21, Surah Ghafir : 54, Surah at-Talaq : 10 (Azizah Herawati, 2015). Hasil kajian dapat dirumuskan bahawa *Ulul al-Bab* itu adalah mereka yang bersungguh dalam mencari ilmu, berpegang kepada keadilan, berfikiran kritis, menyampaikan ilmu, mengambil pengajaran daripada peristiwa lepas, mendirikan solat, takut pada Allah, kelembutan hati, serta kejernihan fikiran dan mampu memahami sesuatu situasi masalah (Azizah Herawati, 2015).

Hasil analisis terhadap ayat-ayat ini mendapati, beriman, bertaqwa, *amal ma'ruf nahi mungkar*, beramal baik, jihad dan dermawan merupakan ciri yang ada pada *Muflihun* dan *Muflihin*, manakala bersungguh-sungguh dalam mencari ilmu, berpegang kepada kebaikan dan keadilan, kritis, menyampaikan ilmu, mengambil pengajaran daripada peristiwa lepas, mendirikan solat, takutkan Allah, kelembutan hati dan memahami sesuatu situasi masalah merupakan ciri-ciri kepada *Ulul al-Bab*.

Umumnya, semua ibu bapa menginginkan kejayaan bagi anak-anak mereka. Kebiasaanya, kejayaan dalam akademik dan kerjaya sering menjadi bahan penceritaan bukan sahaja di kedai kopi malah di media sosial. Kecemerlangan dalam akademik dan kerjaya sememangnya sebuah kejayaan di dunia yang perlu disyukuri, namun kejayaan tersebut dilihat sementara dan terputus setelah kematian. Nabi Muhammad SAW bersabda "*Apabila seseorang anak Adam itu meninggal dunia, maka terputuslah amalannya kecuali tiga perkara : sedekah, ilmu yang dimanfaatkan dan anak soleh yang mendoakan untuknya*"(JAKIM : 2020). Justeru itu, ibu bapa perlulah mendidik anak-anak untuk mengejar kejayaan duniawi dan ukhrawi dalam kerana itu merupakan titik kejayaan berdasarkan wahyu ilahi.

Berdasarkan rajah tersebut turut memaparkn institusi kekeluargaan yang merupakan institusi tarbiah paling awal. Ibu bapa mempunyai peranan yang sangat penting dalam pembentukan seorang anak. Antaranya, kepentingan peranan seorang ayah disebut di mana al-Quran menerusi pesanan Luqman al-Hakim kepada anaknya dalam Surah Luqman : 12-19. Nasihat tersebut meliputi aspek akidah, ibadah dan akhlak (Sabriadi, 2020). Nabi Ibrahim mendoakan anak dan keturunannya supaya menjauhi syirik dalam Surah Ibrahim : 35, mendirikan solat, disenangi orang, belimpahkan rezeki dan bersyukur dalam Surah Ibrahim : 37, menjadi pemimpin di dunia dalam Surah al-Baqarah :124 dan umat yang berserah diri dalam Surah al-Baqarah :128 (Rahmi, 2015). Begitu juga dengan kisah nabi Ya'kub dengan anak-anaknya di mana beliau tetap sabar dan mengawal kemarahan dalam menghadapi perilaku anak-anaknya. Hakikatnya, berdasarkan ayat-ayat al-Quran yang disebut di atas, kejayaan secara hakiki berpaksikan kepada pembentukan diri yang beradab dan beretika sebagai faktor kejayaan seseorang di dunia dan di akhirat.

Institusi pendidikan merupakan sebuah tempat pendidikan secara formal, contohnya sekolah, pondok, madrasah dan universiti. Pada zaman Rasulullah SAW di Makkah, telah menjadikan rumah al-Arqam bin Abi Arqam sebagai institusi pendidikan awal (Hafiddin, 2015). Kini institusi pendidikan berkembang pesat dan menjadi aspek yang penting dalam melahirkan modal insan berkualiti. Pendidikan agama perlu ditekankan di sekolah-sekolah bagi melahirkan pelajar yang cemerlang. Pendidikan agama bukan sekadar dalam mata pelajaran agama tetapi diserap masuk ke dalam mata pelajaran yang lain, contohnya pengiraan pecahan dalam Matematik diintegrasikan dengan pengiraan faraid. Subjek sains juga boleh ditambahbaik dengan mengetengahkan ayat-ayat al-Quran berkaitan topik yang dipelajari. Adalah lebih baik pendidikan agama dijadikan mata pelajaran praktikal dan bukan diajar secara teori semata-mata. Pendidikan STEM (Sains, Teknologi dan Matematik) adalah fokus utama sistem pendidikan, tetapi adalah lebih baik jika ia dikaitkan dengan al-Quran yang dapat membuka minda dan pengetahuan (Ramli et al., 2018).

Selain institusi keluarga dan pendidikan, peranan institusi sosial juga sangat penting dalam perkembangan seseorang individu khususnya generasi muda. Proses pendidikan dan pembentukan jati diri turut bergantung kepada persekitarannya (Ab Halim, 2004). Dalam budaya masyarakat Melayu suatu ketika dahulu, mengambil tahu perihal jiran adalah satu kebiasaan tetangga di mana anak jiran juga dianggap seperti anak sendiri. Jika ada anak-anak melakukan kesilapan, akan ditegur kesalahan tersebut. Namun begitu dengan perubahan zaman, masing-masing sibuk dengan urusan sendiri dan jarang mengambil tahu perihal sekeliling. Justeru, institusi sosial seperti masjid, surau persatuan penduduk, badan bukan kerajaan (NGO) dan juga saluran media perlulah aktif dan peduli akan generasi muda kini (Buerah Tunggak, Shanah Ngadi, 2015).

Undang-undang sahaja tidak memadai andai tiada penguatkuasaan. Undang-undang negara malah undang-undang syariah adalah perlu dalam mendisiplinkan masyarakat khususnya generasi muda. Jabatan Agama Islam Negeri, Jabatan Kebajikan Masyarakat dan Polis Diraja Malaysia (PDRM) boleh bekerjasama dalam mengambil tindakan dalam kepelbagaian jenayah yang melibatkan generasi muda di Malaysia. Tindakan dan hukuman sedikit sebanyak memberi pengajaran kepada individu lain.

Hasil daripada kepelbagaian peranan dari institusi keluarga, institusi pendidikan, institusi sosial dan undang-undang dilihat mampu memberi kesan positif dalam membentuk kecemerlangan khususnya generasi muda (Buerah Tunggak, Shanah Ngadi, 2015). Kecemerlangan ini tidak hanya tertumpu kepada aspek keduniaan semata-mata tetapi perlu kepada panduan wahyu agar kecemerlangan yang dikecapi di dunia dan akhirat. Hal ini selaras dengan falsafah Pendidikan Kebangsaan yang cuba memaksimumkan potensi pelajar dari segi jasmani, emosi, rohani dan intelek (JERI) (Hamzah et al., 2015).

Secara rumusan, pemerkasaan kepada golongan muda dan belia adalah penting memandangkan ia merupakan nadi kepada kemajuan sesebuah negara. Jika kecemerlangan golongan muda dapat ditingkatkan maka akan memberi impak positif dalam pelbagai aspek. Moral dan akhlak yang tinggi akan meningkatkan sesebuah peradaban bangsa. Justeru, konsep kecemerlangan menerusi al-Quran perlu dilihat dan dimanfaatkan bersama.

5. Kesimpulan

Insan yang cemerlang adalah mereka yang menyeimbangkan kehidupan dunia dan akhirat. Pada masa yang sama mereka berpegang teguh dengan akidah, syariah dan akhlak dalam kehidupan seharian. Mereka yang sentiasa menuntut dan menyampaikan ilmu, berfikiran kreatif, memiliki hati yang bersih, mengambil pengajaran daripada peristiwa yang berlaku, beriman, mengerjakan perbuatan baik dan meninggalkan perkara dilarang, memilih jalan taqwa dan pemurah. Kejayaan di dunia juga akan membawa kepada kejayaan di akhirat. Jika generasi muda Melayu Bumiputera dapat dicorakkan dan dibentuk untuk menjadi insan cemerlang seperti acuan al-Quran, sudah pasti ini akan memberi kesan yang sangat positif dalam pembinaan modal insan berkualiti. Pemerkasaan generasi muda Bumiputera kini akan membentuk diri, keluarga, bangsa dan negara cemerlang pada masa hadapan.

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Rujukan

Ab. Halim bin Tamuri & Khadijah Abdul Razak. (2004). Dakwah dalam Menangani Isu-isu Sosial di Kalangan Remaja. *International Seminar on Islamic Thoughts Proceeding*, UKM, Bangi, Selangor.

Abdul Mukti Baharudin, M. T. J. (2020). Al-Falah Menurut Perspektif Al-Quran. *The 2nd International Conference On Contemporary Issues In Al-Quran And Hadith 2020 (THIQAH 2020), 2020(Thiqah)*, 21–24.

Abdul Rahim, R. A., Ismail, P., Abd Majid, M. K., & Md. Dahlal, N. H. (2010). Batu Bersurat Terengganu: Satu Tafsiran Terhadap Pelaksanaan Syariah Islam. *Jurnal Fiqh*, 7(1), 107–148. https://doi.org/10.22452/fiqh.vol7no1.6

Al-Marbawi, al-Sheikh Mohd Idris Abdul Rauf. 1990. *Kamus Idris al-Marbawi*. Kuala Lumpur: Penerbit Darul Fikir.

Azizah Herawati. (2015). Kontekstualisasi Konsep Ulul Albab di Era Sekarang. *Fikrah*, 3(1), 123–140.

Buerah Tunggak, Shanah Ngadi, H. A. N. (2015). Delinkuen Pelajar dan Cadangan Penyelesaiannya Menerusi Model Pembangunan Sahsiah Remaja/ Pelajar Muslim Bersepadu (Students Delinquency and Proposed Solutions Through Teen Model of Conduct/ Integrated Muslim Students). *Jurnal Hadhari: An International Journal*, 7(2), 11-30–30.

Farida, E. A., & Kridaningsih, A. (2022). Pengaruh Media Sosial terhadap Wawasan Kebangsaan pada Generasi Muda. *CIVICUS: Pendidikan-Penelitian-Pengabdian Pendidikan Pancasila dan Kewarganegaraan*, 9(2), 1-6.

Fikriyah, A. (2017). Karakteristik Orang-orang Yang Meraih Al Falah Dalam Al Quran: Studi Perbandingan Tafsir Al Maraghi Karya Mustafa Al Maraghi Dan Tafsir Fi Zilal Al Quran Karya Sayyid Qutb. Universitas Islam Negeri Sunan Ampel Surabaya.

Hafiddin, H. (2015). Pendidikan Islam pada Masa Rasulullah. *Jurnal Tarbiya*, 1(1), 17–30. http://my.opera.com/bassayef/blog/2008/05/14/sejarah

Halim, H., Yusoff, K., Basir, A., Ahmad, S., & Saad, S. S. (2013). Pengaruh Islam dan Anjakan Paradigma Pemikiran Melayu: Satu Tinjauan. *Journal of Techno Social (JTS), 5*(2), 18–30.

Hamzah, M. S., Laki, A. F., Embong, R., & Din, N. M. (2015). Penerapan Akidah dalam Dasar Pendidikan Malaysia: Analisis Terhadap Falsafah Pendidikan Negara Dan Islam Hadhari. *Jurnal Islam dan Masyarakat Kontemporari*, 9(Jan), 1–11.

Ismail, M. (2020). Hedonisme dan Pola Hidup Islam. *Jurnal Ilmiah Islamic Resources*, 16(2), 193. https://doi.org/10.33096/jiir.v16i2.21

Johar, S. S., Panatik, S. A., & Ibrahim, R. Z. A. R. (2021). Transformasi Ketahanan Kecerdasan Emosi dalam Psikologi dan Tingkah Laku Belia. *Human Sustainability Procedia*, 1(2), 57-66.

Mohammad, A. (2005). Sumbangan Tamadun Islam dalam Kehidupan Masyarakat di Alam Melayu hingga Abad Ke-17M. *Jurnal Al-Tamaddun*, 1981, 68–84.

Muslim, K. L. (2018). Nilai-Nilai Islam dalam Budaya dan Kearifan Lokal (Konteks Budaya Minangkabau). *Jurnal Fuaduna: Jurnal Kajian Keagamaan dan Kemasyarakatan*, 1(1), 48-57.

Martini, E. (2018). Membangun Karakter Generasi Muda melalui Model Pembelajaran Berbasis Kecakapan Abad 21. *JPK (Jurnal Pancasila dan Kewarganegaraan),* 3(2), 21-27.

Mustari, M. I., Mohamed, A. K., Jasmi, K. A., & Ya'akob, R. (2004). Pembentukan nilai dan kecemerlangan bagi melahirkan generasi muda yang mapan dalam menghadapi era pasca modenisme.

Marzuki[1], M., Abd Rahman, M. H., Kaspin, K. G., Basri, M., Jamal, N. M. M. N., & Othman, I. W. (2021). Universiti sebagai Medan Pembentukan Kecemerlangan Akhlak Mahasiswa.

Nik Abdullah, N. S., & Maamor, S. (2015). Pembangunan Belia dari Perspektif Pengurusan Islam. *Journal of Global Business and Social Entrepreneurship (GBSE),* 1(2), 61-76.

Nur Anis Abdullah, Rahimah Embong, & Azhar Yaacob. (2018). Pembinaan Modul Pemantapan Sahsiah Ulul Albab bagi Pelajar Islam. *International Journal of Civilizational Studies and Human Sciences*, 1(1), 8–20.

Portal Rasmi Malaysia Youth Data Bank System. https://ydata.iyres.gov.my/iyresbankdataV2/www/index.php?r=pub/home/readcontent4&id=178. 8 Mac 2023.

Portal Rasmi Muamalat dan Kewangan Islam, E-Muamalat, Jabatan Kemajuan Islam Malaysia (JAKIM),http://e-muamalat.islam.gov.my/ms/paparan-al-hadis/22-amalan-kekal-selepas-kematian, 10 Jun 2021.

Rahmi, R. (2015). Tokoh Ayah dalam Al-Quran dan Keterlibatannya dalam Pembinaan Anak. Kafa`ah: Journal of Gender Studies, 5(2), 202. https://doi.org/10.15548/jk.v5i2.108

Ramli, A. A., Ibrahim, N. H., Yusof, F. M., & Surif, J. (2018). Critical thinking from stem education and Al-Quran perspectives. *Journal of Engineering Science and Technology,* 13(Special Issue on ICITE 2018), 35–41.

Sholahudin, U. (2019). Globalisasi: Antara Peluang dan Ancaman bagi Masyarakat Multikultural. *Jurnal Sosiologi Pendidikan Humanis*, *4*(2), 103-114.

Sabriadi. (2020). Telaah Hidden Curriculum Pendidikan Islam Dalam al-Quran Surah Luqman. Didaktika : *Jurnal Kependidikan*, 14(1), 99–115.

Sidek, S. (2010). Remaja Islam: kembali pada pemikiran al-Quran & Sunnah.

Subandowo, M. (2017). Peradaban dan produktivitas dalam perspektif bonus demografi serta generasi Y dan Z. *SOSIOHUMANIKA*, *10*(2), 191-208.

Taib, M. R., Abdullah, Z., & Ghani, M. F. A. (2017). Kepimpinan Ulul Al-Bab: Kajian Awal Di Maktab Rendah Sains Mara. *JuPiDi: Jurnal Kepimpinan Pendidikan,* 3(2), 60-79.

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EXPLORATORY APPROACH UTILISING VIRTUAL REALITY TECHNOLOGY TOOLS FOR DONGBA SCRIPT CULTURAL HERITAGE PROMOTION

Liang Xin[1], Azhari Md Hashim[2]* & Li Wen Feng[3]

[1] College of Creative Arts, Universiti Teknologi MARA (UiTM) Shah Alam, Selangor, MALAYSIA
[2] College of Creative Arts, Universiti Teknologi MARA (UiTM) Kedah Branch, Kedah, MALAYSIA
[3] Faculty of Urban Design, Central Academy of Fine Arts, Campus Bei Jin Yan Jiao, CHINA

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Corresponding Author:
azhari033@uitm.edu.my

ABSTRACT

The pictographic Dongba script is a traditional script that is used by the Naxi people in Lijiang, Yunnan Province, in China. Despite being a cultural heritage, it is not actively promoted causing its depletion to continue. The purpose of this study is to discuss and identify the non-individual characters in the Dongba script, as well as to investigate the dynamic approaches to promote them. The study has used a qualitative research approach to discover the characteristics of the Dongba script's non-individual characters utilising the 'composition element', which is the smallest unit of script composition. This study's findings demonstrated that non-individual characters might be created and used, and cultural heritage can be broadly promoted through virtual technologies, including AR animation and digital museums. Significantly, this study offered a model for the future promotion of Dongba script non-individual characters.

1. Introduction

The Naxi people are believed to be the ancient ancestors of the people in the northwestern part of China who evolved into the Naxi minority in China today. The origin of the Naxi Dongba script remains a topic of debate among scholars, whereby some academics propose that the Muzhi script and the ancient Ba script of Sichuan may have a common ancestor and that the Dongba script could be the earliest to date. By the mid-eleventh century, scriptures were already written in the Naxi script, which had begun in a pictorial form. Previous studies, including "A study of the non-individual character structure of the Naxi Dongba script" (Li Jing, 2009), "A study of the development of the Dongba script based on the description of heterogeneous phenomena" (Liu Yue, 2010), and "A study of the nature of early pictorial scripts" (Zhu Ran, 2013), have mainly focused on the construction, development, stylisation, and pronunciation of the Dongba script. However, there needs to be a clear distinction between individual and non-individual characters in the script. This study aims to provide an unambiguous distinction between the individual and non-individual characters in the Dongba script and to promote the non-individual characters as cultural heritage. The authors' research highlights the importance of promoting the Dongba script's non-individual characters, which should have been more noticed in previous studies.

In conclusion, the Dongba script is an important cultural heritage of the Naxi minority. While previous studies have concentrated on the various aspects of the script, this research focuses on the distinction between the individual and non-individual characters; it promotes the latter as an essential element of the script's cultural heritage.

2. Literature Review

2.1 History of Dongba Script

The Naxi people in China have a rich cultural history, including the Dongba script, which is also known as the living hieroglyphic script. According to Fu Maoji, the Dongba script is a type of writing that lies between the picture and the corresponding graphic notation in terms of meaning. Research has revealed that the Dongba script can be categorised into distinct and non-separate characters. Accordingly, non-separate characters can be divided into word groupings, word segments, concatenated texts, and compound glyphs. Unlike a single script, the Dongba script is composed of multiple scripts or symbols that are stitched together, resulting in a new figure that is known as a non-individual character.

The Dongba script, as a cultural heritage, has yet to be widely promoted despite its steady depletion. To ensure its accessibility and transmission to a broader audience, alternative methods have been employed in recent years, such as virtual technology tools like mixed reality, virtual reality, digital interactive exhibitions, and digital museums. In this regard, the non-individual characters of the Naxi Dongba script serve as a crucial focal point for authorial research. Notably, "A Study of the Grammatical Structure of Non-Solitary Characters in the Naxi Dongba Script" (Li Jing, 2009) is a foundation for investigating the structural properties of non-solitary characters in the Dongba script. This study represents the first comprehensive investigation of the non-solitary character structure of the Naxi Dongba script, categorising it into four distinct groups: integrated text, character groups, character segments, and compound glyphs.

Based on the preceding discussion, the author initiates an inquiry into the unique morphology of non-individual characters in the Naxi Dongba script and their current usage and evolution over time. The use of virtual reality technology to enhance cultural tangible and intangible heritage has been the subject of research. According to the findings of a recent study by Lucio Tommaso, D. P., et al. (2022), the inclusion of physically inaccessible sites, such as an abandoned building in a small town on the Adriatic coast of Salento, in valorisation programs can increase public engagement and participation. The study highlights the importance of utilising innovative solutions based on information and communication technologies (ICTs), such as mixed reality (MR) and virtual reality (VR), to achieve this goal.

In cultural heritage, the 'cultural heritage communication system' serves to recover and preserve the tangible and intangible aspects of a place's historical memory. However, there is a drawback in that the focus tends to be on developing communication tools and technical systems without translating them into practical applications. With the distribution of cultural heritage as a starting point, the authors aim to investigate the unique content and context of cultural heritage dissemination. In the study titled "Immersive Cultural Heritage Digital Documentation and Information Services: A Collection of Historical Figures - The Case of Zhu Xi in Song Dynasty China", the authors (Zhanling, F., et. al. 2022) present their findings, which demonstrate that the metaspace-based framework is effective in digitising the multimodal data of cultural heritage, and satisfies the presentation needs of metaspace for digital documentation of historical figures. This research aims to investigate the development of a contactless virtual and physical cultural heritage experience system for cultural study and preservation. This system aims to provide an immersive and comprehensive cultural tourism information service for travellers before, during, and after their tour. Notably, the study focuses on developing the Zhu Xi meta-spatial system, representing a significant advancement in creating a meta-space for historical figures.

This study proposes a systematic approach to acquiring cultural heritage with high precision and fidelity. It investigates a framework for the digital documentation of cultural heritage on historical figures, highlighting the need for immersive digitisation methods to capture multimodal resources accurately. Based on this framework, the article suggests the development of an information service platform for the cultural heritage of historical figures. To cater to the diverse audience, the proposed platform integrates metaspace elements and offers customised services. Although some users argue that a single 3D reconstruction model or oblique model may not fully encapsulate the essence of civilisation and that additional knowledge is necessary to supplement it, the researchers in this study utilise museums as a foundation for developing virtual art galleries and digital museums.

The study "Virtual people at cultural heritage sites and museums" by Sylaiou, S. and Fidas, C. (2022) reveals that optimising virtual agents in the cultural heritage domain requires an interdisciplinary effort. This article conducts a comprehensive survey of relevant research and solutions. It proposes recommendations for future research based on the analysed technical aspects of user avatars and virtual agents that are related to cultural heritage and emerging patterns. The authors have identified trends and concerns by investigating pertinent literature to draw conclusions about the subject's current state and extrapolate future directions. The significant conclusions include the development of real-world, intricate installations or applications, with increasing investment in mixed reality. Furthermore, optimising agents such as virtual companions, mediators of cultural content, and participation facilitators are receiving remarkable attention.

The virtual augmented reality cites IDC and other organisations' estimates that the global virtual reality market size was approximately RMB 90 billion in 2020, comprising RMB 62 billion for VR and RMB 28 billion for AR. It is predicted that from 2020 to 2024, the worldwide virtual reality market will expand at an average annual rate of around 54%, with VR growing at about 45% and AR at a pace of about 66%, resulting in a combined market share of RMB 240 billion in 2024. These projections suggest that the demand for virtual technology will continue to increase over time, further supporting the promotion of cultural heritage.

The research results on virtual humans have been criticised for their lack of integration with the cultural heritage of the theme statement. However, the author's findings on developing virtual humans for Dongba script's non-individual words offer valuable insights for future research. Specifically, this study paves the way for the development of applications for the theme of virtual humans for the Dongba script's non-individual words, which refer to as "Wisdom Humans." The present study by Selim, G. et al., (2022) showcases the application of virtual heritage technologies in representing the Umm Qais heritage in an interconnected and interrelated manner, hence, contributing to the formation and preservation of its identity and values. The findings suggest that using such technologies can enhance the visitors' engagement with cultural heritage sites and enable them to explore and appreciate the multifaceted nature of cultural practices and their historical layers.

This study produced the inaugural model of a 'virtual living museum' that merged the tangible and intangible heritage of the site and community into a cohesive virtual environment that accorded equal significance to the local community's narratives, traditions, and history. The employed technique has been utilised as the basis for a sustained training program that benefits the local community and links local businesses as part of the initiative to construct a long-term and sustainable living heritage model.

During the project's 24-month investigation, analysis, modelling, and experimentation phase, specific systems, methodologies, and training programs were implemented to actualise the vision. Nonetheless, challenges that are related to collective buy-in may arise. The authors' study delves into integrating the non-individual characters from the cultural heritage Dongba script into the virtual museum, taking the virtual living museum as its origin.

In summary, the current research on the non-individual characters of the Dongba script, mainly the Naxi script that is used by China's ethnic minorities, predominantly concentrates on its structure, pronunciation, and pictoriality. Furthermore, the development of virtual technology systems has been the main focus in utilising virtual technology tools, with cultural museums being the primary application. By leveraging virtual technology tools, the non-individual characters of the pictographic Dongba script have been expanded and distorted to form a virtual children's script museum. To what extent are the Dongba script's non-individual characters distinct? The authors' research objectives, which involve promoting cultural heritage and employing virtual technology tools to accomplish the goal, are enabled by technological innovation.

3. Methods

The authors' research approach aimed to centre around the cultural heritage of the Naxi minority group in China. Specifically, the research design focused on the non-individual characters of the Dongba script, with a selection made using technological instruments. Implementing virtual scenarios, including augmented reality, was utilised to promote cultural heritage sustainably. Qualitative research methods were employed to identify the research scope by analysing the relevant results.

The present study (Li Jing, 2009) employed the findings of previous studies (Maoji, F., 2012) to select pictorial, quasi-script, and monogram characters from a mixture of Naxi pictorial script (White Bat Sutra), Naxi pictograph dictionary, and nine classical translations, as well as the single-character structures. The non-single character structures of the Dongba script were categorised into four types: combined text, character groups, character segments, and compound glyphs. These structures were then systematically analysed based on their constituent elements, pronunciation, and relationship with linguistic units.

Many domestically relevant works, documents, source materials, and Dongba dictionaries were recorded, translated, and subjected to thorough analysis and commentary as part of the research methods.

The present work provides a summary and analysis of the evolution of the Dongba script. It presents an in-depth investigation of the non-individual word structure of the Naxi Dongba script. The study by Li Jing (2009) exemplifies the utilisation of qualitative research methods in uncovering the nuances of the Dongba script.

Utilising virtual reality technology to enhance tangible and intangible cultural heritage, the case study of Lucio Tommaso, D. P., et al., (2022) sheds light on an otherwise inaccessible medieval castle in the small village of Cosano in Salento, Italy. Through the creation of a 3D reconstruction of the castle, an interactive system was developed to provide the users with knowledge about the castle's historical formation. The content was derived from the analysis of tangible cultural heritage, such as the castle's architectural features, furniture, and decorative themes, as well as the evolution of these features over time, and the collection of intangible cultural heritage, such as folk customs and traditions that are associated with the castle's surroundings. Additionally, to assess the user’s experience of the developed application, various user samples were subjected to a series of tests, which garnered favourable feedback regarding the immersion and presence of the program.

In this study, the research methods relied on the oral testimonies from women in the tobacco processing industry during the 19th century in the castle of Cosaño. Given the historical significance and popularity of tobacco production in the southern region during this period, these oral accounts allowed for a comprehensive reconstruction of the different stages of tobacco processing. The results were concluded using the personal interview survey research method to reconstruct the oral description of tobacco processing at Cosano Castle during the nineteenth century.

The study "Immersive Cultural Heritage Digital Documentation and Information Services A Collection of Historical Figures: The Case of Zhu Xi in Song Dynasty China" Zhanling, F., et. al. (2022) proposes a metaspace-based framework for digitally documenting historical figures and their cultural heritage. This framework addresses the need for metaspace display and facilitates the digitising of multimodal data on cultural heritage. The findings of this study offer a new paradigm for documenting historical figures in a more comprehensive and immersive way. Various documents were collected for this study, including profiles, biographies, genealogies, historical titles, photographs, anecdotes, theoretical studies, lectures, publications, and legal documents. In order to promote the dissemination of knowledge about Zhu Xi, the creator of Neo-Confucianism, a qualitative research approach was employed in his study, which formed an essential part of the Wuyishan World Heritage Site. Implementing a mixed reality is accelerating, and the combining of the strengths of mixed and augmented reality through qualitative research methodologies can speed up the development and deployment of mixed reality applications.

3.1 Literature Search

In order to comprehend the distinct characteristics of the Naxi Dongba script, its pronunciation, and the indigenous Dongba script paintings, the study conducted face-to-face interviews with Naxi elders in Lijiang, Yunnan, in China, employing the in-person interview technique of survey research. This method required the interviewer to engage with the respondents face-to-face, facilitating the researcher's ability to observe the interview setting, facial expressions, and attitudes. Furthermore, this approach allowed the researcher to regulate the quality of the respondents' responses, thereby reducing the probability of misunderstandings and increasing the research's precision. To comprehend the intricacies of the hieroglyphic Dongba script, secondary literature was employed in the form of historical documents. The study utilised literature such as "Naxi Dongba Culture" to analyse the non-individual characters of the Dongba script as a starting point for virtual cultural heritage promotion through virtual technology.

4. Results

4.1 Data Analysis

Data analysis through survey methods was gained in this study. To ensure the accuracy of the analysed data, this study employed a qualitative research method utilising the in-person interview technique in its survey research. The increasing global demand for virtual technology provides supporting evidence for promoting the use of virtual technology in cultural heritage, as is evidenced by the official statistics in the primary literature that is reviewed in this study. Notably, historical documents have been utilised as secondary literature in documentary research, allowing for the analysis of historical data to determine the properties of the non-individual characters of the hieroglyphic Dongba script. Figure 1 illustrate the global virtual reality market which is cloise to 100 billion according to the year.

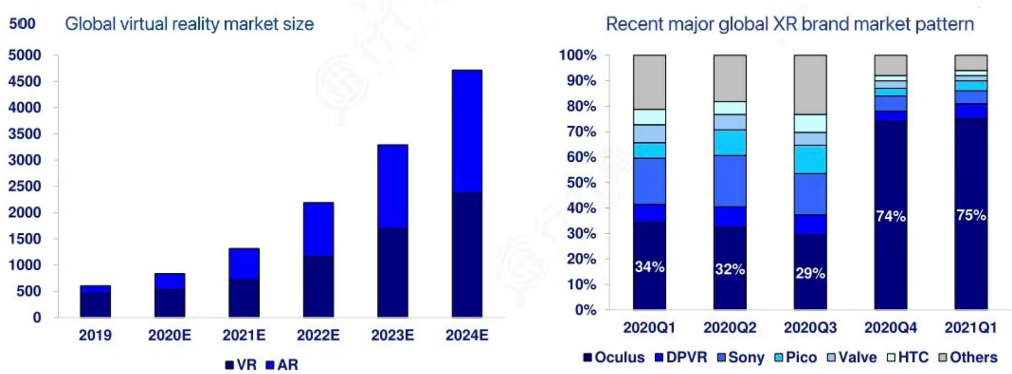

Figure 1. Global virtual reality market size close to 100 billion

5. Findings

5.1 A Study of Symbolic Morphology

Symbolic physiognomy: Symbolic physiognomy refers to combining a text's rhythm, expressive features, and other elements that constitute its symbolic form and reflect its essence. The symbolic item is an essential component of a script's symbolic form, and it has been argued that it comprises three phases, starting from pictorial symbols, as put forward by Mr Zhou Youguang in "The History of the Development of the World Script". According to Wang Boxi, categorising and presenting words into three categories can distinguish pictorial, hieroglyphic, and symbolic symbols. Moreover, Wang Yuanlu highlights the criterion for weighting words, which pertains to the physical form that is represented by words to record their expression. Although the expression of this characteristic of words may vary, the meaning remains the same, and we can define it as the text's symbolic form.

To define the symbolic form of a text, one must consider the elements of line segmentation, size, and weight that correspond to its components. The symbolic morphology of words is dynamic and fluctuates. Given the numerous morphological aspects of the Dongba script, it is challenging to address them in this study. Nonetheless, this study utilises the symbolic morphology of the Dongba script as presented in "A Study of the Character Elements of the Naxi Dongba Script" as an example, breaking down the symbolic morphology of the non-individual characters of the Dongba script into constituent elements for further examination.

The study intends to examine the characteristics of non-individual characters in the Dongba script, commencing with an examination of the structural elements that constitute the script's most minor units. The non-individual characters in the Dongba script are categorised into groups based on their constituent components, including straight lines, folds, curves, dots, and colouring. These categories are briefly outlined. However, since straight and folded lines are minor components with low symbolism, the study will not delve into them in great detail. Instead, the primary focus of the study will be on the curves, dots, and hues.

The Dongba script comprises a multitude of curves, which are a fundamental component of its composition. These curves exhibit considerable variability and do not adhere to a fixed range. For instance, some curves are only slightly arched, such as the curve in the Dongba script character for 'sky' while others adopt a circular arc, as in the case of the character for 'mountain' depicted with its upper part assuming a semi-circular shape. Moreover, certain curves form a spherical shape, as seen in the character for 'eye' in the Dongba script. Arcs play a critical role in the combination of Dongba texts, such as the 'poisonous grass' arc in Dongba which contains numerous arcs that reflect the script's pictorial solid nature.

Dots are a prominent component of the Dongba script, primarily appearing in textual combinations. In this study, selected dots are examined at the level of symbolic morphology, drawing on the "Study of the Character Elements of the Naxi Dongba Script" for reference. The frequency of dot occurrences in the Dongba script constructs varies, with some words consisting of only one dot. In contrast, others feature multiple dots, such as 'cactus' and 'barn'. The prevalence of multiple dots is more common in the script. The Dongba script employs dots to represent small particles or liquids, reflecting its primitive nature. In addition to dots, colouring is another significant feature of the Dongba script. The author cites examples such as 'crow' and 'poisonous grass', both of which are painted black to convey their negative connotation accurately. The use of colouring further highlights the script's primitiveness.

The structures that are discussed above are derived from real-world representations that aim for a high level of accuracy, however, these representations undergo abstraction for writing, which can manifest in different scales. The Table 1 demonstrates the meaning, symbol and characteristics of Dongba Script.

Table 1
Meaning, symbol and Characteristics of Dongba Script

Meaning	Symbol	Characteristics
Sky		Curves and slightly arched
Mountain		Circular arc
Eye		Curves form a spherical shape
Poisonous grass		Arc

Cactus		Multiple dots
Barn		Multiple dots
Crow		Colouring

5.2 Meta-Universe

The Meta-Universe, composed of the Meta Beyond, Verse Universe, and Metaverse Beyond Universe, represents a conceptual space that transcends reality. The term 'metaverse' was initially coined in the science fiction novel "Snow Crash" (Neal, S., 2022). According to Stephenson's work, the Metaverse is a virtual realm where people can interact with each other through avatars. In this virtual world, individuals can engage in entertainment, work, socialise, real estate transactions, and virtual currency exchange, gaining a better understanding of the Meta-Universe. The Metaverse offers individuals the freedom to experiment with new identities and explore alternative realities that would not be possible in the physical world. In October 2021, Facebook's formal name is changed to Meta and its subsequent decision to pivot towards metaverse development catalysed the public's renewed interest in the concept. The year 2021 was even hailed as the "first year of the metaverse," signifying the burgeoning popularity of the Metaverse among people from diverse backgrounds and the emergence of new economic models. Technologically, the Metaverse is a virtual environment that primarily relies on data as its strategic resource, virtual reality (VR/AR/MR/XR) as its primary technical support, and information infrastructure as its carrier. In this regard, the Metaverse transcends traditional technology concepts, representing a paradigm shift in how people interact with virtual reality.

Virtual reality (VR) is a valuable tool for assessing usability, allowing individuals to engage with experiences irrespective of physical location. With a standalone player and no requirement for additional device connections, VR offers a convenient means of evaluating the accessibility and functionality of various systems. The particular characteristic in question affords freedom from geographical and temporal constraints, empowering the users to employ augmented reality (AR) applications in their homes.

5.3 Application Development

It is recommended to utilise either commercial software such as SLIDE AR or artificial intelligence techniques for version-building purposes.

The project was structured into three distinct phases. In the first phase, the reconstruction of the ancient script involved a comprehensive study of the Naxi Dongba script archives in understanding the script's non-individual characters.

The second phase focused on creating the characters of some of the Dongba script's non-individual characters based on the results of the studies that were documented in the ancient writings, such as "White Bat Taking Broker" and "Naxi Dongba Research Series" (Maoji, F., 2012; Sheng Xu,Y., 2003). Finally, the dynamic processing of all texts commenced, as illustrated in Figure 2.

Figure 2. Graphic text was obtained from ancient texts

Additionally, the AE software was employed for the study to create dynamic panels of non-monograms from the Dongba script and to achieve particular effects that could be made in AE. The fascinating development of the text was based on the non-single character text property of the Dongba script that was utilised to produce the special effects in AE in alignment with the underlying design concept.

The selection of ARTIVIVE was based on a thorough evaluation process that considered the research findings of Maoji, F. (2012) and Sheng Xu,Y. (2003), which examined ancient Chinese manuscripts such as "White Bat Fetching Brokers" and "Naxi Dongba Script Research Series." The positioning of the dynamic text was a crucial factor in the design process, and the software was rigorously tested to ensure that it met high standards of usability and dependability. Resultantly. ARTIVIVE emerged as the preferred choice after considering its suitability to the project requirements and software standards.

To get started, create an account and follow the instructions that are provided. Then, upload a visual representation of the object that is to be recognised, along with a high-quality GIF. Finally, design the spatial location of the dynamic text on the webpage, considering the dimensions of the X, Y, and Z axes.

The AR experience can be accessed through various devices, allowing the users to choose the device of their preference. For this purpose, the application option for the AR experience is the 'Reality Composer,' a powerful tool that is capable of creating and simulating augmented reality experiences for various devices such as iPhones, iPad, and even Apple computers that are running Xcode. This feature ensures that the users enjoy a lifelike AR experience regardless of their device.

5.4 User Interaction: AR Animation

The non-individual characters of the Naxi Dongba script, which are a form of traditional text display, are limited to specific times and locations in Yunnan, China, making them inaccessible to a broader audience. To address this issue, the utilisation of AR animations to present storytelling scenes incorporating virtual and authentic cultural heritage representations. This creates an interactive mixed-reality experience that enables the public to learn about the Dongba script through AR animated stories (refer to Figure 3).

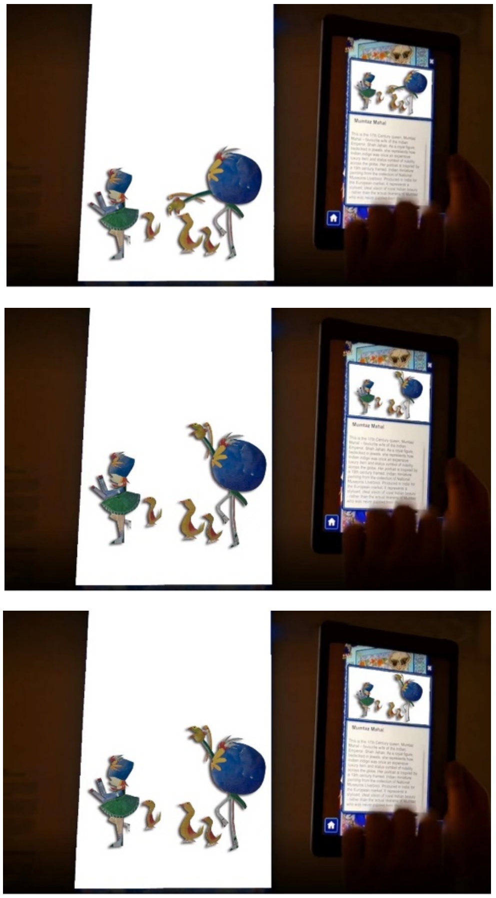

Figure 3. Evolving text

5.5 User Interaction: AR Digital Museum

The Dongba script digital museum employs a novel approach in which non-individual characters from the original texts are transformed to create captivating new texts. These texts are used to convey stories that showcase the cultural heritage of the Dongba script. By presenting these stories in a virtual exhibition hall, the museum offers a modern interpretation of this ancient script that is accessible without spatial or geographical limitations. Furthermore, the digital museum provides a high-quality virtual experience through AR and interesting audio story guide functions. Importantly, it offers a low-cost and efficient way to update the exhibits anytime, making it an innovative tool for preserving and promoting cultural heritage (Figure 4).

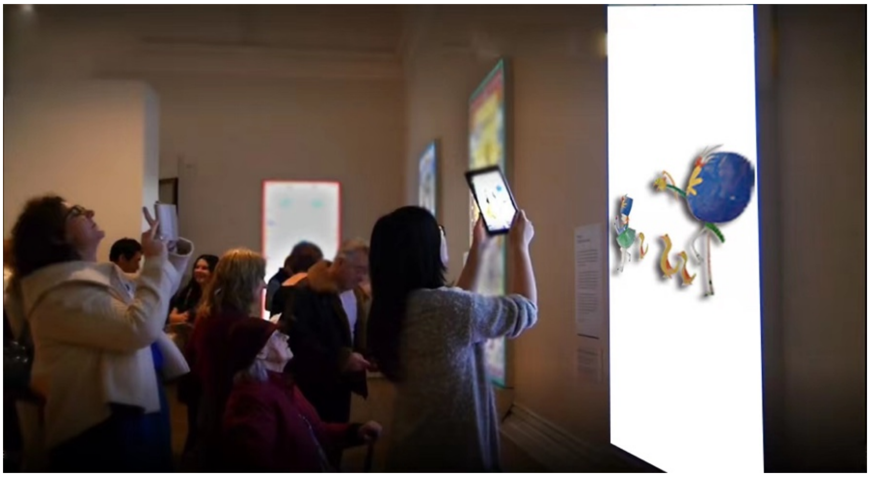

Figure 4. AR Digital Museum

Table 2
User experience evaluation

Question	*Agree (%)*	*Uncertain (%)*	*Disagree (%)*
AR animation museum helps you to learn more about Dongba script non-monogram	95	3	2
AR animation combined with the interesting evolution of the Dongba script appeals to you	92	6	2
AR animation museum under the Dongba script non-monogram can let you better understand the cultural heritage	95	4	1
AR animation museum have enhanced effect on promotion of non-monogram cultural heritage of Dongba script	90	8	2

According to the findings in Table 2, there was a 90% acceptance rate for AR animation and museums in their ability to promote the Dongba script non-individual characters' cultural heritage, with 8% of participants expressing uncertainty and 2% expressing disagreement. Later interview follow-ups revealed that the minority of participants who had expressed dissatisfaction believed that pure AR animation resulted in less interaction between the museum and the participant. In contrast, 2% desired to improve emotional interaction with the Dongba script non-individual characters. These results will serve as a foundation for the author's future development of virtual human wisdom people applications.

6. Conclusion

The authors utilised the construction element, the smallest unit of script construction, to study the hieroglyphic Dongba script. Their research has revealed that the construction elements, such as straight lines, dashes, curves, and dots, enable the Dongba script to be distinguished into non-individual characters. However, due to cultural heritage, the Dongba script is not widely accessible.

In order to address the increasing challenges of preserving and promoting the non-monogrammed cultural heritage of the Dongba script, technology can be utilised to engage more people and achieve sustainable and dynamic promotion. Virtual technologies such as AR animation and digital museums offer borderless opportunities to showcase and explore the script culture.

The virtual museum of Dongba script non-monogram digital is utilised as an initial reference to forecast the trajectory of the development of Dongba script avatars in the virtual museum, which includes their costumes, emotions, and language. This projection is rooted in the insights that are gained from the initial research.

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Authors Contributions

Liang Xin: Responsible for the research, and the main author which responsible for the reliability of the article.
Azhari Md Hashim : Corresponding author with guidance on research and article revision.
Li Wen feng: Contributed indirectly to the research, providing indirect research guidance on data collection and the topic.

Conflict of Interest

No conflict of interest indicate in this article.

References

Lucio Tommaso, D. P., Chiarello, S., Gatto, C., Liaci, S., & De Luca, V. (2022). Virtual reality for the enhancement of cultural tangible and intangible heritage: The case study of the Castle of Corsano. *Digital Applications in Archaeology and Cultural Heritage*, e00238 https://doi.org/10.1016/j.daach.2022.e00238

Zhanling, F., Chen, C., & Huang, H. (2022). Immersive cultural heritage digital documentation and information service for historical figure metaverse: a case of Zhu Xi, Song Dynasty, China. *Heritage Science*, 10(1)https://doi.org/10.1186/s40494-022-00749-8.

Maoji, F. (2012). *The White Bat Takes the Broker* (pp. 1–334). The Commercial Press. Commercial Press.ISBN:9787100087261

Li Jing. (2009). *A study of the non-individual character structure of the Naxi Dongba script. Published by China Knowledge Network* https://d.wanfangdata.com.cn/thesis/ChJUaGVzaXNOZXdTMjAyMzAxMTISB0QzMTcwMzQaCHA3NHgzbXc0

Liu Yue. (2010). A study of the development of the Dongba script based on the description of heterogeneous phenomena. Published by China Knowledge Network https://kns.cnki.net/kcms2/article/abstract?v=3uoqIhG8C447WN1SO36whNHQvLEhcOy4v9J5uF5OhrnQEpjv_r9SmjFMS1syop9OZJBCwTbY_-J-m8jXHBE8WTuSnPHviUJu&uniplatform=NZKPT

Neal, S. (2018). Snow Crash.Penguin published. ISBN:9780241953181

Selim, G., Jamhawi, M., Abdelmonem, M. G., Ma'bdeh, S., & Holland, A. (2022). The Virtual Living Museum: Integrating the Multi-Layered Histories and Cultural Practices of Gadara's Archaeology in Umm Qais, Jordan. *Sustainability*, 14(11), 6721 https://doi.org/10.3390/su14116721

Zhu Ran, (2013). A study of the nature of early pictorial scripts.. Published by China Knowledge Network https://kns.cnki.net/kcms2/article/abstract?v=3uoqIhG8C475KOm_zrgu4lQARvep2SAk8URRK9V8kZLG_vkiPpTeIfP5Yx3ua4UmL0NCk_kMXnDQlphZV-YLn6ibVcMBpY_S&uniplatform=NZKPT

Sylaiou, S. & Fidas, C. (2022). Virtual Humans in Museums and Cultural Heritage Sites. *Applied Sciences*, 12(19), 9913 https://doi.org/10.3390/app12199913

Sheng Xu,Y. (2003). Naxi Dongba Script Research Series. Yunnan Ethnic Publishing House.ISBN:9781050965969

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ASSESSMENT OF OCCUPATIONAL SAFETY AND HEALTH AWARENESS OF PUBLIC SERVANTS IN THE WORKPLACE

Rosley Jaafar*[1], Norazah Umar[2], Anas Ibrahim[3] & [4]Muhammad Aiman Abdul Halim

[1]Mechanical Engineering Studies,
[2]Department of Computer and Mathematical Sciences,
[3]Civil Engineering Studies,
[4]Academy of Language Studies.
Universiti Teknologi MARA (UiTM) Pulau Pinang Branch,
Pulau Pinang, MALAYSIA.

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Corresponding Author:
rosley110@uitm.edu.my

ABSTRACT

Occupational safety and health (OSH) awareness is a constant acknowledgment that every employee must have, and it goes beyond what they have learned in the safety and health training workshop. This study was conducted to identify and evaluates based on the seven aspects (occupational safety and health policy, commitment and attitude, standard operating procedure, training, safety and health committee, equipment, and environment) of OSH awareness of Universiti Teknologi MARA *Cawangan Pulau Pinang* (UiTMCPP) staff in the workplace. There were 193 respondents from various faculties and departments. Questionnaires were used as the instrument to collect the data and the Statistical Package for the Social Sciences (SPSS) version 20 was used to analyse it. The frequency, percentage, and mean score were used to identify the level of respondents' awareness. This study found that the level of OSH awareness among UiTMCPP staff in the workplace is at a high level with an overall mean score of 4.44. OSH policy with an average mean score of 4.90 is a dominant factor that contributed to OSH awareness level compared to other factors. It is hoped that this study can be a source of reference for the UiTM management and other organisation in increasing the level of OSH awareness of their employees.

1. Introduction

Levitt and Samelson (1993) stated that occupational safety and health (OSH) is an interdisciplinary field that encompasses the disciplines of industrial hygiene, occupational health, occupational medicine, occupational nursing, safety engineering, epidemiology, and toxicology. It also includes the surroundings and conditions that affect employees and other related persons at the workplace. OSH is an interdisciplinary activity concerned with the prevention of occupational risks inherent to each work activity and the main purpose of OSH is to promote and maintain safety and health at work to the highest degree (Nunes, 2021). Hence OSH aims to avoid the occurrence of work-related accidents and occupational diseases in the workplace.

Nowadays, technological progress and intense competitive pressures bring a fast change in the organisation, working conditions, and work processes. A safe and healthy environment is the fundamental right of every worker to work in any organisation. All organisations, as well as employers, have a responsibility to ensure their employees work in a safe workplace. Nevertheless, according to recent estimates released by the International Labour Organization (ILO), each year 2.78 million workers die from occupational accidents and work-related diseases (of which 2.4 million are disease-related) and an additional 374 million workers suffer from non-fatal occupational accidents (International Labour Organization [ILO], 2019). Employers must also be able to tackle OSH challenges continuously and build effective responses into dynamic management strategies.

OSH is not only focused on avoiding work accidents or occupational diseases but also in taking actions to identify the causes of hazards existent at the workplace. The implementation of adequate preventive OSH control measures can create a better working environment. Occupational accidents and work-related diseases have a major impact on individuals and their families, not only in economic terms but also in terms of their physical and emotional well-being in the short term as well as long term. It can have major effects on business, affecting productivity, leading to potential disruptions of production processes, delaying competitiveness and reputation of businesses along supply chains, and impacting the economy and society (ILO, 2019).

The Department of Occupational Safety and Health at Universiti Teknologi MARA (UiTM) is responsible for making sure that working environments are safe and healthy. As the largest public university in Malaysia with 35 campuses around the country and almost 18000 staff, the management of OSH at branch campuses is administered by a dedicated state OSH committee. UiTM *Cawangan Pulau Pinang* (UiTMCPP) is one of the branch campuses of UiTM. As a campus focusing on engineering and technology, UiTMCPP offers four main engineering courses such as mechanical, civil, electrical, and chemical. The utilisation of mechanical machines, electrical equipment, and hazardous chemicals is common in engineering laboratories.

Safety and health concerns are not confined to commercial industries alone, but also extend to institutions of higher learning such as UiTMCPP, where direct or indirect involvement in the handling of equipment, machinery and chemicals poses potential risks. The workers certainly will be exposed to the risk of accidents or any injuries at the workplace. Based on the situation faced by UiTMCPP staff, their level of awareness of the OSH regulations prepared by UiTM should not be taken lightly. Many factors influence employee awareness of OSH. According to Durrisah, Hadmidah, Hapriza, Fadilah, Rossilah, and Syaharizatul (2004), the employee level of OSH awareness in the organisation can be measured through assessment of safety and health policy; safety and health committee; attitude and commitment; training; procedure; equipment; and environment. Therefore, this study was conducted to identify their level of awareness of occupational safety and health at the workplace, and it evaluates based on seven factors that influence their awareness as stated in the methodology section.

2. Literature Review

Knowledge and awareness of OSH play a significant role in the prevention of occupational injuries and illnesses. Awareness activities can be used to reinforce positive attitudes, working behaviour, and safety culture among the workers. Occupational safety and health awareness enables the workers to fit into their work by receiving the proper knowledge and skills that assists in making the right decisions, ultimately contributing to the achievement of good working conditions and environments (Alli, 2008). Ibrahim, Jared, and Paul (2017) concluded in their study that OSH awareness affected workers' consciousness of their work environment. Previous studies have revealed OSH awareness levels in safety and health policy, safety and health training, safety and health committee, safety and health procedures, complaint and accident investigation, emergency action preparation, and safety commitment and behaviour that can be used as a reference by any organisation (Baizura, Fazidah, Faradiana & Riduan, 2016; Faiqah et al., 2019; Kadir, Wan, Zainor & Amirul, 2021).

Safety awareness is an important aspect of the employer to ensure safety rules and procedures are followed so that the accident rates among employees can be reduced (Mohammad & Kadir, 2020). Safety awareness is a continuous realisation that every worker must always have, it means that they are constantly aware of how they are working and able to recognize the hazards and it is essential in reducing safety-related risks (Advanced Consulting & Training Ltd., 2021). The workers who have more exposure to safety awareness are expected to be more aware of safety issues, including being inexperienced in handling equipment and not adhering to standard operating procedure to run the machine (Arora et al., 2012).

Management of all employers should maintain OSH awareness among employees in the workplace through regular training, campaigns, and refresher seminars. Effective OSH awareness programmes have significant benefits for both employers and employees. Various programmes and training should be implemented by different government agencies and private sectors to increase knowledge and awareness of OSH in the workplace. Employers must perform a risk assessment regarding safety and health at work, so they will be able to decide the required actions to be taken. The OSH management must determine the type of OSH measures that should be implemented if the desired state of safe working conditions is to be achieved. Employers, employees, and the public should care about occupational safety and health for economic, legal, and moral reasons (Montgomery & Kelloway, 2002). It means that OSH requires cooperation among multiple stakeholders including the government, employers, and employees with their own roles to play in enhancing safety and health outcomes.

Employers need to understand the relevant legislation and regulations and also should have an effective OSH committee while workers should understand work hazards and safe work practices (Patrick, Charles, & Benson, 2019). The workers will feel safe doing their job, more productive, accountable, and engaged in work when they work in workplace with proper safety precautions. Getting a safe workplace is an ongoing process that involves safety awareness, a safety culture, and as well as safe practices and procedures. With a positive attitude, the worker will behave in a good way and take precautionary actions to stay safe while with a negative attitude, the worker are likely to have negative behaviour and confidence that will lead towards danger and risk. Therefore, attitudes towards safety awareness will influence individual behaviour, as behaviour is greatly influenced by these attitudes (Jackson & Allemand, 2014).

The right to work in a safe and healthy environment is a fundamental right of every worker (Lugah et al., 2010). Hence, all employers should provide a safe and healthy working environment for their employees. There is no denying that accidents in the workplace are unpredictable and uncontrollable, but it is not an excuse for employers to ignore and disregard all aspects related to safety in the workplace (Mustazar & Peng, 2009). Hwang et al., (2000) stated that many health problems and injuries are caused by not practicing safety awareness practices. Hence, all parties should play their respective roles and not be selfish so that accidents can be avoided.

3. Methodology

The study employed a cross-sectional survey research design. Data were collected at Permatang Pauh and Bertam campuses of UiTMCPP. The questionnaires were distributed among academic and non-academic staff who were involved with the operation of hazardous machines or equipment in teaching and learning either in the workshop, kitchen, laboratory, or fieldwork. The respondents consist of lecturers, assistant lecturers, assistant science officers, assistant engineers, chefs, and assistant chefs.

Questionnaires were used to determine the socio-demography and the awareness level of the OSH of the respondents on awareness factors. The OSH awareness questionnaire consists of seven awareness factors which are i. Occupational Safety and Health (OSH) policy; ii. Standard Operating Procedure (SOP); iii. Equipment; iv. Training; v. Safety and Health Committee (SHC); vi. Commitment and Attitude (CA); and vii. Environment. Most sources of the questionnaires were adapted from a research study by Durrisah et al. (2004), and the questions were modified to meet the research objectives. The total number of OSH questions is 43. The questionnaire consisted of close-ended questions with five rating levels according to the Likert scale which is 1 (strongly disagree), 2 (disagree), 3 (unsure), 4 (agree), and 5 (strongly agree).

The reliability test on the set of research questionnaires was conducted involving a total of 35 selected respondents. The results of analysis using Statistical Package for Social Sciences (SPSS) version 20.0 software showed that the level of reliability of the questionnaire set for this study is at a high level with a Cronbach alpha value of 0.85. According to Feinberg, Kinnear, and Taylor (2013), the Cronbach alpha value of more than 0.7 is an acceptable level for measuring the reliability of the questionnaire instrument.

The respondents for this study were selected through a random sampling method. The estimated number of respondents is calculated based on the population size, N = 526 people. The required sample size, S = 217 people is obtained from the table for determining the sample size of a given population, and no calculation is needed (Robert and Daryle, 1970). The distribution of the online questionnaires to the respondents was done via UiTMCPP e-mail. The total number of staff who answered the questionnaires is 193 which is 88.9% of the sample size. The data were analysed using the Statistical Package for the Social Sciences (SPSS) version 20 and presented in descriptive statistics which are percentage, frequency, and mean.

The interpretation of the aspects of awareness possessed by the respondents in this study are based on 5-level scales of the mean score which is designed by Best (1981) and Degang (2010) as shown in Table 1. Very high and high level (3.5 – 5.0) indicates the respondent have extensive knowledge of OSH awareness and high confidence about its details. A moderate level (2.5 - 3.49) indicates a moderate knowledge of OSH but with some uncertainty about its details. Low and very low level (1.0 – 2.49) indicates inadequate or less knowledge of OSH with less uncertainty about its details. These scales are commonly used for the interpretation of the five-point Likert scale in the descriptive analysis.

Table 1
Interpretation of mean score of motivational levels

Scale	Mean range	Motivational Level	Score range
5	Strongly agree	Very high	4.5 – 5.0
4	Agree	High	3.5 – 4.49
3	Unsure	Moderate	2.5 – 3.49
2	Disagree	Low	1.5 – 2.49
1	Strongly disagree	Very low	1.0 – 1.49

4. Results and Discussion

4.1 Distribution of Respondents of Socio-Demographic

The demography of 193 respondents tabulated in Table 2 shows the information on gender, age, staff category, faculty, education level, and duration of service. Male respondents accounted for 54.4%, slightly higher than female respondents who constituted 45.6%. This shows a good balance of feedback between male and female staffs. The largest group of respondents is between 31 to 40 years old at 58.1%, followed by 41-50 years old at 32.1%. The remaining 5.7% of respondents are 51 years old and above. 81.9% of respondents are from academic staff and 18.1% are non-academic staff. 66% of respondents representing 127 out of the total respondents were from the faculty of engineering. This data was followed by the fact that 77.2% of the respondents have acquired master's and PhD level of education. Based on the data, 91.1% of respondents have more than 5 years of working experience indicating the group of staff involved in this study should have a good understanding of safety and health regulations and practices.

Table 2
Socio-demographic of the respondents

Characteristics	Category	Frequency	Percentage (%)
Gender	Male	105	54.4
	Female	88	45.6
Age (years)	< 20	0	0
	20 – 30	6	3.1
	31 – 40	112	58.1
	41 – 50	62	32.1
	> 51	13	6.7
Staff category	Academic	158	81.9
	Non-academic	35	18.1
Faculty	Mechanical engineering	45	23.3
	Civil engineering	42	21.8
	Electrical engineering	29	15.0

	Chemical engineering	11	5.7
	Hotel Management and Tourism	26	13.5
	Health Sciences	11	5.7
	Pharmacy	12	6.2
	Department of Applied Science	17	8.8
Education	Ph.D	46	23.8
	Master	103	53.4
	Degree	7	3.6
	Diploma	27	14.0
	STPM	1	0.5
	Certificate	7	3.6
	SPM	2	1.0
Duration of service (years)[a]	< 5	17	8.9
	6 – 10	56	29.2
	11 – 15	79	41.1
	16 – 20	35	18.2
	> 21	5	2.6

1. [a]Data was missing for 1 respondent.

4.2 Level of Awareness of Occupational Safety and Health Policy

The level of respondents' awareness of OSH policy is tabulated in Table 3. It was found that the level of awareness of OSH policy is very high, with an average mean score of 4.90. All respondents (100%) agreed that the employer must have a safety and health policy, the policy must be clear, easy to understand, and must be displayed in an easy-to-see area. Meanwhile, 192 (99.5%) agreed the policy must be explained to all the employees so that the employees will understand every statement that was stated in the policy and how it can be implemented in their workplace. The average percentage of respondents agreeing with the awareness question item on safety and health policy is 99.9%.

Table 3
Occupational Safety and Health (OSH) policy

Question		1	2	3	4	5	Mean	Standard deviation
Every organization needs to have	(F)	0	0	0	15	178	4.92	0.27
a safety and health policy.	(%)	0	0	0	7.8	92.2		
Safety policy needs to be	(F)	0	0	0	20	173	4.90	0.31
posted in an easy-to-see area.	(%)	0	0	0	10.4	89.6		
Safety policy needs to be	(F)	0	0	1	21	171	4.88	0.34
explained to all employees.	(%)	0	0	0.5	10.9	88.6		
Safety policy needs to be clear	(F)	0	0	0	19	174	4.90	0.30
and easy to understand.	(%)	0	0	0	9.8	90.2		
Average							4.90	0.30

The findings of the present study are supported by the previous study by Baizura et al. (2016) who found that the level of safety and health awareness among staff in the workshop and laboratory of an Engineering Technology University campus of UniKL MSI, Kedah Malaysia on safety policy is high with an average mean score of 4.4. Similar results were obtained in a study by Patrick, Sedem, and Ben (2017), as the awareness level of OHS policy implemented among 88 workers of the South

Tongu District Hospital in Ghana is high (73.5%) where the workers faced safety, mechanical, biological, ergonomic, physical, and psychological hazards. The findings by Siti Nakiah, Raudhiah, and Azharuddin (2015) in a study of factors influencing employee awareness of occupational safety practices in a logistics company in Selangor Malaysia showed that safety policy had a significant relationship and influences the level of employee awareness of occupational safety practices. However, different results were found in a study by Daniel, Paul, and Benson (2019) among the 191 public health care facilities workers in Uasin Gishu County, Kenya, which indicated low awareness of OSH policies, and the nursing profession has the lowest OSH awareness. Generally, 84% of the respondents were aware of the existence of the OSH programmes and 88% agreed that guidelines on OSH precautionary principles were available in their facilities. These findings show that employers should have a clear and easy safety policy to understand all employees.

4.3 Level of Awareness of Standard Operating Procedure

The Standard Operating Procedure (SOP) is another aspect that requires staff to strictly adhere to ensure OSH at the workplace. The frequency distribution and percentage of respondents to SOP in the workplace are shown in Table 4. It was shown that the level of respondents' awareness of SOP is at a very high level with an average mean score of 4.59. This result can be seen in that 190 (98.4%) and 189 (97.9%) respondents respectively agreed that the SOP should be clear, easy to understand, and placed in a convenient place. Most respondents acknowledged the SOP, as 173 (89.6%) were aware of the existence of SOPs and 179 (92.8%) adhered to the SOP in their workplace. Moreover, 189 (97.9%) respondents understand the risk of not following SOP for themselves and others. The average percentage of respondents agreeing with the awareness question item on SOP is 95.3%.

Table 4
Standard Operating Procedure (SOP)

Question		1	2	3	4	5	Mean	Standard deviation
I know there are SOPs at my place of duty.	(F)	0	3	17	100	73	4.26	0.68
	(%)	0	1.6	8.8	51.8	37.8		
I adhere to all SOPs while doing work.	(F)	0	1	13	88	91	4.39	0.64
	(%)	0	0.5	6.7	45.6	47.2		
Failure to comply with the SOPs may result in injury to me, and other users.	(F)	0	1	3	48	141	4.70	0.52
	(%)	0	0.5	1.6	24.8	73.1		
SOPs should be clear and easy to understand.	(F)	0	0	3	35	155	4.80	0.43
	(%)	0	0	1.6	18.1	80.3		
SOPs documents need to be placed in a convenient place.	(F)	0	0	4	31	158	4.80	0.45
	(%)	0	0	2.1	16.1	81.8		
Average							4.59	0.54

The present study agrees with the previous study by Baizura et al. (2016) who found that the level of safety and health awareness among staff regarding the safety procedure is high with an average mean score of 4.53. Similarly, the resulting study by Faiqah et al. (2019) had shown that the level of safety and health awareness of the safety procedure among 25 laboratory staff in Universiti Teknologi Malaysia, Johor Malaysia is high with an average mean score of 3.92. The results of this study were also in line with the result found by Kadir et al. (2021) where the level of awareness of safety and health procedures among 259 staff of the Putrajaya Department of Occupational Safety and Health Office was very high with an average mean score of 4.36. The results of this study are consistent with the findings of the study by Mohd Hakimi, Shahida, and Firdaus (2014) who stated that the safety and health operating procedures influence an increased level of employee safety awareness.

4.4 Level of Awareness of Equipment

Table 5 presents the data on OSH awareness levels among respondents regarding equipment. It was found that the level of awareness of equipment is high with an average mean score of 4.34. A total of 183 respondents (94.8%) agreed that all equipment or machine must be clearly labelled. The result shows that 181 (93.6%) agreed to the use of personal protective equipment if required for any specific job. They (90.1%) were aware that the layout requirement of the machine in the laboratories must be appropriate and safe. They (89.2%) were also highly aware of the presence of fire extinguishers, indicating the locations of fire extinguishers are good and visible. The average percentage of respondents agreeing with the awareness question item on equipment is 89.4%.

Table 5
Equipment

Question		1	2	3	4	5	Mean	Standard deviation
There is personal protective	(F)	1	7	19	72	94	4.18	0.91
equipment at my place of duty.	(%)	0.5	3.6	10.2	37.2	48.5		
I will use personal protective	(F)	1	4	7	83	98	4.42	0.71
equipment while on duty.	(%)	0.5	2.1	3.8	42.8	50.8		
I found adequate fire	(F)	1	7	25	84	76	4.18	0.83
extinguishers.	(%)	0.5	3.6	13.0	43.5	39.4		
Fire extinguishers are	(F)	1	5	15	80	92	4.33	0.77
conveniently located.	(%)	0.5	2.6	7.8	41.5	47.7		
Equipment /machines need to	(F)	0	0	10	56	127	4.61	0.59
be clearly labeled.	(%)	0	0	5.2	29	65.8		
The machine/equipment layout	(F)	0	4	15	89	85	4.32	0.71
is appropriate and safe.	(%)	0	2.1	7.8	46.1	44		
Average							4.34	0.75

A similar result was obtained by Firdaus, Koh, and Latib (2013) in their study of polytechnic staff in Kedah where the awareness level regarding the safety equipment was high with an overall mean score of 4.03. Similar results were also obtained in previous study by Baizura et al. (2016) and Faiqah et al. (2019), where it was found that the level of safety and health awareness among staff regarding the safety tools and equipment was high with an overall mean score of 4.11 and 4.32 respectively. However, the findings in a study by Ibrahim and Abdullah (2014) who studied tools and equipment arrangements for 196 technical and vocational pre-service teachers in Malaysia found that the mean of safety awareness is in moderate level.

4.5 Level of Awareness of Training

Safety and health training is a very important aspect to be considered by the OSH management. The frequency distribution and percentage of respondents for safety and health training in the workplace are shown in Table 6. It was found that the respondent's level of awareness in the training aspect is high with an average mean score of 4.48. The majority 191 (99%) of the respondents agreed that the important training is first aid training. A total of 188 respondents (97.4%) realised that the safety training activities must be exposed to all employees and 173 respondents (89.6%) stated that they need to follow the safety training programmes continuously. The OSH committee of UiTMCPP was aware of the training requirement and always provided the opportunity to all staff to upskill their knowledge in OSH. The average percentage of respondents agreeing with the awareness question item on safety and health training is 91.1%.

Table 6
Training

Question		1	2	3	4	5	Mean	Standard deviation
I have attended the activity related to OSH.	F	2	17	23	79	72	4.05	0.97
	%	1	8.8	11.9	40.9	37.4		
I have to follow the activity and safety training continuously.	F	0	4	16	85	88	4.33	0.72
	%	0	2.1	8.3	44	45.6		
Activity and safety training needs to be exposed to all employees.	F	0	1	4	41	147	4.73	0.52
	%	0	0.5	2.1	21.2	76.2		
I am aware that first aid training is important.	F	0	0	2	38	153	4.79	0.44
	%	0	0	1	19.8	79.2		
Average							4.48	0.66

This study revealed results that are like previous studies by Baizura et al. (2016), Faiqah et al. (2019) and Kadir et al. (2021) who found that the level of safety and health awareness among staff regarding safety and health training was high with overall mean score of 4.35, 4.24 and 4.44 respectively. A study by Noorhasimah, Marsyifa, and Rafee (2017) indicated that the level of awareness of safety behaviour, the safety of rules and procedures, safety training, safety promotion and policy, safety communication and feedback, workers involvement, and management commitment are high among Malaysian small and medium enterprise workers. Meanwhile, Muhammad and Rosmah (2018) in their study of the factors that influence the level of OSH awareness in DENSO company, Malaysia workers also showed that training factors are the most dominant factors that affect the level of OSH awareness. In addition, Rosmah, Amirul, and Amer (2018) in their study on the relationship between attitudes and training with the level of OSH awareness in Malaysian private medical centres showed a positive relationship between safety and health training with the level of OSH awareness of employees in the employer concerned.

4.6 Level of Awareness of Safety and Health Committee

Table 7 shows the frequency and percentage of respondents responding to safety and health committee (SHC) factors. The findings revealed that the level of awareness of respondents on SHC is high with an average mean score of 3.90. The highest average mean score is 4.50 in which 178 (92.3%) are aware of the existence of SHC at the university level followed by the faculty level 164 (84.9%). The lowest average mean score is 3.43 which means only 84 (48.2%) of the respondents are aware that SHC regularly conducts safety and health activities and yearly OSH week. The respondents (77.2%) agreed that SHC must organize an OSH talk to ensure enlightenment on the importance of maintaining OSH in the workplace. The average percentage of respondents agreeing with the awareness question item on safety and health procedures is 67.2%.

Table 7
Safety and Health Committee (SHC)

Question		1	2	3	4	5	Mean	Standard deviation
I am aware of the SHC at the university level.	F	0	2	13	65	113	4.50	0.67
	%		1	6.7	33.6	58.7		
I am aware of the SHC in my faculty/department.	F	3	6	20	53	111	4.36	0.90
	%	1.6	3.1	10.4	27.5	57.4		
I like to engage in activities organized by SHC.	F	2	7	43	90	51		0.85
	%	1	3.6	22.3	46.6	26.5	3.94	
SHC regularly conducts occupational safety activities such as talks, fire drills, and first aid.	F	11	15	74	66	27		1.01
	%	5.7	7.8	38.3	34.2	14	3.43	
Every occupational accident will be investigated by SHC.	F	4	3	52	73	61		0.91
	%	2.1	1.6	26.9	37.8	31.6	3.95	
The safety and health talk organized by SHC enlightened me on the importance of maintaining safety and health wherever I am.	F	3	6	35	84	65		0.89
	%	1.6	3.1	18.1	43.5	33.7	4.05	
OSH week is held every year by SHC.	F	9	15	85	52	32		1.01
	%	4.7	7.8	44	26.9	16.6	3.43	
The campaign for 'safe work` and a `healthy environment' in the workplace is being conducted continuously by SHC.	F	6	16	76	57	38		1.00
	%	3.1	8.3	39.4	29.5	19.7	3.54	
Average							3.90	0.91

The results of this study are in line with the result found by Faiqah et al. (2019) and Kadir et al. (2021) found that the level of safety and health awareness among staff regarding the safety and health committee was high with an average mean score of 3.72 and 4.42 respectively. However, the results found by Baizura et al., (2016) are moderate level with an overall mean score of 3.35. In this study, 134 (69.4%) respondents agreed that occupational accident is investigated by SHC. Meanwhile, Siti Hajar, Ahmad, and Rashid (2015) concluded in their study that 58 quarry workers in East Coast Malaysia had a high level of safety awareness, with the highest being 88% of workers were aware that all accidents at the workplace must be reported to the responsible person. However, the different findings of the study by Siti Nakiah et al. (2015) showed that the safety and health committee had a weak significant relationship and did not influence the level of employee awareness of occupational safety practices.

4.7 Level of Awareness of Commitment and Attitude

The success of OSH management and practices is notably influenced by commitment and attitude, as highlighted by the findings shown in Table 8. The analysis shows that the respondent's awareness level of commitment and attitude is very high with an average mean score of 4.63. The highest average mean score is 4.84 which means 193 (100%) agreed that OSH must be prioritized in the workplace while the lowest average mean score is 4.39 which means 91.8% of the respondents stated that personal protective equipment did not interfere with their work. All the respondents (100%) agreed that negligence in safeguarding safety will endanger the user. A total of 191 (99%) of the respondents agreed that the workers must obey the safety regulations at the workplace, and the machines must be cleaned after being used. The average percentage of respondents agreeing with the awareness question item on commitment and attitude is 97.3%. High awareness of commitment and attitude shown by the respondents are important keys to the success of OSH management and practices at the campus. The top management should continuously educate staff with proper training and activities to have a sustainable OSH system.

Table 8
Commitment and Attitude

Question		**1**	**2**	**3**	**4**	**5**	**Mean**	**Standard deviation**
Negligence in safeguarding the safety	F	0	0	0	34	159	4.82	0.38
will endanger all the users.	%	0	0	0	17.6	82.4		
I always obey safety regulations at my	F	0	0	2	62	129		0.50
place of duty.	%	0	0	1	32.2	66.8	4.66	
I always make sure the equipment is	F	0	0	2	66	125		0.50
always clean and tidy after use.	%	0	0	1	34.2	64.8	4.64	
I will tell the importance of OSH to	F	0	1	2	75	115		0.54
colleagues and students.	%	0	0.5	1	38.7	59.8	4.58	
I will check the equipment first before	F	0	0	10	73	110		0.60
using it.	%	0	0	5.4	37.8	56.8	4.52	
Personal protective equipment does	F	0	0	16	86	91		0.64
not interfere with my work.	%	0	0	8.2	44.6	47.2	4.39	
Any equipment damage will be	F	0	0	9	67	117		0.57
reported immediately.	%	0	0	4.4	34.7	60.9	4.57	
OSH must be prioritized.	F	0	0	0	32	161		0.37
	%	0	0	0	16.6	83.4	4.84	
Average							4.63	0.51

The findings of the present study are supported by the previous studies by Baizura et al. (2016), Faiqah et al. (2019) and Kadir et al. (2021) which showed that the level of safety and health awareness among staff regarding the safety commitment and attitude was high with average mean score of 4.3, 4.44 and 4.18 respectively. Contrasting findings were reported in a study by Perdana, Amarria, Dilla, and Amirah (2018), who found that the electrical workers in an airport service company in Indonesia were not aware of personal protective equipment usage but aware of safety implementation and unsafe behaviour. The implementation of Behaviour-Based Safety (BBS) can effectively increase safety awareness among workers. The element of human, behaviour, and environmental factors in the Behaviour-Based Safety (BBS) awareness method was studied by Rosliza, Noorhasimah, Syed, and Norsyahidah (2015) among 53 Safety and Health Officers in the Malaysian manufacturing industry, which shown that the level of awareness was moderate where the knowledge was higher than understanding and practices level. In addition, a case study on the level of OSH awareness of forklift dangers among forklift drivers in the manufacturing sector in the state of Selangor by Nor Azimah & Hamirul (2015) also concluded that attitude factors had a significant relationship with the level of OSH awareness.

4.8 Level of Awareness of the Environment

The safe working environment greatly contributed to the safety and health of the workers. Table 9 presents respondents' data regarding the environment of their workplace. The result shows that the respondent's awareness level of the environment is high with an average mean score of 4.22. The highest average mean score is 4.49 in which 183 (97.8%) agreed that the aisle in the workplace must not be blocked by any obstacles while the lowest average mean score is 3.94 in which 148 (76.7%) of the respondents found that the air circulation system is good and sufficient. A total of 182 (94.3%) of the respondents agreed that the floor in the workplace must always be kept clean from oil, dust, water, and unsafe materials. In this study, 164 (85%) agreed that solid and liquid waste materials must be disposed of in a safe place. Meanwhile, 166 (86.1%) stated that their working environment is safe and 175 (90.6%) found that the exit door in the workplace is sufficient. The average percentage of respondents agreeing with the awareness question item on the safety environment is 87.9%.

Table 9
Environment

Question		1	2	3	4	5	Mean	Standard deviation
My working environment is safe.	F	2	6	19	97	69	4.17	0.81
	%	1	3.1	9.8	50.3	35.8		
The air circulation system is good and sufficient.	F	5	10	30	95	53	3.94	0.93
	%	2.6	5.2	15.5	49.2	27.5		
The noise level is safe.	F	3	9	19	105	57	4.06	0.85
	%	1.6	4.7	9.8	54.4	29.5		
The exit door provided is sufficient.	F	0	3	15	98	77	4.29	0.68
	%	0	1.6	7.8	50.8	39.8		
Solid/liquid waste materials are disposed of in a safe place.	F	0	0	29	99	65	4.16	0.74
	%	0	0	15	51.3	33.7		
Workpieces /tools are organized neatly and securely and labeled by respective categories.	F	1	2	13	103	74	4.28	0.68
	%	0.5	1	6.7	53.4	38.4		
I always keep the floors clean of oil, dust, water, and unsafe materials.	F	1	1	9	92	90	4.39	0.65
	%	0.5	0.5	4.7	47.7	46.6		
I always make sure the aisle is not blocked by any obstacles.	F	0	1	9	77	106	4.49	0.61
	%	0	0.5	4.7	39.9	54.9		
Average							4.22	0.74

The findings of the present study are consistent with the results of previous studies by Baizura et al. (2016), Faiqah et al. (2019), and Firdaus et al. (2013), indicating high level of safety and health awareness among staffs regarding safe environment with an average mean score of 4.30, 4.24, and 4.56 respectively. Similarly, Naresh, Bhat, Chavan, Bhat, and Vira (2018) who studied work-related occupational hazards from various work areas among staff in Cancer Centre India indicated that employee awareness and perceptions concerning safety measures to be more than 90%, while 92% to 98% had complied with safe work practices including personal protective equipment and waste disposal. Meanwhile, Nur Shafini, Ayuni, Siti, Suhaily, and Dalila (2020) concluded in their study among 217 production workers in a manufacturing company in Malaysia that the environmental factor contributed to safety in the workplace.

4.9 Overall Level of OSH Awareness

The overall mean score results for each factor that contributes to the OSH awareness level among the UiTMCPP staff are presented in Table 10. It was found that their OSH awareness level is high with an overall mean score of 4.44. The highest level of awareness factor is OSH policy with a mean score of 4.90 while the lowest awareness level is safety and health committee with a mean score of 3.90. It means that OSH policy is a highly influential element contributing to the awareness level than other factors. All respondents agreed that safety is important and needs to be practiced. The overall findings of the present study are consistent with previous studies by Baizura et al. (2016), Faiqah et al. (2019), and Firdaus et al. (2013) which also indicated high level of safety and health awareness with overall mean score of 4.19, 4.26, and 4.32 respectively. They concluded that the factors of safety procedure, safety policy, and safety training contributed the most to the level of OSH awareness. Patrick et al. (2019) in their study of the health workers and management of public dispensaries and health centres in Kenya concluded that the lack of OSH awareness caused obstruction in the implementation of the OSH policy and OSH act.

Table 10
Distribution of Overall Mean Score

Factor	Mean score	Standard Deviation	Awareness level
Occupational Safety and Health Policy	4.90	0.30	Very high
Commitment and Attitude	4.63	0.51	Very high
Standard Operating Procedure	4.59	0.54	Very high
Training	4.48	0.66	High
Equipment	4.34	0.75	High
Environment	4.22	0.74	High
Safety and Health Committee	3.90	0.91	High
Overall	4.44	0.63	High

5. Conclusion

This study has shown that the level of OSH awareness among UiTMCPP staff in the workplace is at a high level with an overall mean score of 4.44. The results of this study highlight that OSH policy (mean score = 4.9) is the most dominant factor compared to other factors. It clearly shows that OSH policy is a factor that plays an important role in ensuring the level of awareness among employees at UiTMCPP, whether it is successful or otherwise. However, other safety factors also show very high mean score values such as commitment and attitude (mean score = 4.63), and Standard Operating Procedure (mean score = 4.59) which are driving factors in the level of employee awareness of OSH. Therefore, this study hopes that awareness of OSH is given wider exposure, encompassing all levels of job specialization and the entire spectrum of employers so that awareness can be achieved. Understanding the concepts of OSH management will help the employer to understand the actual situation and the correct actions that can be taken to prevent accidents, injury, and health hazards in the workplace. The continuous and consistent effort by the OSH management team could gradually improve the factors at a high level to a very high level of awareness among the staff and accomplish an effective and sustainable OSH management system at UiTMCPP. Since this study focused only on faculty members, future research should extend coverage to all administrative staff and students which will yield insights into the broader impact of the OSH policy execution.

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Conflicts of Interest

There are no conflicts of interest.

REFERENCES

Advanced Consulting & Training Ltd. (2021, March 02). *Awareness is safety*. Retrieved from https://advancedct.com/awareness-is-safety/.

Alli, B. O. (2008). *Fundamental Principles of Occupational Health and Safety*. International Labor Office (ILO). Geneva Switzerland.

Arora, S., Sevdalis, N., Ahmed, M., Wong, H., Moorthy, K., & Vincent, C. (2012). Safety skills training for surgeons: A half-day intervention improves knowledge, attitudes, and awareness of patient safety. *Surgery*, 152(1), 26-31.

Baizura Zubir, Fazidah Saad, Wan Faradiana Wan Maidin, & Mohd Riduan Jamaludin. (2016). Safety and health awareness among staff and students in workshop and laboratory of an Engineering Technology University Campus. *International Journal of Engineering Research & Technology*, 5 (2), 285-288.

Best J.W. (1981). *Research in education* (5th edition). Eaglewood Clifs New Jersey, Prentice Hall.

Daniel, K.B., Paul, N., & Benson, K. (2019). Assessment of occupational safety and health awareness and practices in public health facilities Uasin Gishu Country, Kenya. *IOSR Journal of Dental and Medical Sciences*, 18 (8), 42-50.

Degang, M. (2010). *Motivation toward English language learning of the second year undergraduate Thai students majoring in Business English at an English-medium university*. Master's thesis. Graduate School, Srinakharinwirot University. Bangkok Thailand.

Durrisah Idrus, Hadmidah Ab Rahman, Hapriza Ashari, Fadilah Zaini, Rossilah Jamil, & Syaharizatul Noorizwan Muktar. (2004). *Level of Awareness of UTM Staff on Occupational Safety and Health at the Workplace*. Research report, Universiti Teknologi Malaysia.

Faiqah Ramli, Siti Nabila Mokhtar, Mohd Haizal Jamaluddin, Muhammad Noor Harun, Muhammad Aizi Mat Salim, Muhammad Nizam Lokman, Abdul Rashid Zailan, Norhidayah Md. Yunus, & Nurshaidatul Hidayah Mohd Nor. (2019). Awareness Among Students and Staff on Occupational Safety and Health (OSH) in Universiti Teknologi Malaysia. *Proceedings of the*

International Conference on Student and Disable Student Development. Advances in Social Science, Education and Humanities Research, 470, 13-18.

Feinberg, F. M., Kinnear, T. C., & Taylor, J. R. (2013). *Modern marketing research: Concepts, methods, and cases*. Cengage learning.

Firdaus Mohamed Sahid, Koh F. H., & Abdul Latib Ahmad. (2013). Tahap kesedaran tentang keselamatan dan kesihatan di tempat kerja bagi staf JKM Politeknik Tuanku Sultanah Bahiyah. *Education Conference (Research and Innovation) In Technical And Vocational Education And Training (CiE-TVET)*, 16, 219-227.

Hwang, S. A., Gomez, M. I., Stark, A. D., John, T. L. S., Pantea, C. I., Hallman, E. M., & Scofield, S. M. (2000). Safety awareness among New York farmers. *American Journal of Industrial Medicine*, 38(1), 71-81.

Ibrahim, O., Jared, O. H. N., & Paul, N. (2017). Effect of occupational safety and health awareness on work environment in the water service industry within Kisumu County, Kenya. *IOSR Journal of Environmental Science, Toxicology and Food Technology (IOSR-JESTF*T). 11(6)(1), 35-41. https://doi.org/10.9790/2402-1106013541.

Ibrahim Usman, & Abdullah Mat Rashid. (2014). Safety Awareness among pre-service teachers of technical and vocational education in Malaysia. *Middle-East Journal of Scientific Research*, 22(5), 655-660. Doi: 10.5829/idosi.mejsr.2014.22.05.21947.

International Labour Organization (ILO). (2019). *Safety and health at the heart of the future of work; Building on 100 years of experience*. Geneva, Switzerland.

Jackson, J. J., & Allemand, M. (2014). Moving Personality Development Research Forward: Applications Using Structural Equation Models. *European Journal of Personality*, 28(3), 300–310. DOI:10.1002/per.1964.

Kadir Arifin, Wan Mohamad Zaidi Wan Isa, Zainor Akramin Zaini, & Amirul Shazli Sahimi. (2021). Level of awareness of OSH civil servants on safety and health aspect of the work. *eBangi, Journal of Social Sciences and Huminities*, 18(2), 229-242.

Kadir Arifin, Wan Mohamad Zaidi Wan Isa, Zainor Akramin Zaini, & Amirul Shazli Sahimi. (2021). Perception of the implementation of Occupational Safety and Health Management by civil servants in Putrajaya, Malaysia. *ebangi journal of social sciences and humanities*. Special Issue: 18 (2). 198-212.

Levitt, R. E., & Samelson, N. M. (1993). *Construction Safety Management*, 2nd edition New York, John Wiley and Son, Inc.

Lugah, V., Ganesh, B., Darus, A., Retneswari, M., Rosnawati, M. R., & Sujatha, D. (2010). Training of occupational safety and health: Knowledge among healthcare professionals in Malaysia. *Singapore Medical Journal*. 51(7), 586-591.

Manaf, & Nur Dalila Adenan. (2020). The factors affecting the workplace safety in manufacturing industry. *Jurnal Intelek*. 15(1). 63 – 68. https://doi.org/10.24191/ji.v17i1.15876.

Mohammad Lui Juhari, & Kadir Arifin. (2020). Development of materials and equipment factor model in contributing to accidents in the Mass Rapid Transit construction industry. *GEOGRAFIA Malaysian Journal of Society and Space*, 16(2),124-138.

Mohd Hakimi Md Baharudin, Shahida Mansor & Muhammad Firdaus Muhammad Sabri. (2014). Tahap kesedaran keselamatan pekerja dalam industri automotif di Malaysia. *Proceeding of the 1st International Conference on Management and Muamalah*.

Montgomery, J., & Kelloway, K. (2002). *Management of occupational health and safety*, 2nd edition, Nelson Thomson Learning, Canada.

Muhammad Muizuddin Eamizan, & Rosmah Mohamed. (2018). Faktor-faktor yang mempengaruhi tahap kesedaran Keselamatan dan Kesihatan Pekerjaan di syarikat DENSO Malaysia. *Proceeding of the 5th International Conference On Management And Muamalah* (ICoMM).

Mustazar Mansur, & Ho Shu Peng. (2009). Keberkesanan latihan keselamatan dan kesihatan dalam mengurangkan kemalangan di tempat kerja. *Proceding PERKEM iv*, 2, 293-324.

Naresh, C., Bhat, B., Chavan, P., Bhat, P., & Vira, H. (2018). Staff Perceptions, Awareness and Compliance to Safety: A Survey of Occupational Hazards in a Cancer Centre. *Journal of Oncology Translational Research*, 4 (1), 1-5.

Noorhasimah Awang, Nur Marsyifa Nadila Zamzani, & Mohd Rafee Baharudin. (2017). Awareness of safety management and safety behaviour among small and medium enterprise workers. *Journal of Occupational Safety and Health*. 14(1), 9-16.

Nor Azimah Chew Abdullah, & Hamirul Adli Hashim. (2015). Tahap kesedaran keselamatan dan kesihatan pekerjaan terhadap bahaya "forklift" dalam kalangan pemandu "forklift" di sektor pembuatan. *Conference on business management research, Malaysia*, 2, 224-234.

Nunes, I. L. (2021, February 16). *Occupational safety and health in general*. Retrieved from https://oshwiki.eu/wiki/OSH_in_general.

Nur Shafini Mohd Said, Nur Ayuni Mohamad Yusoff, Siti Rapidah Omar Ali, Suhaily Maizan Abdul Manaf, & Nur Dalila Adenan. (2020). The factors affecting the workplace safety in manufacturing industry. *Jurnal Intelek*. 15(1). 63 – 68. https://doi.org/10.24191/ji.v17i1.15876.

Papadopoli, R., Noble, C. G. A., Trovato, A., Pileggi, C., & Pavia, M. (2020). Chemical risk and safety awareness, perception, and practices among research laboratories workers in Italy. *Journal of Occupational Medicine and Toxicology*,15(17), 1-11.

Patrick, G., Sedem, N. A., & Ben, Q. H. (2017). The impact of occupational health and safety measures on employee performance at the South Tongu District Hospital. *Global Journal of Medical Research (K),*17 (5), 1-8.

Patrick, K. N., Charles, M., & Benson, K. (2019). Role of safety and health awareness in occupational safety and health performance in public health facilities in Machakos County, Kenya. *Journal of Health and Environmental Research*, 5 (1), 1-7.

Perdana Suteja Putra, Amarria, Dilla Sari, & Amirah Shafa Husna. (2018). Job safety and awareness analysis of safety implementation among electrical workers in an airport service company. *MATEC Web of Conferences 154*, 1-4. https://doi.org/10.1051/matecconf/201815401087.

Robert, V. K., & Daryle. W.M. (1970). Determining sample size for research activities, *Educational and psychological measurement*, 30, 607-610.

Rosliza Osman, Noorhasimah Awang, Syed Abdul Hamid Syed Hassan, & Norsyahidah Mohammad (2015). Level of awareness on Behaviour-Based Safety (BBS) in manufacturing industry towards reducing workplace incidents. *International Journal of Education and Research*, 3(1), 77-88.

Rosmah Mohamed, Muhamad Amirul Fauzan Juhari, & Amer Fawwaz Mohamad Yasid. (2018). Hubungan antara sikap dan latihan dengan tahap kesedaran keselamatan dan kesihatan pekerjaan di pusat perubatan swasta Malaysia. *Proceeding of the 5th International Conference on Management and Muamalah* (ICoMM).

Siti Hajar Abdul Aziz, Ahmad Rasdan Ismail, & Mohd Rashid Ab Hamid. (2015). A survey on safety awareness among quarry workers at East Cost Malaysia. *3rd Scientific conference on occupational safety and health*, 12 (1), 51-54.

Siti Nakiah Mohd Shaain, Noor Raudhiah Abu Bakar, & Azharuddin Hashim. (2015). Faktor-faktor yang mempengaruhi kesedaran pekerja terhadap amalan keselamatan pekerjaan: Kajian kes di sebuah syarikat logistik. *Proceeding of the 2nd international Conference on Management and Muamalah*, Malaysia, 210-219.

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MUSLIM YOUNG CONSUMER INTENTION TO PURCHASE HALAL COSMETIC AND PERSONAL CARE PRODUCTS

Zulaiha Ahmad[1]*, Farah Lina Azizan[2], Shamshul Anaz Kassim[3], Ima Ilyani Dato' Hj. Ibrahim[4], Muhammad Amirul Afiq Zailani[5]

[1,2,3,4,5] *Faculty of Business and Management, Universiti Teknologi MARA(UiTM), Perlis Branch, Arau Campus, Perlis, MALAYSIA*

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Corresponding Author:
zulaiha895@uitm.edu.my

ABSTRACT

The trend in choosing Halal cosmetics and personal care products is still very low among Muslim society, especially among the younger generations. Most of them purchase particularly more on Halal food products rather than Halal cosmetic and personal care products. Young Muslim population is still not aware of "Halal" concept when purchasing and use cosmetic and personal care products. Therefore, this paper aims to provide improved understanding of the influential factors towards the intention to purchase Halal cosmetic and personal care products among the younger generation. Data were collected from 303 young Muslim consumers in northern state, Malaysia. They were selected using stratified random sampling. A set of self-administered questionnaires with five interval Likert scales was used. The study employed a quantitative research method to examine all hypothesis. A multiple regression analysis was used to examine Halal certificate, product characteristics, social influence and attitude which are the determinant factors of intention to purchase Halal cosmetic and personal care products. The findings showed that only Halal certificate, products characteristics and attitude have significantly influenced the intention to use Halal cosmetic and personal care products. Meanwhile, social influence does not significantly influence intention to purchase the products. This study contributes to Halal cosmetic studies by illustrating how the young generation choose and use Halal cosmetic and personal care products.

1. Introduction

Cosmetic and personal care products can be classified as a necessity for women and men. Realizing the way of life should be in accordance with Sharia and there is a need to seek spiritual benefits from the products they consume, thus, reflects on the demands of Halal cosmetic and personal care brands (Sukardani et al. 2018). Halal is profoundly mentioned in the Quran as permitted, allowed, lawful or legal. The Halal concept is not applied only to food but also diversified to other products and services such as cosmetic and personal care, tourism, advertising, clothes, the banking, and finance industry and many more. Halal food products are garnering more attention from the previous scholar. To date, it has been found that there is a limited number of studies focused on this product (Ansari & Mohamad, 2015; Ahmad et al. 2015).

Halal cosmetic have become a global need (Aisyah, 2017). The demand for Halal cosmetic and personal care products in the global market has escalated and dramatically sparked due to four main factors; the growth of the Muslim population (Swidi et al. 2010), new norm of Halal market (Zakaria et al. 2019), Halal lifestyle (Sukardani et al. 2018) and increased of level of education and awareness towards Halal product (Swidi et al. 2010). Based on the recent report by Dinar Standard (2020) titled *State of the Global Islamic Economy Report: Thriving in Uncertainty 2020/21,* globally, Muslims expenditure on cosmetics have become greater by 3.4% to $66 billion from 2018 to 2019. Due to Covid 19 pandemic, Muslim consumers spending was expected to drop to 2.5% reaching $64 billion and later would grow reaching $76 billion by 2024. Although the market for Halal cosmetic and personal care products is large, most of the productions are dominated by non-Muslim countries. International companies such as Procter and Gamble, Unilever, Colgate-Palmolive, and Loreal are reported to concur the market share since 2016 until the current year (Zakaria et al. 2019). He also further claimed that there is still a limited number of local industry players involve aggressively in producing Halal cosmetic and personal care product. Thus, it will lead to argument pertaining on Halal issues since the buying pattern among Muslims where majority of population consumer skewed towards Halal products for both food and non-food products. The root of Halal cosmetic and personal care products industry in Malaysia has been introduced for the past 30 years with the brand of Unza Safi and Zaitun (Kaur et al. 2018). The phenomenon of Halal norm and lifestyle of Muslim society in this country has led to opportunity of local industry players such as Wipro Unza (Malaysia) Sdn Bhd, SimplySiti Sdn Bhd and Southern Lion Sdn Bhd which are rigorously producing and ascertaining their products in the local Halal market by acquiring Halal certificate from JAKIM (Zakaria et al. 2019).

Malaysian Muslim consumers are more concerned about Halal food compared to Halal cosmetic and personal care products (Abd Rahman et al., 2015). Research revealed that young adult Muslim women in Malaysia have not given priority (Che Mohd Hashim & Musa, 2014) and even the awareness of Halal cosmetics is still low among them (Che Mohd Hashim & Musa, 2014; Kamaruzaman, 2008). Surprisingly, Idris, Sabri and Fauzi (2021) claimed the same issue as they discovered that even though Muslim women are aware of the availability of Halal cosmetic products, non-Halal cosmetics from established international brand in the market are still preferred by them (Ngah et al. 2022). Given the growing above issue, therefore, it is crucial to analyse the determinants of purchasing behaviour among Muslim youth towards Halal cosmetic and personal care products. Personal attitude, social influence, Halal certificate and product characteristics are among the several factors that are most likely to predict the consumers' intention to purchase Halal cosmetic and personal care products among Muslim young consumers.

2. Literature Review

This section provides a discussion on studies related to the topic. It will begin with a discussion on Halal purchase intention towards cosmetic and personal care product, Halal certificate, product characteristic, social influence, and personal attitude.

2.1 Halal cosmetic and personal care products purchase intention.

According to Shuriye (2015), cosmetic can be defined as the preparation applied to any parts of the human with the purpose to enhance the beautification and intensify it. However, Association of Southeast Asian Nations (ASEAN) (2008) defined cosmetic as "any substance or preparation intended to be placed in contact with the external parts of the human body or with the teeth and the mucous membranes of the oral cavity with a view exclusively for cleaning it, perfuming it, changing the appearance, and/or correcting body odours and/or protecting or keeping towards a good condition". Cosmetics can be divided into several categories such as skincare, body and oral care cosmetics, makeup, hair care and fragrance (Ali et al. 2016).

The main driver for huge demand in Halal cosmetics and personal care products stem from the demographic of young, religious conscious and professional Muslim population. Currently, Halal branding cosmetic and personal care products not only use by Muslim consumer, the growth in demand is also spilling over to non-Muslim consumer (Ya et al., 2017). Septiarini et al. (2022) discovered product safety, comfort and cleanliness of product ingredients attract them in buying cosmetic products. Studies have indicated that there are several factors influencing intention to purchase Halal cosmetic and personal care products. Previous scholars reported that attitude was the highest factors followed by subjective norms, trust, and knowledge (Romle et al., 2016). However, a study by Haque et al. (2018) found that subjective norm had insignificant relationship with the intention to purchase Halal cosmetic products, while attitude, perceived control and religiosity revealed contrast findings. By applying Planned Behaviour Theory and Diffusion of Innovation Theory, Nawaz et al. (2021) reported that behavioural control, products characteristics, and consumer innovativeness are among the factors affecting the consumers' purchase intention towards the products. Furthermore, scholar highlighted that customer would emphasize on product characteristics in purchasing and consuming Halal cosmetic products such as brand, price, quality, ingredients and Halal label (Husin et al. 2012; Abdul Rani & Krishnan, 2018).

2.2 Halal certificate

Halal certificate is a trust mark and a name that gives another measurement to firms to deliver, market and offer their products or services (Ab Talib et al. 2016). For cosmetic and personal care product to be certified as Halal products, the products should follow Malaysian Standard MS 2200:2008 requirements. This standard highlight that all products must not have human parts or ingredients derived from there, free from alcohol, no contamination from *najs* during processing, preparation and storage, no genetic modified organism (GMO) and the products are safe to be consumed. Sofiana et al. (2021) discovered that the implementation of halal certification in Malaysian is more organized and systematic than by Indonesia.

Detecting the Halal and non-Halal ingredient from the Halal certificate is vital to each Muslim consumer because it helps them verify whether the cosmetic and personal care products are permissible (Hashim & Mat Hashim, 2013). Zakaria et al. (2019) argued that by referring to the Halal certificate, Muslim consumers feel confident that cosmetic and personal care products are using Halal ingredients, pure and hygienically manufactured.

Previous research conducted in Muslim markets has found similarities in reporting Halal certificate as a predictor of intention to purchase and consume Halal cosmetic and personal care products (Shafie & Othman, 2006; Baig & Baig, 2014; Majid et al. 2015). According to Salehudin and Luthfi (2010), Muslim consumer in Indonesia will cancel their purchase if there is no Halal certificate on that product. Interestingly, a study by Hunter (2012) is not aligned with the previous scholars. The study reported that Halal awareness of the Muslim community towards Halal cosmetics is still low and most of them do not refer to the Halal certificate. Based on the above discussion, the following hypothesis is proposed:

H1: Halal certificate has a significant positive relationship with intention to purchase Halal cosmetic and personal care product.

2.3 Product characteristic

Qualitative research conducted in France has discovered that price, packaging, brand image and the arrangement of the products at a physical store are determinants of the intention to purchase Halal cosmetic and personal care products (Benyahia, 2018). Furthermore, similar findings by Abdul Rani and Krisnan (2018) also revealed that most Malay university students preferred to purchase Halal skincare products, search for affordable prices, quality products and look at the brands safety. Husin et al. (2012) in the research conducted among 200 Malaysian Muslim consumers figured out that product factors namely brand, price, quality, ingredient, and labelling are the potential determinants of intention to purchase Halal cosmetics and personal care products. The results revealed that customers will prioritize the 'halalness' over brand, are willing to pay a higher price for the Halal product and if they hesitate with the Halal status of the ingredients of the product, the decision and intention to purchase the product will be affected.

Che Mohd Hashim and Musa (2014) stated that the content or ingredient used in producing Halal cosmetic and personal care products are also the most important factor to convince Muslim consumers to use cosmetic products. All ingredients in Halal products must be checked and conformed to Halal requirements. This is to ensure that the products clean, safe to be used, beneficial, in good quality and all aspects of the production is following the Shariah (Islamic law) law. Krishnan et al. (2017) pointed out the trends of Muslim consumers in the new era who prefer to use cosmetic and personal care products containing natural ingredients is due to the ability in offering more beneficial effects compared to chemical-based ingredients. Based on the above discussion, the following hypothesis is proposed:

H2: Product characteristic has a significant positive relationship with the intention to purchase Halal cosmetic and personal care products.

2.4 Social influence

Social influence can be the main factor for individuals in choosing Halal products (Majid et al. 2015). Family members, friends, colleagues, teachers, and communities are examples of people that can influence a person's behaviour towards Halal cosmetic and personal care products (Suki & Abang Salleh, 2016). Besides that, consumers also put in trust in the information received from authorities and religious leaders (Ahmad et al. 2015). The person is more likely to purchase Halal products if the purchasing process is seen as compatible with the social behaviour based on what others think about it (Alam & Sayuti, 2011). A total of 300 respondents among public and private sector employees and postgraduate students in Karachi and Islamabad found that attitude and social influence are the same predictors of intention to purchase Halal cosmetic and personal care products. The result is also aligned with the study conducted by Aisyah (2017) among female consumers in Indonesia. However, studies by Haque et al. (2018) and Kamarudin et al. (2020) which were conducted in Malaysia revealed contradicting results which showed that social influence does not influence consumers' intention to purchase Halal cosmetic and personal care products. Based on the above discussion, the following hypothesis is proposed:

H3: Social influence has a significant positive relationship with intention to purchase Halal cosmetic and personal care products.

2.5 Personal attitude

Ajzen (1991) refer attitude as the degree of an individual's positive or negative feeling towards the object or the intention to perform certain behaviour. Abd Rahman et al. (2015) claimed that the attitude toward purchasing Halal cosmetics is still lower than purchasing Halal foods. Despite the emergence of Halal cosmetic and personal care products, the trend of use international non-halal certified cosmetic brand is still extremely popular among Muslim consumer (Ngah et al., 2021). Consumers who are easily accepting new experiences will face a difficult situation towards changing their attitude on a daily routine from using non-halal Halal cosmetic and personal care products (Mohezar et al. 2016). Young consumer feels adored with the perceived quality they received after having an experience using non-halal certified cosmetic and they are willing to pay more (Swidi et al., 2010) despite lack of compliance with the halal requirement (Sugibayashi et al., 2019).

Ahmad et al. (2015) stated that people's exposure to Halal purchase decisions is more enjoyable by searching all information through media related to Halal cosmetic and personal care products. Furthermore, experienced consumers of Halal products will influence others by sharing their knowledge on social media such as Facebook, Twitter, and Instagram. A consumer who lacks knowledge pertaining to the benefits of Halal cosmetic and personal care products are more willing to invest time, money and take risks to try different products (Mohezar et al. 2016). In a study conducted among Malaysian Muslim women, Che Mohd Hashim and Musa (2014) indicated that the respondents are satisfied with Halal products and feel at ease when consuming them. Similarly, research findings conducted by Osman et al. (2022) among Malaysian adult's customers revealed that attitude as the strongest predictor in purchasing Halal cosmetic products followed by Halal awareness and Halal knowledge. From the above discussion, those individuals which have a positive attitude toward Halal cosmetic and personal care products might create a positive intention to purchase and consume the product.

Based on the above discussion, the following hypothesis is proposed:

H4: Personal attitude has a significant positive relationship with the intention to purchase Halal cosmetic and personal care products.

3. Methodology

This is a cross-sectional study conducted among the Higher Learning Institution (HLI) students from Semester 1 until Semester 6 from various fields comprising Plantation and Agrotechnology, Sports Sciences and Recreation, Business and Management, Applied Science, Computer and Mathematical Sciences, and lastly Architecture, Planning and Surveying. One of the universities in the northern part of Malaysia is chosen to represent the HLI. The population for this study was 2766 students. To determine the minimum sample size, the "rule of thumb" suggested by Krejcie and Morgan (1970) was used and the actual sample size of 350 was considered sufficient. All variables were measured at the individual level whereas each Muslim student has been targeted to answer all the questionnaires. The study employed stratified random sampling where the process determining the sample size has been divided according to the faculty and the selected different programmed offered.

A survey method has been employed and primary data have been collected from the respondents through the distribution of a hard copy of self-administered questionnaires. The questionnaires comprised seven items examining respondents' intention to purchase Halal cosmetic and personal care products developed by Erdem et al. (2014) with Cronbach's Alpha value of 0.892, and the example item is "I can pay more for products with halal certificate than for products without halal certificate". Halal certificate was measured with five items developed by Erdem et al. (2014). The Cronbach's alpha value for this variable was 0.890. The example item is "When buying product halal certificate is more important for me rather than brand". Whereas the scales constructed by Mohezar et al. (2016) which consisted of seven items was used to measure product characteristics and four items used to measure social influence. The Cronbach's alpha coefficient for these two variables; product characteristics and social influence were 0.861 and 0.868 respectively. The example item for product characteristic is "Halal cosmetics/personal care are pure and clean", whereas the example item for social influence is "Most people around me use halal cosmetics/personal care products". Personal attitude consists of five items were adapted from Lada et al. (2009) with Cronbach's Alpha value of 0.843, and the example item is "Among peers, I am usually the first to try new cosmetics/personal care products". All scales were measured with a 5-point Likert-type scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). Each respondent completed answering the questionnaire in 15 minutes. The data collection lasted for three (3) weeks to receive useable of 303 questionnaires out of 350 questionnaires for data analysis. The respondents were 91 students from Computer and Mathematical Science, 65 students from Applied Science, 54 students from Business Management Studies, 44 students form Architecture, planning and Surveying, 27 students from Sports Science and Recreation and 22 students from Plantation and Agrotechnology.

4. Results

The 303 respondents comprised of 75.2% females, while 24.8% were males. There was majority of 33.3% from final semester' (final year) students and 30% of the respondents were from the Faculty of Computer and Mathematical Sciences. Among all categories of products, most of them prefer skincare 61.1% when purchasing cosmetic and personal care products.

Table 1
Reliability Coefficients and Mean Value Each Variables

Construct	No of items	Cronbach alpha	Mean
Halal certificate	5	0.889	4.26
Product characteristic	7	0.824	4.34
Social influence	4	0.801	3.88
Personal attitude	4	0.795	3.78
Intention to purchase	4	0.632	4.38

The reliability of the questionnaire ranges from 0.60-0.90 which indicates that the items are appropriate to be used (Nunnaly, 1978). The mean value for all dimensions shows that most respondents agree with the statements offered in the questionnaire. Table 1 depicts the alpha value and mean for each section.

Table 2
Correlation Analysis

Variables	Halal Certificate	Product Characteristic	Social Influence	Attitude	Intention to Purchase
Halal certificate	1.000				
Product characteristic	0.646**	1.000			
Social influence	0.472**	0.493**	1.000		
Personal attitude	0.326**	0.405**	0.585**	1.000	
Intention to purchase	0.575**	0.567**	0.397**	0.359**	1.000

*p<.05 **p<.01

To achieve the objectives of this study, the data were analysed using Pearson Moment correlations. The results show that there is a positive significant relationship between each variable with the intention to purchase Halal cosmetic and personal care products. However, the strength of the relationship is deferred. There is a strong relationship between Halal certificate (r=0.575) and intention to purchase, and product characteristics (r=0.567). Meanwhile, for the relationship between social influence and intention to purchase and attitude towards intention to purchase, both results show a moderate relationship. All variables are also found to be significantly correlated with each other. The information is summarized in Table 2.

Table 3
Multiple Regression Result

Variables	**B**	***t***	**Sig.**
Halal certificate	0.338	5.649	0.000
Product characteristic	0.288	4.696	0.000
Social influence	0.027	0.456	0.649
Personal attitude	0.116	2.093	0.037
R Square	0.411		
Adjusted R Square	0.403		
F Value	51.969		
Dependent Variable: Intention to purchase			

Multiple regression was conducted to predict the power of the factors that affect intention to purchase Halal cosmetic and personal care products. Durbin Watson of 1.63 indicates that there is no multicollinearity among the variables. The results show the adjusted r^2 is 0.411, with a different weighted of the standardized coefficient. Among all, only three hypotheses are significant which are Halal certificate, product characteristic and attitude with the standardized coefficient of 0.338, 0.288 and 0.116 respectively. Hence, Halal certificate contributes 34%, product characteristic contributes 29% while attitude contributes 12% in explaining intention to purchase Halal cosmetic and personal care products. Table 3 shows the regression result.

5. Discussion

In summary, the result revealed that Halal certificate, product characteristic and personal attitude influence Muslim consumers intention to purchase the Halal cosmetic and personal care products. This is because in Malaysia, there are some issues related to the sensitivity of Muslim consumers toward Halal cosmetics and personal care products. For Muslim in Malaysia, Halal is an absolute key concept before they decide to make a purchase. A survey by Shafie and Othman (2006) identifies the factor that influences consumers' choice of products is the "halal logo" that plays a role in the consumers' buying decisions. This finding is consistent with Baig and Baig (2014), where Halal logo on cosmetic products is the most influential factor towards the intention of Pakistani consumers.

Recently, Muslims are becoming more concern over the existence of the non-halal ingredients and chemical in the cosmetic and personal care products. This result is consistent with Khraim (2011) that stated if the ingredients, texture, and performance of the products meet with the consumers' desire, Muslim consumers may repeat the purchase. In addition, research by Che Mohd Hashim and Musa (2014), found that the main factor in using the Halal cosmetic products is either the ingredient or the content of the cosmetic products. Besides, Mohezar et al. (2016) found that there is a positive relationship between products' characteristics and Halal cosmetics adoption.

This finding also was supported by previous research made by Che Mohd Hashim and Musa (2014) about Malaysian Muslim woman attitudes towards Halal cosmetics products. This study shows that Malaysian Muslim women are satisfied with the Halal cosmetics product and feel at ease when using the Halal products. Consumers will view Halal cosmetics and personal care products as a positive way of living when they are comfortable with use them. Research conducted among government servant in Selangor, Malaysia also revealed that attitude as a strongest predictor that influence the awareness in using Halal cosmetic and personal care products (Rahim, Shafii & Shahwan, 2014; Osman et al. 2022).

However, social influence does not significantly contribute to the prediction of consumer decision in purchasing Halal cosmetic products. Similar result was revealed by the previous studies (Haque et al. 2018; Kamarudin et al. 2020, Nastiti, Fakhrurozi & Pratama, 2022). Young Muslim consumers pay less attention with the role play by the others such as family, friends, colleagues in choosing Halal products (Abdul Khalek, 2014). The dominant people or the closest social environmental factors such as family and friends do not have strong influence in making them purchasing Halal cosmetic and personal care products (Nastiti, Fakhrurozi & Pratama, 2022). The role of subjective norm was not explained clearly in performing the consumers' behaviour (Omar et al. 2012). Sapir and Ambo (2021) found that most of the Gen-Z Muslim consumers in Malaysian do not need personal marketing because they self-search and self-experiment to obtain all the Halal cosmetic information in the market. This new generation of consumer actively seek information and participate in beauty tutorial classes and visualize cosmetic items through online make up tutorial (Sapir & Ambo, 2021).

6. Conclusion

Empirical evidence shows that preference of Halal certificate, product characteristics and personal attitude has positive significant relationship with the intention to purchase Halal cosmetic and personal care products. Surprisingly, social influence is insignificant with the halal purchase intention of cosmetic and personal care products. This is because some social groups of Muslim youth may have some norms on halal intention and consumption.

In some instances, a product's halal certification, product characteristics, product components, societal influence, personal attitude, features, traits, and benefits may create market niches that are advantageous in terms of brand reputation, quality, and cost. Most importantly, consumers awareness of halal cosmetics and personal care products may decrease youth Muslim awareness and intention ambiguity towards Halal cosmetics and personal care product. Youth minds need to be closely connected by confidence level, attractive image, positive perception, and awareness, which in turn could minimize complexity, to ensure that the halal product is accepted. Employing Muslim celebrities to promote halal cosmetics may also help companies to target this market group because young Muslim customers are thought to be more conscious about their social standing.

There are several limitations on the current study. Our research was limited to the voices of younger Muslim students enrolled in institutions of higher education (HLI). A more diverse sample of people with a range of levels of education, age, and discretionary money would be a stronger predictor. Future researchers suggest including variables like price, location, religiosity, brand components, advertising, the marketing idea, and the halal supply chain, or conduct comparison studies in other Malaysian regions and Asian nations.

In a nutshell, in Malaysia, most of the consumers prefer to use Halal cosmetics and personal care products due to the beliefs in healthy, safety, hygiene and high quality of the products even though the price of Halal cosmetics and personal products are quite expensive. Marketers and manufacturers should take this opportunity to produce more Halal cosmetic and personal care products to attract their customers especially for SMEs in Malaysia as the percentage of Halal certified is still at a small percentage. Therefore, when it comes to halal cosmetics and personal care items, the Halal logo and certification have become more prominent and significant in both domestic and international market.

Future research should employ to conduct in-depth qualitative studies to understand better the factors influencing Muslim youth consumers' intention to purchase Halal cosmetic and personal care products by exploring their motivations, values, attitudes, and cultural influences that shape their buying decisions. In addition, the researcher also recommends a few other approaches to be undertaken by examining the long-term loyalty and repeat purchasing behaviour among Muslim youth consumers regarding Halal cosmetic and personal care products such factors that contribute to building brand loyalty, including customer satisfaction, product quality, and perceived value. Besides, this study also can provide valuable insights into the motivations and behaviours of Muslim youth consumers in relation to Halal cosmetic and personal care products, enabling manufacturers and marketers to better understand and cater to their needs. This study can be applied to encourage cosmetic and personal care product manufacturers to obtain halal certification from recognized halal certification bodies. This certification ensures that the products are produced, processed, and packaged according to halal standards. Governments and industry can provide support and incentives to companies pursuing halal certification. Furthermore, the company can promote educational campaigns and awareness programs targeted to Muslim youth to enhance their understanding of halal cosmetics and personal care products such as highlight the benefits of using halal products, including their adherence to Islamic principles, cruelty-free nature, and potential health benefits.

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References

Ab Talib, M.S., Hamid, A.B.A., & Chin, T.A. (2016). Can Halal certification influence logistics performance? *Journal of Islamic Marketing, 7 (4)*, 461-475.

Abd Rahman, A., Asrarhaghighi, E., & Ab Rahman, S. (2015). Consumers and Halal cosmetic products: knowledge, religiosity, attitude, and intention. *Journal of Islamic Marketing, 6 (1)*, 148-163.

Abdul Khalek, A. (2014). Young consumers' attitude towards Halal food outlets and JAKIMS's Halal certification in Malaysia. *Procedia Social and Behavioral Sciences, 121*, 26-34. https://doi.org/10.1016/j.sbspro.2014.01.1105

Abdul Rani, N.S., & Krishnan, K.S.D (2018). Factors that influence Malay students in purchasing skincare products in Malaysia. *Journal of Business and Retail Management Research, 13 (1)*, 15-21.

Ahmad, A.N., Ab Rahman, S. & Abd Rahman, A. (2015). Assessing knowledge and religiosity on consumer behavior towards Halal food and cosmetic products. *International Journal of Social Science and Humanity, 5 (1)*, 10-14.

Aisyah, M. (2017). Consumers demand on Halal cosmetics and personal care products in Indonesian. *Al-Iqtishad: Jurnal Ilmu Ekonomi Syariah (Journal of Islamic Economics), 9 (1)*, 125-142.

Ajzen, I. (1991). The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50, 179-211.

Alam, S.S., & Sayuti, N.M. (2011). Applying the Theory of Planned Behavior (TPB) in Halal food purchasing. *International Journal of Commerce and Management, 21 (1)*, 8-20. https://doi.org/10.1108/10569211111111676

Ali, S., Halim, F., & Ahmad, N. (2016). Beauty premium and Halal cosmetics industry. *Journal of Marketing Management and Consumer Behavior, 1 (4)*, 52-63.

Ansari, N.U., & Mohammed, H. (2015). Factors affecting the intent to purchase halal personal care product: empirical evidence from Pakistan. *International Journal Islamic Marketing and Branding, 1 (2)*, 199-213.

ASEAN. (2008). ASEAN Cosmetic Directives (ACD). ASEAN Secretariats, Jakarta, Indonesia.

Baig, A.K., & Baig, U.K. (2014). Halal cosmetics: Pakistani consumer perspective. *Globalization and Governance in the International Political Economy*. https://doi/10.4018/978-1-4666-4639-1.

Benyahia, A. (2018). Factors affecting the purchase intention towards the Halal cosmetics. Master's Thesis in International Business.

Che Mohd Hashim, A.J., & Musa, R. (2014). Factors influencing attitude towards Halal cosmetic among young adult urban Muslim women: A focus group analysis. *Procedia Social and Behavioral Sciences, 130*, 129-134.

DinarStandard (2020). State of the global Islamic economy report: Thriving in uncertainty 2020/21. Retrieved from http://www.salaamgateway.com/specialcoverage/SGIE20-21

Erdem, E., Yildiz, M., & Varinli, I. (2015). The level of consumers' awareness and perception in consumption of Halal certified products. *EJBM Special Issues: Islamic Management and Business, 7 (16), 65-75.*

Haque, A., Anwar, N., Tarofder, A.K., Ahmad, N.S., Sharif, S.R. (2018). Muslim consumers' purchase behavior towards Halal cosmetic products in Malaysia. *Management Science Letters*, 1305-1318.

Hashim, P., & Mat Hashim, D. (2013). A review of cosmetic and personal care products: Halal perspective and detection of ingredient. *Pertanika Journal Science and Technology, 21 (2)*, 281-292.

Hunter, M. (2012). The emerging Halal cosmetic and personal care market. Analysis, Personal care. Retrieved from http://www.slideshare.net/Murray58/the-emerging-Halal-cosmetic-and-personal-care market.html

Husin, S.R., Hashim, H., Yusof, R.N., & Alias, N.N. (2012). Relationship between product factors, advertising, and purchase intention of Halal cosmetic. *Pertanika Social Sciences and Humanities, 21 (S)*, 85-100.

Idris, J., Sabri, M.F.M., and Fauzi, N.M. (2021). Antecedents of customer's purchasing decisions on Halal cosmetics. The 3rd International Halal Management Conference.

Kamarudin, N.A., Wan Zakaria, W.M.F., Wan Ibrahim, W.M., Tuan Azam, S.K., & Musa, M.H. (2020). Halal cosmetics adoption among young Muslim consumers: A case study in Kulim, Kedah. Charting a Sustainable Future of ASEAN in Business and Social Sciences. https://doi.org/10.1007/978-981-15-3859-9_21

Kamaruzaman, K.A. (2008). Halal cosmetics: Between real concern and plain ignorance. *The Halal Journal*, 26-28.

Kaur, K., Othman, S., Kaur, S., & Sigh, J. (2018). Is Halal a priority in purchasing cosmetics in Malaysia among Muslim Malaysian women? *International Journal of Business, Economics and Law, 15 (3)*, 19-25.

Khraim, H.S. (2011). The influence of brand loyalty on cosmetics buying behavior of UAE female consumers. *International Journal of Marketing Studies, 3 (2)*, 123-133. https://doi.org/10.5539/ijms.v3n2p123

Krejcie, R.V. & Morgan, D.W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30 (3)*, 607-610.

Krishnan, S., Che Omar, C.M., Zahran, I., Syazwan, N., & Alyaa, S. (2017). The awareness of gen z's toward Halal food industry. *Management, 7 (1)*, 44-47. https://doi.org/10.5923/j.mm.20170701.06

Lada, S., Tanakinjal, G. H., & Amin, H. (2009). Predicting intention to choose halal products using theory of reasoned action. *International journal of Islamic and Middle Eastern finance and management*, 2(1), 66-76.

Majid, M.B., Sabir, I., & Ashraf, T. (2015). Consumer purchase intention towards Halal cosmetics and personal care products in Pakistan. *Global Journal of Research in Business and Management, 1 (1)*, 47-55.

Mohezar, S., Zailani, S., & Zainuddin, Z. (2016). Halal cosmetics adoption among young Muslim consumers in Malaysia: Religiosity concern. *GJAT, 6 (1)*, 47-59.

Nastiti, D., Fakhrurozi, M., & Pratama, A. (2022). Purchase intention to actual purchasing of Halal cosmetics in Indonesian young adults in the Covid-19 pandemic. *Jurnal Ilmiah Ekonomi Islam, 8 (1)*, 90-96.

Nawaz, M.S., Mahmud, M.S., Nasir, M., Mansha, M.I., Sabir, I., Majid, M.B., & Nawaz, F. (2021). A study on Muslim younger generation's behavioral intentions towards purchasing of Halal cosmetic products in Pakistan. *Journal of Contemporary Issues in Business and Government, 27 (1)*, 1660-1675.

Ngah, A.H., Gabarre, S., Han, H., Rahi, S., Al-Gasawneh, J.A., & Park., S. (2021). Intention to purchase Halal cosmetics: Do males and females differ? A multigroup analysis. *Cosmetics, 8, 19*. https://doi.org/10.3390/cosmetics8010019

Ngah, A.H., Mansor, T.M.T., Gabarre, C., Rahi, S., Khan, S., & Ahmad, R. (2022). I love my cosmetics: educated young Muslim behaviour of non-Halal certified cosmetics. Journal of Islamic Marketing. https://doi.10.1108/JIMA-06-2021-0196

Nunnaly, J.C. (1978). Psychometric Theory (2nd). New York: McGraw-Hill.

Omar, K.M., Nik Mat, N.K., Imhemed, G.A., & Ali, F.M.A. (2012). The direct effects of Halal product actual purchase antecedents among the international Muslims consumers. *American Journal of Economics*, 87-92. https://doi.org/10.5923/j.economics.20120001.20

Osman, S., Kai, W.H. & Wider, W. (2022). Factors affecting the Halal cosmetics purchasing behaviour in Klang Valley Malaysia. *FWU Journal of Social Sciences, Winter 2022, 16 (4)*, 102-120

Rahim, N.F., Shafii, Z., & Shahwan, S. (2014). Awareness and perception of Muslims consumers on Halal cosmetics and personal care products. *International of Business, Economics and Management, 2 (1)*, 1-14.

Romle, A.B., Mohd Udin, M., Abu Seman, N.H., Sabu, M.A., Samsudin, M.F., Mostapha, N.H. (2016). The linked of attitude, subjective norms, trust, knowledge, and intention to use Halal cosmetic products among student: A case of public university in Malaysia. *International Journal of Administration and Governance, 2(2)*, 15-20.

Salehudin, I., & Luthfi, B.A. (2010). Marketing impact of Halal labeling toward Indonesian Muslim consumer's behavioral intention. *ASEAN Marketing Journal, 3 (1)*, 35-44.

Sapir, A.S.M., & Ambo, N.I. (2021). Halal cosmetic awareness among college students in Malaysia. *International Journal of Business and Economic Studies, 3 (1)*, 17-26.

Septiarini, D.F., Ratnasari, R.T., Salleh, M.C.M., Sedianingsih & Herianingrum, S. (2022). Drivers of behavioral intention among non-Muslims toward Halal cosmetics: Evidence from Indonesia, Malaysia and Singapore. *Journal of Islamic Accounting and Business Research*, https://doi.10.1108/JIABR-02-2021-0064

Shafie, S., & Othman, M.N. (2006). Halal certification: An international marketing issue and challenges. Proceedings at the International IFSAM VII th World Congress.

Shuriye, A.O. (2015). The veracious construal of Halal cosmetic products and its relation to Taharah (Cleanliness) and Nadhafah (Hygiene and Sanitation) in Islam. *Mediterranean Journal of Social Sciences, 6 (6)*, 266-270.

Sofiana, R., Utama, S. & Rohim, A. (2021). The problems of Halal certification regarding consumer protection in Malaysia and Indonesia. *Journal of Human Rights, Culture and Legal System, 1 (3)*, 180-193

Sugibayashi, K., Yusuf, E., Todo, H., Dahlizar, S., Sakdiset, P., Arce, F.J., See, G.L. (2019). Halal cosmetics: A review on ingredients, production, and testing methods. *Cosmetics*, 6, 37.

Sukardini, P.S., Setianingrum, V.M., & Wibisono, A.B. (2018). Halal lifestyle: Current trends in Indonesian market. *Advances in Social Science, Education and Humanities Research, 226*, 334-339.

Suki, N.M., & Abang Salleh, A.S. (2016). Does Halal image strengthen consumer intention to patronize Halal stores? *Journal of Islamic Marketing, 7 (1)*, 120-132.

Swidi, A., Cheng, W., Hassan, M.G., & Al-Hosam, A. (2010). The mainstream cosmetics industry in Malaysia and the emergence, growth, and prospects of Halal cosmetics. Proceeding the Third International Conference on International Studies, 1-20.

Ya, S., Nor, M.M.N., Noor, S.M., & Ahmad, Z. (2017). Purchase intention of Islamic brand product among non-Muslim customers. *Pertanika Journal Social Sciences and Humanities, 25 (S)*, 101-110.

Zakaria, Z., Musa, M.Z.E., & Abd Ghani, S.S. (2019). The compelling trend of Halal cosmetic industry in Malaysia. *Halal Journal, 3*, 1-10.

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THE APPLICATION OF GOOGLE CLASSROOM FROM MALAYSIAN TEACHERS' PERSPECTIVE

Peter Ong[1] & Md Jais Ismail[2]*

[1]Cluster of Education and Social Sciences, Kuala Lumpur Teaching Centre, Open University Malaysia, MALAYSIA
[2]College of Creative Arts, Universiti Teknologi MARA(UiTM), Shah Alam, MALAYSIA

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Corresponding Author:
mdjais@uitm.edu.my

ABSTRACT

The aim of this study is to examine the perception of teachers on the use of Google Classroom in the teaching process in public secondary schools in Kuala Lumpur. This study aims to examine teachers' perceptions of using the Google Classroom in the teaching process in public secondary schools in Kuala Lumpur. A total of 75 teachers from Kuala Lumpur's public secondary schools were randomly selected as respondents and 10 were interviewed. The questionnaire consists of 15 questions prepared using the Google online form and sent to 10 secondary schools in Kuala Lumpur. In the questionnaire, 15 items of the Likert scale and 2 interview questions were adapted to determine the perception of secondary school teachers on using Google Classroom in the teaching process. The data are analyzed according to each questionnaire element to obtain the mean and standard deviation. The mean and standard deviation have shown the high level of secondary school teachers' perception on using the Google Classroom in the teaching process. The results indicate teachers have the positive perception on using Google Classroom in the teaching process. Besides, they do agree on using Google Classroom in the teaching process.

1. Introduction

The idea of education has recently undergone a major transformation from traditional teaching to 21st century teaching in today's changing world. Teaching places a strong emphasis on the value of digital learning and the transition to competency-based instruction. There have been several advances that have boosted teachers' confidence in using technology in the classroom. Each instructor is encouraged to have a laptop, tablet, or smartphone in the modern classroom. When using the Internet to obtain material, teachers have more control over their instruction and have a deeper understanding of the subject. According to Weller (2007), teachers used the Internet as a clearinghouse for knowledge to develop excellent projects and homework for their pupils in the classroom. They can conduct research using a chat platform like WhatsApp, share resources, interact with students, and collaborate on the project. Most schools today provide teachers with digital gadgets to aid in the teaching process. As a result, learning is becoming more interesting and interactive.

In order to stop Covid-19 from spreading, Malaysia and many other nations across the world have implemented the Movement Control Ordinance (MCO). All public, private, and international universities and institutions, as well as universities in Malaysia, are anticipated to transition to e-learning till further notice, according to a 2020 announcement from the Ministry of Education.

The Covid-19 pandemic recently had an impact on instructors' ability to teach. All public, private, foreign, and university schools in Kuala Lumpur have been forced to close until further notice, according to the Kuala Lumpur Department of Education (2020). The pandemic has put the world on lockdown and severely impacted the lives of teachers. All academic and extracurricular activities abruptly came to an end. We have been forewarned about impending change by the Covid-19 outbreak. Covid-19 has acted as a catalyst to reshape the educational landscape and inspire new approaches. Google Classroom (GC) is one of the many prospective online education platforms.

The Learning Management System (LMS) has forced a speedy transition to e-learning in many Kuala Lumpur schools. The school leadership team struggled to get through the crisis and stepped up to the plate to use technology to implement various approaches and build a platform for teachers to continue teaching remotely while dealing with the threat of the pandemic. The Kuala Lumpur Department of Health has advised that all schools and universities remain at home and practice social seclusion due to the risky contagious virus affecting respiratory disorders.

Google Classroom (GC) is a tool that allows teachers to access student work, get grades, and receive spreadsheets, projects, presentations, and live streaming from their students. It is part of LMS. To access Google Classroom, teachers must have a personal Gmail account. Therefore, it is important to investigate how secondary school instructors view using Google Classroom in their classrooms. The aim of this study is to examine the perception of teachers on the use of Google Classroom in the teaching process in public secondary schools in Kuala Lumpur. It is carried out during the MCO using online learning. The research question including; What is the perception of teachers on the use of Google Classroom in the teaching process in public secondary schools in Kuala Lumpur ?

2. Literature Review

2.1 Google Classroom and Past Studies

As part of the Covid-19 pandemic prevention measures, many schools in Malaysia are getting ready to close and transition to virtual education. It seems the pandemic has transformed the landscape of Malaysian education system to be more flexible with the use of technology (Ismail et al. 2022; Yusof et al. 2022). The majority of public, private, and international schools now use Google Classroom for online instruction. Schools can access Google Classroom remotely using a variety of learning management systems or platforms. Before the Covid-19 outbreak, Google Classroom was a well-liked application in a number of schools. Google Classroom is a blended learning platform that was created by The study on teachers' perceptions of e-learning during the COVID-19 pandemic in India was undertaken by Khan, Nabi, Khojah, and Tahir (2021). The study is based on the preference of teachers for online learning since it gives them more freedom to interact with other teachers and friends.

Google Classroom makes it simple for teachers to swiftly create and arrange assignments, give feedback, and interact with their classes. Students can use Classroom to organise their Google Drive work, finish and submit it, and interact with their teachers and peers in real time. A study on the effect of Google Classroom on raising pupils' information literacy was done by Dewi et al. in 2022. The development of students' critical thinking abilities, including awareness, collection, understanding, analysis, synthesis, and use of information, as well as their attitudes towards the treatment of information at the university level, depends heavily on information literacy at the higher education level. This study looked at how Google Classroom's online instruction affected students' information literacy.

A study on the perceived effectiveness of Google Classroom utilisation in various English classes was done by Ekahitanond (2022). Universities in Thailand work to integrate cutting-edge technologies into teaching, create cutting-edge learning environments, and create new digital skills that will be in demand in the future workforce in this disruptive period. To give students additional opportunities to examine and connect with the course materials and content in order to improve their performance, motivation, and confidence in learning, the online application of teaching support was used. This study examined how effectively Google Classroom was perceived by students taking part in big classrooms of English-language learners at a private university in Thailand. The results showed that the students' opinions of using Google Classroom as a tool to aid in English learning were favourable. Students with past experience using Google Classroom had better perceptions than first-time users, whereas perceptions across male and female students were not different when characteristics were studied to determine whether they had any effects on perceptions.

An investigation of the variables influencing behavioural intention to utilise Google Classroom was done by Saidu et al. in 2022. In general, university instructors in Bangladesh and Nigeria lack experience utilising cutting-edge teaching and learning tools like Google Classroom. This study intends to examine teachers' attitudes towards using Google Classroom as a learning management system and the factors that affect their acceptance and behavioural intents to do so. The study's findings give instructors knowledge of the fundamentals of using Google Classroom, empowering them to use it effectively both during and after the COVID-19 pandemic.

A research on using Google Classroom to teach female students during the COVID-19 pandemic was done by Tarteer et al. in 2022. With the advent of emergent e-learning due to COVID-19, this study aimed to comprehend the experiences of female 11th-graders taking English classes who used Google Classroom applications. As mandated by the Ministry of Education, Google Classroom was utilised by educators and students in Palestine in place of face-to-face instruction. The majority of students, according to the results, were interested in utilising the Google Classroom programme; nevertheless, some students, who had internet speed problems, chose face-to-face instruction over Google Classroom.

In the midst of the COVID-19 pandemic, Nuryatin et al. (2023) did a study using Google Classroom as an online learning resource for learning Indonesian. The COVID-19 pandemic compelled schools to switch from an offline to an online learning methodology. For online instruction, teachers can use a variety of systems, including Google Classroom. This study attempts to shed light on how Google Classroom was utilised in schools for online learning of Indonesian topics throughout the pandemic. According to the analysis's findings, teachers use Google Classroom as a convenient online learning tool for pupils who are studying Indonesian during a pandemic. When used properly, Google Classroom improves student comprehension and can raise engagement levels.

A study on students' perceptions of the use of Google Classroom for language learning was done by Setiadi in 2020. The goal of this study is to learn how students at Muhammadiyah University of Makassar's English Education Department feel about using Google Classroom to help them learn languages, particularly how easy it is to use Google Classroom and how well it works. The majority of students agreed that Google Classroom was simple to use and performed well when used for language learning because it allowed students to save and retrieve tasks and assignments, information or announcements, and submit tasks and assignments through Google Classroom. Based on the research findings and discussion, it is possible to draw the conclusion that students' perceptions of using Google Classroom have positive responses. Therefore, using Google Classroom as a tool for language learning is a fantastic idea.

The learning process consists of six interactive parts: higher order thinking, attention, memory, language, processing, and organising. Not only do these processes interact with one another, but also with feelings, the environment in the classroom, behaviour, social skills, teachers, and family (Schacter, 2011). By submitting the instructor course code, teachers can enroll in courses on Google Classroom. Through the classroom website, teachers can invite their colleagues to join the class. Online teacher work reviews are relatively simple for teachers to do. Online assignments submitted by students during free time and from home can be marked by teachers. A stack of documents is not required for teachers to bring. For teachers and educators, Google Classroom has made learning simpler and more efficient.

According to Muhammad Astrianto S (2020), Google Classroom makes it simple for teachers to administer the classroom from any location at any time. Teachers can design online or group courses for each lesson using Google Classroom.

A study on teachers' approval and preparedness to use Google Classroom in secondary schools in Malaysia was done by Husain et al. in 2023. This poll was conducted to determine the levels of acceptance and instructors' opinions about the use of Google Classroom in the facilitation of learning. This study specifically looked at teachers' knowledge, implementation skills, and Google Classroom preparedness levels. The research showed that the majority of teachers had favourable opinions on the app's effectiveness. Additionally, they showed that they were highly accepting of and prepared to implement such an application in their teaching methods.

However, several respondents showed some reluctance to use Google Classroom, which might be explained by a lack of technical support, infrastructure, and knowledge or skills to enable virtual learning in their schools. In order to ensure Google Classroom could be used as a tool to create online virtual learning environments where teachers can teach and students can learn engagingly and interactively, relevant agencies or parties must address these issues by offering such schools with adequate infrastructure, dependable technical support, and specialised training.

A study on teachers' technological proficiency and the difficulties of using Google Classroom for emergency remote teaching was undertaken by Al Badi et al. in 2023.The study focuses on the skills required and the difficulties encountered when using Google Classroom for Emergency Remote Teaching (ERT) during the Covid 19 pandemic. A questionnaire with three categories—teaching competencies, teaching obstacles, and teaching attitudes—was given to 210 teachers as part of the study's descriptive research approach. The results indicated that teachers had a high level of proficiency utilising the Google Classroom platform, with results on the difficulties they had using the site being mediocre. The perception of Google Classroom among teachers was positive. It is also necessary to offer the infrastructure for communication networks, reliable Internet access, and alternative assessment techniques.

A study on the application of Google Classroom for social studies education was carried out by Riyanto et al. in 2023. Google Classroom was created as an online learning tool that is simple to use, doesn't consume a lot of data, and isn't overly complex, making it simple to use on Android and iOS smartphones. The study's findings from the ten areas covered by the questionnaire demonstrate that Google Classroom is the ideal tool for use as a learning medium because it is simple to use, doesn't consume a lot of data, makes it possible to understand the learning materials, and allows for student control so that they enjoy learning with it. The anticipated contribution to research can inform other institutions that wish to use Google Classroom as a learning tool and serve as a reference for other researchers who wish to undertake studies on Google Classroom as a learning tool.

A study on the efficiency of Google Classroom among EFL students in Jordan was undertaken by Albashtawi et al. in 2020. This study looked into how utilising Google Classroom affected Jordanian diploma students who were learning English as a second language's (ESL) reading and writing skills. Its goal was to look into how students felt about utilising Google Classroom, a cutting-edge online platform. The study's findings indicate that Google Classroom helped Syrian pupils score better in both reading and writing. Students exhibited favourable sentiments towards utilising Google Classroom in terms of its usability, accessibility, and convenience of use. Future research should evaluate Google Classroom's performance in comparison to other situations. This study confirmed the risk associated with using Google Classroom in more extensive scenarios.

A study on how students perceive learning using Google Classroom was carried out by Fitri Rahmawati et al. in 2020. Learning takes place both in the physical environment and online using internet intermediaries. Google Classroom is one tool that has been used in the classroom. The goal of this study is to examine how students see learning through Google Classroom. The findings of this study suggest that while Google Classroom can be used effectively for assignments, it is less effective for material discussion because students can access and send assignments without having to meet with lecturers in person, attend lectures whenever and wherever they choose, and still not fully comprehend the material they are being taught. Google Classroom learning hence cannot take the role of in-person lecture activities.

2.2. Perception

The evident implication is that perception should not be regarded as an ultimate verdict. Perception is derived from internal cognitive processes or subjective emotional experiences. Consequently, any discourse without a comprehensive grasp of the underlying veracity may be categorised as inaccurate. It is imperative for individuals to have heightened cognitive abilities when making judgements within the context of the contemporary advanced society. However, it is unfortunate to observe that the sophisticated technology developed by humans surpasses the intelligence of its creators. In contemporary times, individuals exhibit a tendency to place greater credence in ideas or beliefs only on the basis of their subjective viewpoint.

According to William and William (2018), perception is the cognitive process through which sensory stimuli are transformed into organised and meaningful experiences in the human mind. The sensation is the resultant outcome of the cognitive process, known as perception, and the external stimuli. The examination of the connections between different stimuli, such as light and sound waves, and the corresponding subjective sensations implies the possibility of drawing conclusions regarding the characteristics of the perception process. Given that the perceptual process is not readily observable, the development of perception relies on the formation of inferences. Consequently, theories of perception can be constructed based on these inferences.

According to Schacter (2011), perception can be described as the cognitive process by which individuals acquire, identify, and interpret sensory information, enabling them to develop a comprehensive understanding of their environment. Perception encompasses all nervous system impulses that arise from the chemical or physical activation of the sense organs. For example, the sense of hearing is facilitated by the propagation of sound waves, olfaction relies on the detection of fragrance molecules, and visual perception is initiated by the interaction of light with the retinal cells in the eye. The determinants of perception encompass cognitive processes such as learning, memory, hope, and attention, which actively shape an individual's perception rather than passively receiving external stimuli. Perception, a vital element in the complicated functioning of the neurological system, seems to be absent from consciousness due to its occurrence outside of conscious awareness (Gregory, 1987). The advancement in the comprehension of perception within the field of psychology has been facilitated by the integration of several methodologies, a progression that can be traced back to the emergence of experimental psychology in the 19th century.

The quantification of the relationship between the physical features of a stimulus and the resulting perception has been extensively studied in the discipline of psychophysics. The field of sensory neuroscience is dedicated to the examination of the brain mechanisms underlying the process of perception. The data processed by these systems can be utilised to calculate the acquisition of perceptual systems. Perception, as defined by Gregory (1987), pertains to the extent to which sensory attributes, such as sound, smell, or colour, manifest in objective reality rather than just within the subjective realm of the perceiver.

2.3 Learning Process

According to Bafadal (2005), the inclusion of teacher-student contact and reciprocal communication is considered integral to the achievement of learning objectives. Teachers and students are integral constituents of the educational process. For optimal educational outcomes, it is imperative to establish a symbiotic relationship between the two components. Hence, any effort aimed at delivering effective and efficient guidance for acquiring knowledge may be denoted as learning. In accordance with the findings of Winkel (2017), the process of learning may be described as a cognitive or psychological endeavour that occurs through active interaction with the surrounding environment, leading to modifications in an individual's knowledge acquisition, understanding, abilities, and aptitudes.

Based on the aforementioned perspectives, it can be deduced that the process of learning entails a collaborative effort between educators and learners to exchange and assimilate information with the aim of equipping students with valuable knowledge and establishing a basis for continuous learning throughout their lives. There is an expectation that these modifications will yield improvements in the form of positive advancements in individual behaviour, ultimately leading to the establishment of an effective and efficient teaching and learning environment. The cultivation of intellectual abilities, the application of critical thinking, the stimulation of creative thinking, and the modification of behavioural or personal patterns through specific practises or experiences are all factors that contribute to an effective learning process.

3. Methodology

In public secondary schools in Kuala Lumpur, this study intends to investigate teachers' perspectives of utilizing Google Classroom in the teaching process. A total of 75 English instructors from public secondary schools in Kuala Lumpur were chosen at random to participate in the survey and 10 were interviewed. The survey consists of 15 questions that were created using a Google online form and distributed to 75 teachers at secondary schools in Kuala Lumpur. 15 Likert scale items and 2 interview questions were included in the questionnaire to find out how secondary school instructors felt about utilizing Google Classroom for instruction. The options were 1 (Strongly Disagree), 2 (Disagree), 3 (Neutral), 4 (Agree), and 5 (Strongly Agree) for each question. The survey was distributed through Google Form. To determine the mean and the standard deviation, the data were evaluated in accordance with each item on the questionnaire. The mean and standard deviation show how secondary school instructors feel about using Google Classrooms in the classroom. This study involved 75 secondary school teachers in Kuala Lumpur. Of the 75 teachers, 23 were male teachers and 52 were female teachers. All teachers have experience using Google Classroom in their teaching process.

4. Findings and Discussion

Table 1 shows the results of survey data consisting mean and standard deviation values.

Table 1
Interpretation of Mean

No.	Items	1	2	3	4	5	mean	std. dev.	Tendency / Interpretation
1	I am able to use Google Classroom to implement the teaching process.	-	-	10 13.33 %	43 57.33 %	22 29.33 %	4.16	0.63	Agree
2	Using Google Classroom in my teaching process is an effective communication with students.	-	-	11 14.67 %	23 30.67	41 54.67 %	4.40	0.73	Strongly agree

3	Using Google Classroom for conducting classes is a clean and user-friendly interface.	-	4 5.33%	19 25.33 %	17 22.67 %	35 46.67 %	4.11	0.96	Agree
4	I possess sufficient computer skills to use Google Classroom in my process of teaching.	-	1 1.33%	12 16%	19 25.33 %	43 57.33 %	4.39	0.80	Strongly agree
5	I am able to interact effectively with my students in the Google Classroom.	-	3 4%	4 5.33%	24 32%	44 58.67 %	4.45	0.77	Strongly agree
6	Teaching process in the Google Classroom is different from traditional classroom in school.	-	4 5.33%	14 18.67 %	21 28%	36 48%	4.19	0.92	Agree
7	I can get full attention from my students using Google Classroom in the teaching process.	-	1 1.33%	9 12%	26 34.67 %	39 52%	4.37	0.74	Strongly agree
8	Discussion between both teacher and students is clearly heard and understood in the Google Classroom.	-	2 2.67%	11 14.67 %	25 33.33 %	37 49.33 %	4.28	0.81	Strongly agree
9	No interruption and disturbance in the teaching process by using Google Classroom.	-	1 1.33%	7 9.33%	45 60%	22 29.33 %	4.15	0.63	Agree
10	Google Classroom allows me to collect students' submitted assignments easily and conveniently.	-	3 4%	8 10.67 %	21 28%	43 57.33 %	4.07	0.72	Agree
11	References and teaching materials posted can easily be accessed by students in the Google Classroom	-	-	7 9.33%	44 58.67 %	24 32%	4.03	0.78	Agree
12	In the Google Classroom, I do not need to print or photostat my teaching material. It is paperless.	-	6 8%	16 21.33 %	17 22.67 %	36 48%	4.11	1.00	Agree
13	Google Classroom saves much time in the process of teaching and learning.	-	3 4%	11 14.67 %	15 20%	46 61.33 %	4.39	0.88	Strongly agree
14	Google Classroom provides effectiveness in the process of teaching and learning.	-	4 5.33%	6 8%	18 24%	47 62.67 %	4.44	0.85	Strongly agree
15	Google Classroom can be held anywhere and anytime.	-	1 1.33%	13 17.33 %	29 38.67 %	32 42.67 %	4.23	0.76	Strongly agree
				Average mean and SD			4.25	0.80	Stongly Agree

*Adopted from Robert et.al. (2004)

Table 2
Interpretation of mean score

Average mean	Interpretation
1.00 – 1.80	Srongly disagree
1.81 – 2.60	Disagree
2.61 – 3.40	Neutral

3.41 – 4.20	Agree
4.21 – 5.00	Strongly agree

Based on Table 1, it is determined that all secondary school teachers concur that Google Classroom enables them to carry out the teaching process and that it is simple to use and available on all devices (M=4.16). The use of Google Classroom is a highly effective communication and sharing tool, according to all teachers (M=4.40). The use of Google Classroom for teaching purposes is universally regarded as having a clear and user-friendly interface (M=4.11). Four teachers, nevertheless, don't agree with this assertion. All teachers firmly concur that they have the technical skills necessary to use Google Classroom in their teaching process (M=4.39). One teacher, though, disagrees with this assertion. All teachers resoundingly concur that they can communicate with their students in Google Classroom effectively and get useful feedback from them (M=4.45). Three teachers, nevertheless, don't agree with this assertion.

All teachers concur that the Google Classroom differs from a regular classroom setting in a school (M=4.19). Four teachers, nevertheless, don't agree with this assertion. All teachers firmly agree that using Google Classroom in the teaching process allows them to get their students' undivided attention (M=4.37). One teacher, though, disagrees with this assertion. All teachers firmly agree that discussions between teachers and students in Google Classroom are heard and understood clearly (M=4.28). Two teachers, nevertheless, don't agree with this assertion. All educators concur that utilizing Google Classroom will prevent interruptions and disruptions in the educational process (M=4.15). One teacher, though, disagrees with this assertion.

All teachers concur that Google Classroom makes it simple and comfortable for them to gather students' completed assignments and streamlines the assignment process (M=4.07). Three teachers, nevertheless, don't agree with this assertion. All teachers concur that students may quickly access uploaded references and educational materials in Google Classroom (M=4.03). All teachers concur that they do not need to print or photostat their lesson materials while using Google Classroom is paperless (M=4.11). Six educators, though, disagree with this assertion.

All teachers firmly agree that Google Classroom saves a lot of time and money during the teaching and learning process (M=4.39). Three teachers, nevertheless, don't agree with this assertion.

All teachers resoundingly concur that Google Classroom offers efficacy and efficiency in the teaching and learning process (M=4.44). Four teachers, nevertheless, don't agree with this assertion. Google Classroom can be held at any time and anywhere, all teachers agree (M=4.23). One teacher, though, disagrees with this assertion.

Overall, the distribution of study results from secondary school English instructors for their degree of perspective on utilizing Google Classroom in their teaching process is at a very good level, as indicated in Table 1 (M=4.25 & SD=0.80). Some teachers, meanwhile, disagree with some of the comments. The data interview part, where teachers provided their comments on the drawbacks of Google Classroom, contains the explanations. Teachers indicated that Google Classroom is a free Learning Management System (LMS) for online learning based on the data gathered from the data interview. Each and every assignment is recorded on Google Drive. Additionally, Google Classroom is excellent for paperless assignment submission, remote learning, and class updates. The Google Classroom is an effective teaching and learning tool for the twenty-first century. As long as the network connection is strong, using video and audio is simple in the

Google Classroom. In general, Google Classroom is a successful online learning and teaching platform.

The present study found Google Classroom consist unfavourable aspects. The participants noted how challenging account management is in the Google Classroom. It only offers a few integration options. The Google Classroom platform does not offer automated updates. Students find it challenging to present their work to their peers. Due to spotty internet connections, students may have trouble signing in to the Google Classroom. If the pupils do not attend the Google Classroom, the teachers typically have no recourse. They might inform the pupils or their parents of their absence by calling them. They do not bother to log in to Google Classroom to study if they are weak students or if they are not engaged in their studies. Teachers may only offer guidance and inspire students to study by using engaging and appealing teaching methods, such as playing YouTube videos for them.

According to the teachers, one key advantage of Google Classroom is the increased level of personalization they offer. Google Classroom, regardless of their synchronous or asynchronous nature, often allow students the flexibility to work at their preferred pace, surpassing the constraints imposed by a conventional face-to-face classroom environment. They mentioned that due to the absence of a teacher's continuous physical presence in Google Classroom, students are afforded the opportunity to assume a greater degree of control and ownership over their learning experience. This encompasses various aspects of the course, including lessons, homework assistance, and project deadlines. Consequently, this enables students to individualise or collaboratively shape their educational journey. The primary role of the teacher is to provide assistance and support to students. Ultimately, however, the responsibility for making these choices lies with the individuals themselves, rendering Google Classroom learning particularly suitable for highly self-motivated students or those seeking to cultivate their self-motivation. Google Classroom offer increased flexibility compared to traditional in-person classes. In essence, the realm of Google Classroom learning offers a greater array of possibilities, encompassing various variables such as the nature, scheduling, and geographical accessibility of courses available to students. This implies that Google Classroom offers increased flexibility to accommodate diverse learning styles. Due to the inherent variability in students' learning preferences, Google Classroom provides students the opportunity to establish learning environments that align more closely with their individualised learning methods. Google Classroom learning offers the flexibility to tailor the lesson to align with individual needs, rather than vice versa.

They added that one of the advantages of Google Classroom programmes is their increased accessibility. In contrast to the past, when students faced limitations in terms of geographical, financial, or physical constraints that restricted their educational opportunities, the advent of Google Classroom has significantly transformed the landscape of educational accessibility. In the majority of instances, a student's needs are presently limited to an internet connection, granting them immediate access to a wide range of courses.

Most of the teachers agreed that one advantage of Google Classroom is that they provide more convenient and efficient communication. Google Classroom has the potential to significantly impact certain students by mitigating the various distractions inherent in traditional face-to-face classroom settings, hence facilitating improved concentration and enhanced learning outcomes. In addition to the decrease in distractions, there is a concurrent emergence of more streamlined methods of communication. One advantage of Google Classroom education is the potential for fostering more profound connections. Google Classroom learning is advantageous as it enhances the efficiency of students' interactions with educators by facilitating streamlined access. Despite the initial perception that Google Classroom creates a sense of detachment between students and their instructors, it is noteworthy that students frequently get the opportunity to see their teachers' reactions more promptly and distinctly in the Google Classroom compared to the conventional, face-to-face setting.

The teachers added that the optimisation of student-teacher access can be achieved by the utilisation of Google Classroom learning platforms beyond virtual lessons, namely in the context of email and chat discussions. Frequently, when a student poses a question to a teacher in a face-to-face setting, either prior to or during a class session, the ensuing response tends to be somewhat compromised. This behaviour can be attributed to the teacher's need to prepare for the upcoming lesson or to unwind after the completion of a session, all while potentially managing a continuous influx of student inquiries. Nevertheless, in the event that an educator is presented with an inquiry via electronic mail or chat, they are afforded the advantage of additional time and room for contemplation, ultimately enabling them to respond with a more meticulously crafted and considered response.

The teachers mentioned that Google Classroom offers a unique opportunity for enhanced contact and interaction between teachers and students, which can be unexpectedly more quick, lucid, and comprehensive. Google Classroom provides individuals the opportunity to concentrate on the broader scope of their academic pursuits. Moreover, the use of Google Classroom offers the advantage of reducing the time dedicated to commuting to and from educational institutions. This, in turn, facilitates students' ability to effectively engage in other aspects of their lives, including employment, extracurricular pursuits, and social interactions. Google Classroom provides students with the opportunity to broaden their attention beyond only attending school, enabling them to prioritise and engage with the broader aspects of their lives.

In summary, teachers have the positive perception on using Google Classroom in the teaching process. Besides, they do agree on using Google Classroom in the teaching process.

5. Conclusion

Google Classroom increases the ability of teachers and teachers to use technology wisely, particularly for the learning process, saving time, being environmentally friendly and serving as a secure document storage. In the future, it is advised that this poll be done among primary school teachers and students from higher education institutions. Additionally, this survey can be carried out in Malaysia at private secondary schools as well as overseas elementary and secondary schools. According to the research's findings and discussion, secondary school teachers have a positive attitude toward using Google Classroom to facilitate their students' learning. Thus, it can be said that GC is a user-friendly, successful, and convenient online teaching and learning platform that benefits both students and teachers.

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Conflict of Interest

There is no conflict of interest as a result of this study.

References

Al Badi, A., Al Kharusi, A., Al Kalbani, A., & Al Mayahi, M. (2023). Teachers' technological competencies and challenges of using google classroom during emergency remote teaching. Cypriot Journal of Educational Sciences, 18(2), 408–421. https://doi.org/10.18844/cjes.v18i2.7351

Albashtawi, A. H., & Al Bataineh, K. B. (2020). The effectiveness of google classroom among EFL students in Jordan: An innovative teaching and learning online platform. International Journal of Emerging Technologies in Learning, 15(11), 78–88. https://doi.org/10.3991/IJET.V15I11.12865

Aliyyah, R. R., Rachmadtullah, R., Samsudin, A., Syaodih, E., Nurtanto, M., & Tambunan, A. R. S. (2020). The perceptions of primary school teachers of online learning during the COVID-19 pandemic period: A case study in Indonesia. Journal of Ethnic and Cultural Studies, 7(2), 90-109. http://dx.doi.org/10.29333/ejecs/388

Aprianto, D. (2017). The English teachers' perception on the implementation of 2013 curriculum. Purwokerto: Universitas Muhammadiyah Purwokerto.

Bafadal, I. (2005). *Pengelolaan perpustakaan sekolah.* Jakarta: Bumi Aksara.

Dewi, C. A., Muhali, M., Kurniasih, Y., Lukitasari, D., & Sakban, A. (2022). The impact of Google Classroom to increase students' information literacy. International Journal of Evaluation and Research in Education, 11(2), 1005–1014. https://doi.org/10.11591/ijere.v11i2.22237

Ekahitanond, V. (2022). Perceived efficacy of google classroom usage in varied English courses. International Journal of Emerging Technologies in Learning, 17(5), 266–280. https://doi.org/10.3991/ijet.v17i05.22403

Fitri Rahmawati, B., Zidni, & Suhupawati. (2020). Learning by Google Classroom in Students' Perception. In Journal of Physics: Conference Series (Vol. 1539). Institute of Physics Publishing. https://doi.org/10.1088/1742-6596/1539/1/012048

Gregory, R. (1987). Perception. Zangwill 598–601.

Grutterink, H., & Meister, A. (2022). Thinking of you thinking of me: An integrative review of meta-perception in the workplace. Journal of Organizational Behavior, 43(2), 327–341. https://doi.org/10.1002/job.2516

Hariyanto. (2015). Pengertian persepsi menurut para ahli. https://ruangguruku.com/m/pengertian-persepsi-menurut-ahli/.

Husain, N. M., Musa, N. F. H., & Adnan, M. H. M. (2023). Teachers' acceptance and readiness in using google classroom in secondary schools in Malaysia. In Lecture Notes in Networks and Systems (Vol. 488, pp. 967–978). Springer Science and Business Media Deutschland GmbH. https://doi.org/10.1007/978-3-031-08090-6_62

Ismail, M. J., Anuar, A. F., & Loo, F. C. (2022). From Physical to Virtual: A New Learning Norm in Music Education for Gifted Students. *The International Review of Research in Open and Distributed Learning, 23*(2), 44–62. https://doi.org/10.19173/irrodl.v23i2.5615

Khan, M. A., Nabi, M. K., Khojah, M., & Tahir, M. (2021). Teachers' Perception towards E-Learning during COVID-19 Pandemic in India: An Empirical Study. Sustainability, 13(1), 57.

MOE (2020). https://www.moe.gov.my

Muhammad AstriantoSetiadi. (2020). Teachers' perception on the use of Google Classroom in language learning. Department of English, Muhammadiyah University of Makassar Sultan Alauddin Street, Makasssar, South Sulawesi, Indonesia.

Nuryatin, A., Rokhmansyah, A., Hawa, A. M., Rahmayanti, I., & Nugroho, B. A. (2023). Google classroom as an online learning media for Indonesian language learning during covid-19 pandemic. Journal of Language Teaching and Research, 14(1), 255–262. https://doi.org/10.17507/jltr.1401.27

Proctor, R. W., & Proctor, J. D. (2021). Sensation and Perception. In Handbook of Human Factors and Ergonomics (pp. 57–90). wiley. https://doi.org/10.1002/9781119636113.ch3

Rahayu, R. P., & Wirza, Y. (2020). Teachers' Perception of Online Learning during Pandemic Covid-19. Jurnal Penelitian Pendidikan, 20(3). https://doi.org/10.17509/jpp.v20i3.29226

Riyanto, M., Yunita, Y., Jamilah, J., Monica, S., Zuhri, Z., Subakti, A., Purwandari, E. (2023). The utilization of google classroom in social studies learning. EDUKATIF : JURNAL ILMU PENDIDIKAN, 4(6), 8285–8292. https://doi.org/10.31004/edukatif.v4i6.4194

Robert M. Bernard , Aaron Brauer , Philip C. Abrami & Mike Surkes. (2004). The development of a questionnaire for predicting online learning achievement. *Distance Education, 25*(1), 31-47.

Saidu, M. K., & Al Mamun, M. A. (2022). Exploring the Factors Affecting Behavioural Intention to Use Google Classroom: University Teachers' Perspectives in Bangladesh and Nigeria. TechTrends, 66(4), 681–696. https://doi.org/10.1007/s11528-022-00704-1

Savitra, K. (2017). 10 pengertian persepsi menurut para ahli.
https://www.Google.com/amp/s/ dosenpsikologi.com/pengertianpersepsi-menurut-para-ahli/amp.

Setiadi, M. A. (2020). Students' Perception on the Use of Google Classroom in Language Learning. Research Gate. Retrieved from https://www.researchgate.net/publication/343575424

Schacter, D. (2011). Psychology. Worth Publishers.

Tarteer, S., Badah, A., & Khlaif, Z. N. (2022). Employing google classroom to teach female students during the covid-19 pandemic. Computers in the Schools, 38(4), 300–321. https://doi.org/10.1080/07380569.2021.1988318

Weller , M. (2007). Virtual learning environments: Using, choosing and developing your VLE. London: Routledge.

William, N.D. & William, E. (2018). Perception. Encyclopedia Britannica.

Winkel, W. S. (2017). *Educational psychology.* Yogyakarta: Media Abadi.

Yusof, R., Ismail, M. J., & Radzi, A. M. (2022). Online Distance Learning: A New Learning Approach in the malaysian Gifted Education System. *FWU Journal of Social Sciences*, *16*(1), 28–46. https://doi.org/10.51709/19951272/Spring2022/3

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DETERMINATION OF FACTORS CONTRIBUTING TO DRUG ABUSE USING FUZZY ANALYTICAL HIERARCHY PROCESS (FAHP)

Norpah Mahat[1]*, Nur Khairunnisa[2], Jasmani Bidin[3], Sharifah Fhahriyah[4] Mohamad Najib Mohamad Fadzil[5], Izleen Ibrahim[6]

[1,2,3,4,5,6] College of Computing, Informatics and Mathematics, Universiti Teknologi MARA(UiTM), Perlis Branch, Arau Campus, Perlis, MALAYSIA

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Corresponding Author:

norpah020@uitm.edu.my

ABSTRACT

Abuse of drugs or any dangerous substance is a very worrying global cross-border issue that can destroy the lives of individuals and communities. Drug abuse is also a critical problem in Malaysia, especially in Perlis. Drug abuse among youth is a very real and prevalent issue which involves all races and genders with different financial backgrounds. The Director General of National Anti-Drug Agency (AADK) stated that in 2023, the number of drug addicts in Malaysia has increased by 27% for the first 6 months to 118,820 compared to 93,534 addicts reported in the same period last year. 65% of the total number involved were youth and teenagers. This fact is very worrying because if actions were not taken to curb this problem, eventually, it would continue to worsen and become a critical problem for our country. The aim of this study is to rank the factors of drug abuse particularly in Perlis and to identify the main factors of drug abuse. Fuzzy Analytical Hierarchy Process (FAHP) is used in analysing the data. This method facilitates to rank the factors based on the data collected from five (5) professional AADK staffs. The result of this study found the main factors of drug abuse that are taking drugs for pleasure followed by managing depression or stress, taking drugs as a stimulant, for pain endurance, curiosity, accidental consumption, peer influence and other factors.

1. Introduction

According to the National Cancer Institute Dictionary of Cancer, the terms "drug abuse" is defined as the use of illegal drugs or the use of prescription or over-the-counter drug use for which they are meant to be used, or in large amounts. Addiction is something that is out of one's control, and it is very dangerous. The lives of addicts will gradually and irrevocably go out of control and sometimes they lie or steal and behave aggressively (Nora, 2020).

Drug abuse is a situation when it is medically and socially disapproved (Bosli et. al, 2017). The increasing abuse of methamphetamine and the emergence of new types of psychoactive drugs are the major threat to current drug addiction problems, which increased by 136% from 2009 to 2017. According to National Anti-Drug Agency (AADK, 2022) the total number of drug addicts in Malaysia was 137,176 and the data increased by 11.4% compared to the 2021. Perlis ranked third in drug abuse which were 760 people for every 100,000 population.

Recently in T*he Malay Mail (*2023), AADK reported that drug abuse in Malaysia has increased by 27% for the first 6 months of 2023 to 118,820 addicts compared with 93,534 addicts reported in the same period last year. 65% of the total numbers of drug addicts involved were youth and teenagers. Perlis, Kedah, Kelantan, and Terengganu were among the states that recorded the highest ratio per 100,000 residents involved in the problem of drug abuse. Meanwhile, Selangor recorded the highest number of addicts. Specifically, Perlis states administration must take immediate actions to reduce the number of drug addiction cases. This fact is very worrying because if action is not taken to curb this problem, it will continue to worsen and has devastating impact on the people of Malaysia especially the younger generation.

The younger generation is an asset to the nation who will continue its legacy. They will be the leaders in the future. The advancement of a country lies in the hands of today's generation as they are the heirs of the nation's leadership. Latib (2018) mentioned drugs were the main enemy that can destroy the lives of the young generation who are the future leaders. Muzaffar (2020) highlighted in Malaysia, the effects of drug abuse can lead to harmful situation. Drugs can cause family break-ups, social problems, disruption of community's harmony and endanger the local people.

Therefore, the factors that contribute to drug abuse will be investigated to help the authorities prevent the new generation involved with drugs. If the younger generation is free from drugs, then, the future of Malaysia will be guaranteed with the nation leaders who are good in physical and mental health. Through this study, it will help government agencies to reduce drug abuse statistics by focusing more on these key factors.

Since there is no study about drug abuse in Perlis, this study focuses on finding the factors of drug abuse in Perlis. Therefore, the main objective of this study is to analyse the main factors of drug abuse in Perlis by using Fuzzy Analytical Hierarchy Process (FAHP). The sub-objectives are to rank the factors of drug abuse and identify the main factors of drug abuse in Perlis.

2. Literature Review

This section discusses the factors that contributed to drug abuse found by previous studies and the method used which was the Fuzzy Analytical Hierarchy Process (FAHP). The factors that caused the drug abuse have been identified including peer influence, curiosity, taking drug for fun, depression, pain endurance, accidental consumption, taking drugs for stimulant and others (including employment, level of education, money problems and more).

2.1 Peer Influence

A study by Shahera and Azizan (2021) showed that the drug addicts among youth in Selangor agreed that one of the factors of drug abuse was caused by peer influence apart from family environment and neighbourhood influence. Mohamad and Kamarudin (2015) stated that the factors of drug abuse were depression, lack of awareness and peer influence. The results of the study conducted on 200 adolescents also found that most adolescents were influenced by friends to take drugs for emotional support (Ibrahim & Zakaria, 2014).

Furthermore, Badariah et. al. (2015), Baba et. al. (2018) and Mohd Ekhwan et. al. (2018) stated that environmental factors that led to drug abuse was peer pressure. Almost 80% of the total of youths arrested by police confessed that peer pressure was the reason they involved with drugs (Latib, 2018). A problematic peer would be considered as a powerful individual since he or she serves as a network for drug trafficking (Jasni et. al, 2018). The statistics from 2014 until 2018 showed that peer pressure was the highest reason why youth took drugs (59%) (Md Salleh, 2020).

2.2 Curiosity

Curiosity encourages individuals to devote more attention to an activity, process information more deeply, remember information better and fulfil tasks more accurately (Raharja et. Al., 2018). Curiosity can be included into personal factors category. Based on the study by Bosli et al. (2017), personal factors include overcoming mental disorder, reducing pain, and curiosity. Yusoff (2019) showed that curiosity was one of the factors that contributed to drug abuse as the total of 3,208 new addicts (15.27%) and 1,0315 (20.33%) of repeated addicts who have tried drugs out of curiosity. Md Salleh (2020) stated other factors which caused the drug abuse were curiosity, recreational drug use and stress. Mohd Ekhwan et. al. (2018) in their study in Terengganu also found curiosity was the factor which has influenced the drug abuse.

2.3 Taking Drugs for Fun

Taking drugs for fun or for pleasure was one of the factors of drug abuse. Junior and older people took drugs for fun, enjoyment, and socialisation. According to Jennifer (2019), people use party drugs because it gives them energy to dance and socialise, reduce inhibition, and enhance the feeling of connection to others. Health Direct (2019) explained the Party drugs are highly addictive and if people use them regularly, it can be hardly stopped. Mohd Ekhwan et. al. (2018) also indicated that youth took drugs for fun.

2.4 Depression or Stress

Huntley (2015) found that adolescents have a high possibility of experiencing depression when they have behavioural problems, genetic problems, problems with their parents, academic problems, or drug addiction. High expectations from family and society have led the possibility for adolescents to experience depression and due to this reason, they took drugs as a solution. According to Degenhardt et al. (2003), there were a significant relationship between depression and drug abuse among adolescents and this finding was also supported by Huntley Njoko and Obogo (2017). Espada et al. (2011) found that depression is associated with tobacco and alcohol use rather than cannabis and adolescents took these drugs to forget their problems.

2.5 Pain Endurance

Over the years, medication has been shown to reduce chronic pain, manage posttraumatic stress disorder (PTSD), increate the syndrome, alleviate vomiting, decrease intraocular pressure associated with glaucoma and reduce symptoms of Crohn's disease (Lallanilla, 2013). The drugs used in the medical world are controlled and they help the patients to manage their pain. Mohd Ekhwan et. al. (2018) mentioned the enduring pain or body defence has caused adolescents to take drugs. Cough syrup is also one of the drugs that influences adolescents (Njoku & Obogo, 2017). It is easy to buy because it is available over the counter at an affordable price. For instance, methadone is used as substitute therapy for drug addiction as it can reduce drug addiction like heroin which has positive effects. However, addicts continue to depend on the drug. According to Azimi and Abu Bakar (2019), the effects of taking methadone will result the addicts to depend on the drug for the rest of their lives.

2.6 Accidental Consumption

Anyone can involve in drug abuse either intentionally or accidental consumption. Athletes have a higher chance of getting involved with drugs because some athletes use drugs to increase their sporting capabilities. According to MyHEALTH (2012), an official portal of the Ministry of Health Malaysia, doping is the use of banned substances or methods to improve sports performance. Athletes accidentally dope when they take a medicine to treat illness or injuries without knowing that it contains a prohibited substance. Yusoff (2019) has written in his article that 0.03% of drug addicts accidentally took drugs. Md Salleh (2020) also stated that one of the factors of drug abuse was accidental consumption. These show that accidental consumption can be included as one of the factors of drug abuse.

2.7 Taking Drugs for Stimulation

According to MyHEALTH (2012), stimulants are mixture of psychoactive substances that have negative effects on the central nervous system, which consists of the brain and spinal cord. Majid (2019) stated that stimulants were a group of drugs that act on the brain to produce stimulatory effect such as increasing focus on activities and relieving tiredness. The American Addiction Centers (2019) also noted that people who take stimulants experience heightened energy levels and enhanced focus. It also increases the speed of mental and physical processes that can create desirable effects in the short-term by increasing the levels of dopamine in the brain.

Taking drugs for the stimulating effect is a minor factor that contributes to drug abuse at 0.05% based on data in 2015 (NADA, 2019). Drugs have also been used by adolescents to work for longer hours and avoid fatigue. Based on BH Online (2019), a user claimed the long work shifts and not taking enough rest to 48 hours led the person to seek Shabu-type drugs to get more strength and alleviate exhaustion to work overtime.

2.8 Fuzzy Analytical Hierarchy Process (FAHP)

FAHP is one of the mathematical models that uses analytical mathematics to handle an individual's inescapable subjective and personal interest in making decisions. FAHP is a relative measurement theory and methodology for relative measurement (Brunelli, 2015). It is one of the most widely approaches in multiple criteria of decision making (MCDM), mixing subjective and personal interest in the risk assessment process (Radionovs & Užga-Rebrovs, 2016). Putra et al. (2018) defined FAHP as a decision support method used to complete the problem by solving the solution, grouping, and rearranging it into a hierarchical structure.

This method could assist decision making problems in real life. For example, Chou and Yu (2013) proposed a hybrid FAHP model to solve a decision-making problem in an uncertain and multiple-criteria environment choice of international centres in the global logistics of multinational corporations. By using this method, it helps the decision maker to make more efficient, flexible, and realistic decisions based on the available criteria and alternatives (Kaur, 2014).

Based on the previous studies, FAHP method has been proven to be applicable and effective for solving many problems in the real life (Putra et al. 2018; Hapsari, & Subiyanto, 2020). All previous studies relied on the objective of decision-making method to rank the factors of drug abuse and the finding of the main factors indicate FAHP is highly appropriate to be used in this study.

3. Methodology

This study requires data on the prevalence of drug abuse in Perlis. The data was collected from the experts who were five (5) professional staffs at the Malaysian National Anti-Drug Agency, Perlis. The experts were from Treatment, Medicational and Rehabilitation division, Enforcement and Security division and Policy, Planning and Study division. The primary data was collected from the experts using Fuzzy Analytic Hierarchy Process (FAHP) method which required experts' comments. It was prepared by using a questionnaire. The contents of the data were divided into eight (8) variables: peer influence, curiosity, taking drugs for fun, stress, pain endurance, accidental consumption, taking drugs for stimulant and others (including employment, level of education, money problems).

The data collected were analysed using the Fuzzy Analytical Hierarchy Process (FAHP) method and assisted by Microsoft Excel software. Briefly, there were three (3) main phases for FAHP. These phases supported the decision-making which was the selection of the best alternative among the others, hierarchical structuring, pair-wise comparisons that determine weights. Hierarchical structure of FAHP consisted of three levels which were Upper-level, Mid-level, and Sub-level. The Upper-level phase found the goal which the studier intended to achieve in the study. The Mid-level phase prepared the criteria that would be used to determine the main factors of drug abuse. These two steps were used in this analysis, but the third phase was an alternative or sub-criteria which did not involve in this study.

There were six (6) steps involved in solving the decision-making problem with FAHP. The steps are described as follows.

Step 1: Decision making problem.

The first step was needed to define the problem and determine the desired solution. The number of decision points was symbolised by *m* and the number of factors influencing those points was symbolised by *n*. In particular, the right estimation of the number of factors affecting the outcome was necessary for a reliable and rational pairwise comparison.

Step 2: The comparison matrix between factors is formed.

The matrix of comparison was the *n×n* dimensional square matrix of all the components in the dimensions of the hierarchy system. The linguistic term was to be assigned to pairwise comparisons by asking which of the two dimensions was the most relevant. The matrix components on the diagonal of this matrix were set to one value. The matrix of comparison is shown in the following formula.

$$S_{ij}=\begin{bmatrix}(a_{11},b_{11},c_{11}) & (a_{12},b_{12},c_{12}) & \cdots & (a_{1n},b_{1n},c_{1n}) \\ (a_{21},b_{21},c_{21}) & (a_{22},b_{22},c_{22}) & \cdots & (a_{2n},b_{2n},c_{2n}) \\ \vdots & \vdots & \vdots & \vdots \\ (a_{n1},b_{n1},c_{n2}) & (a_{n2},b_{n2},c_{n2}) & \cdots & (a_{nm},b_{nm},c_{nm})\end{bmatrix} \quad (1)$$

$$S_{ij}=\begin{bmatrix}1 & (a_{12},b_{12},c_{12}) & \cdots & (a_{1n},b_{1n},c_{1n}) \\ 1/(a_{21},b_{21},c_{21}) & 1 & \cdots & (a_{2n},b_{2n},c_{2n}) \\ \vdots & \vdots & \vdots & \vdots \\ 1/(a_{n1},b_{n1},c_{n2}) & 1/(a_{n2},b_{n2},c_{n2}) & \cdots & 1\end{bmatrix}$$

In this phase, the linguistic variable was determined. The linguistic parameter was described in terms of collection: it is an array of linguistic terms. Linguistic terms were arbitrary definitions for the linguistic element. *S* linguistic variable was a variable which value were words or phrases in a natural or iatrical word. The computational technique was assessed based on the following fuzzy number described by Gumus (2009).

Table 1
Membership function of linguistic scale

Fuzzy number	Linguistic	Scale of fuzzy number
9	Perfect	(8,9,10)
8	Absolute	(7,8,9)
7	Very good	(6,7,8)
6	Fairly good	(5,6,7)
5	Good	(4,5,6)
4	Preferable	(3,4,5)
3	Not bad	(2,3,4)
2	Week advantage	(1,2,3)
1	Equal	(1,1,1)

Source: Gumus (2009)

Table 1 displays an example of membership function of linguistic scale. The scale of the fuzzy number is defined by three (3) parameters of the symmetrical triangular fuzzy number, which is left, middle and right.

Step 3: Calculation of the Average Fuzzy Number Preference

In this step, the average fuzzy number preference was calculated by dividing the sum of value with the number of respondents. If the situation involved more than one respondent, *m* would be the number of respondents. The equation (2) and (3) show the calculations of pairwise comparison matrix G.

$$(a_{ij}, b_{ij}, c_{ij}) = \frac{\sum_{k=1}^{m}(a_m^k, b_m^k, c_m^k)}{m} \; for \; i, j, m = 1,2,3 \tag{2}$$

$$G = \begin{bmatrix} (a_{11}^k, b_{11}^k, c_{11}^k) & \dots & (a_{1n}^k, b_{1n}^k, c_{1n}^k) \\ \vdots & \ddots & \vdots \\ (a_{n1}^k, b_{n1}^k, c_{n1}^k) & \cdots & (a_{nm}^k, b_{nm}^k, c_{nm}^k) \end{bmatrix} \tag{3}$$

Step 4: Calculation of the Geometric Mean of Fuzzy Comparison Value

The fuzzy geometric mean and fuzzy weights of each criterion as described in Equation (4) and (5) is calculated in this step.

$$r_i = ((a_{i1}, b_{i1}, c_{i1}) \otimes \dots \otimes (a_{ij}, b_{ij}, c_{ij}) \otimes \dots \otimes (a_{in}, b_{in}, c_{in}))^{1/n} \tag{4}$$

$$w_i = r_i \otimes (r_1 \otimes \dots \otimes r_i \otimes \dots \otimes r_n)^{-1} \tag{5}$$

The variable r_i refers to geometric mean of fuzzy comparison value of criterion *i* for each criterion. w_i is referred to the fuzzy weight of the *i-th* criterion which can be shown by lower, middle and upper values of the fuzzy weight. Then, the vector summation for each r_i is calculated with the (-1) power of summation vector as described in Equation (6). The final value will be replaced in the form of increasing order.

$$r^{-1} = \left(\frac{1}{\sum c_n}, \frac{1}{\sum b_n}, \frac{1}{\sum a_n} \right) \tag{6}$$

Step 5: De-fuzzify the Fuzzy Weight of Criterion

In this step, the value of fuzzy weight needs to be de-fuzzified to obtain the ranking order of the decision element. P_i is referred to the de-fuzzify value calculated as shown in Equation (7).

$$P_i = \frac{a_{wi} + b_{wi} + c_{wi}}{n} \tag{7}$$

Step 6: Normalise the De-fuzzified Weight of Criterion

Once P_i is calculated, the value of non-fuzzy number, Q_i will be determined. Equation (8) shows the formula of the normalization. Normalization is importance to change the value of numeric column in the dataset to a common scale without distorting differences in the range of values.

$$Q_i = \frac{P_i}{\sum_{i=1}^{n} P_i} \tag{8}$$

By performing the last step, the value of normalised weight will be determined and the criteria from the highest to the lowest value can be ranked.

4. Results

There were eight (8) criteria used to be ranked in this study which were peer influence, curiosity, taking drug for fun, stress or depression, pain endurance, accidental consumption, taking drugs for stimulation and others. All the criteria were ranked based on the weight value.

FAHP was used to find the geometric mean of fuzzy comparison valued for all criteria. Equation (4) was used to find the value of geometric mean. All calculations for the geometric mean of fuzzy comparison were manually calculated. Table 2 shows the geometric mean of fuzzy comparison values where each column represents the fuzzy triangular number denoted as (l,m,u). The total value for each of the criterion, the reverse value and the values in increasing order are shown in the Table 2. The value of increasing order is important to find the value of fuzzy weight. The values are 0.049, 0.056 and 0.065.

Table 2
The geometric mean of fuzzy comparison values.

Criteria	Geometric Mean		
	l	m	u
1	1.429	1.594	1.772
2	1.657	1.947	2.3004
3	3.148	3.678	4.197
4	2.917	3.337	3.751
5	1.867	2.217	2.56
6	1.432	1.777	2.106
7	2.015	2.279	2.539
8	0.994	1.125	1.283
Total	15.459	17.95	20.509
Reverse(-1)	0.065	0.056	0.049
Increasing Order	0.049	0.056	0.065

Next, the calculation of fuzzy weight of the criterion was applied and the results are shown in Table 3. After that, non-fuzzy weight was calculated by using Centre of Area method which can be referred in Equation (5). The value of P_i needed to be normalised by dividing with the total value of non-fuzzy weight that is shown in Equation (7) and the values of normalised relative weight for each criterion are tabulated on Table 4.

Table 3 Fuzzy weight of the criterion

Criteria	Fuzzy Weight		
	l	m	u

1	0.07	0.089	0.115
2	0.081	0.109	0.15
3	0.154	0.206	0.273
4	0.143	0.187	0.244
5	0.091	0.124	0.166
6	0.07	0.0995	0.137
7	0.099	0.128	0.165
8	0.049	0.063	0.083

Table 4 shows the value of de-fuzzified, P_i and normalized relative weight, Q_i for eight criteria which are peer influence, curiosity, taking drug for fun, stress or depression, pain endurance, accidental consumption, taking drugs for stimulation and others. For peer influence, the value obtains 0.0885 while curiosity obtains 0.1098. The values of normalized relative weight for taking drug for fun, stress or depression, pain endurance, accidental consumption and taking drug for stimulation are 0.2045, 0.1854, 0.1231, 0.0991 and 0.1267. Lastly, for factor others, the value obtains 0.063.

Table 4
Non-fuzzy and normalized relative weight of criteria

Criteria	P_i	Q_i
1	0.0913	0.0885
2	0.1133	0.1098
3	0.211	0.2045
4	0.1913	0.1854
5	0.127	0.1231
6	0.1022	0.0991
7	0.1307	0.1267
8	0.065	0.063

Table 5 presents the normalised non-fuzzy relative weights for each criterion. Based on Table 5, it shows the criteria that contribute to drug abuse in Perlis. It is ranked based on the value of weight from the highest value to the lowest value. The results show that taking drugs for fun is the main factor that contributes to drug abuse with the highest weight value which is 0.2045. While stress or depression is at second place with the weight value at 0.1854. Then, taking drugs for stimulants and taking drugs to endure pain are ranked at third and fourth place with weight values at 0.1267 and 0.1231. The difference between taking drugs for fun and enduring pain is 0.0036. After that, the values of weight for curiosity and accidental consumption are 0.1098 and 0.0991 respectively which place these two factors at the fifth and sixth rank. Lastly, the least impactful factors of drug abuse are peer influence and others which are at the seventh and eighth rank with the values of weight are 0.0885 and 0.063 respectively.

Table 5
Ranking of criteria based on normalized non-fuzzy relative weight

Criteria	Weight	Ranking
Peer Influence	0.0885	7
Curiosity	0.1098	5
Taking Drug for Fun	0.2045	1
Depression	0.1854	2
Pain Endurance	0.1231	4
Accidental Consumption	0.0991	6
Taking Drug for Stimulants	0.1267	3
Others	0.063	8

5. Discussion

The results display on Table 5 show the factors that have contributed to drug abuse in Perlis. The results indicate that taking drugs for fun is the main factor influences adolescents to take drugs with the highest weight value which is 0.2045. It is followed by stress or depression, taking drugs for stimulants, taking drugs to endure pain, curiosity, accidental consumption, peer influence and other factors. Based on these results, it determines the main factor which causes drugs abuse in Perlis is taking drugs for fun and pleasure.

The result of the study is in line with the director general of AADK statement in his recent speech reported in the *Malay Mail* (2023), which stated 67% of drug addicts were young people and teenagers. Moreover, he also stated that having too much free time without doing any activities was one of the main contributing factors for the teenagers and youngsters to involve in drugs. Obviously, taking drugs for fun is something that young people often do without thinking the consequence of their actions.

The result of this study is a little difference from other states in Malaysia. For example, Badariah et al. (2015) revealed that peer influence was a significant factor leading to drug abuse among youth in Kuala Lumpur. A study by Shahera and Azizan (2021) in Selangor found that the main factor influencing youth to commit drug abuse was neighbourhood influence which was proven by p-value<0.05. It was followed by family environment and peer influence factors. Another study done by Mohd Ekhwan et al. (2018) in Terengganu who identified that the most influential factor was due to peer influence, followed by curiosity, taking drug for fun and enduring pain.

Study in Kedah that was conducted by Badariah et al. (2019) found that there were four factors of drug abuse among youth including law awareness, lifestyle, and peer influence. Shafi and Chandrashekar (2021) did a pilot study in Perak Tengah district and their findings revealed that there was a strong positive correlation between perception of drug abuse with family relationship and peer influence.

Muhammad et al. (2020) has conducted an interview with the drug addicts that have been frequently admitted to the Narcotics Recovery and Addition Centre (PUSPEN) Jeli and Bachok, Kelantan. Their study identified the factors contributed to the relapse phenomenon which involved internal factors such as frustration, lack of willpower, anger, resentment, boredom and lack of religious knowledge and practice. Moreover, the external factors were income factor (scarce income and surplus income), lack of family support, rejection from the community, influence from the mass media, influence from old friends, and no place to go after being released from the rehab centre.

6. Conclusion

This study which was conducted to rank and identify the main factors of drug abuse in Perlis by using the Fuzzy Analytical Hierarchy Process (FAHP) has achieved its objective with the help of five (5) ADDK professional staffs. There were eight (8) variables involved in this study which were peer influence, curiosity, taking drug for fun, depression, or stress, pain endurance, accidental consumption, taking drug for stimulant and others.

From the results of this study, it was found that the main factor of drug abuse was drug addicts who took drugs for fun since its value of weight is significantly higher than the other criteria. The reason why youths took drugs because they wanted to have fun and gain new experience. In addition, they were proud to announce to their friends about the new experience. They forgot all their problems when they were under the influenced of drugs. In fact, drugs were often used in places of entertainment such as nightclubs and parties. Other contributing factors in this study were depression or stress, taking drug for stimulation, pain endurance, curiosity, accidental consumption, peer influence and others.

In conclusion, this study was conducted to discover the contributing factors of drug abuse and to help the relevant authorities to identify the causes that lead to this issue in Malaysia. By identifying the main factors of drug abuse, it would enable the authorities to seek for the solution. For future studies, it is recommended to pay attention to drug addicts who relapse after leaving the rehabilitation centre.

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Authors Contributions

Author 1 and 2 contributed to introduction, literature review, methodology, data analysis and finding. Author 3 and 4 refined the introduction, literature review and result. Author 5 and 6 refined the methodology, discussion, and conclusion.

Conflict of Interest

No conflict of interest associated with this publication.

References

Agensi Antidadah Kebangsan. (2022). Buku Maklumat Dadah 2022. *https://www.adk.gov.my/buku-maklumat-dadah-2022/*

American Addiction Centers. (2019). Stimulant Drug Types, Effects & Addiction Signs. *https://americanaddictioncenters.org/stimulant-drugs*

Azimi, M. A., & Abu Bakar, A. Y. (2019). The use of Methadon Medicine as a Drug Medicinal Therapy in The Treatment of Drug Addict: a Pre-Emergency Examination to Three Trainers of Drug Recovery Centers. *Global Conferences Series: Social Sciences, Education and Humanities (GCSSSEH)*, *1*, 168–176.

Baba, H., Sulaiman, W. S. W., Ibrahim, F. & Sarnon, N. (2018). Faktor-Faktor Penyumbang Kecenderungan Situasi Berisiko Tinggi Dalam Kalangan Penagih Dadah Berulang di Malaysia. *Jurnal Psikologi Malaysia*, *32*(2), 26–40.

Badariah, M.S., Siti, A.J., Zarina, D. & Nur Fatanah, T. (2015). Drug and Substance Abuse among Youth: A rehabilitation Centre in Kuala Lumpur. *2nd ABRA International Conference on Quality of Life,* 1(2), 3-11.

Badariah, M.S., Soo, C.C., Azhar, H.B. & Noor Rita, M.K. (2019). Factors on Drug Addition: A Case Study at the Cure&Care Rehabilitation Centre (CRCC). *Insight Journal*, *5*, 274 – 284.

Bosli, F., Mokhtar, S. F., Shamsuddin, N. R., Zawawi, T. K. F. T. A., Mansor, K. A., & Salleh, W. (2017). Factors Affecting the Tendency of Drug Abuse among Drug Addicts: A Case Study in the Northern Region of Malaysia. *Jurnal Inovasi Pembelajaran (JINoP)*, 545–549.

Brunelli, M. (2015). Introduction to the Analytic Hierarchy Process. *Learning from Failures*. SpringerBriefs.

Chou, C. C., & Yu, K. W. (2013). Application of a new hybrid fuzzy AHP model to the location choice. *Mathematical Problems in Engineering*, 2013, 1-12.

Degenhardt, L., Hall, W., & Lynskey, M. (2003). Exploring the association between cannabis use and depression. *Addiction*, *98*(11), 1493–1504.

Espada, J. P., Sussman, S., Huedo Medina, T. B., & Alfonso, J. P. (2011). Relation between substance use and depression among Spanish adolescents. *International Journal of Psychology and Psychological Therapy*, *11*(1), 79–90.

Gumus, A. T. (2009). Evaluation of hazardous waste transportation firms by using a two step fuzzy-AHP and TOPSIS methodology. *Expert Systems with Applications*, *36*(2), 4067–4074.

Hapsari, M. A., & Subiyanto, S. (2020). Fuzzy AHP Based Optimal Design Building-Attached Photovoltaic System for Academic Campus. *International Journal of Photoenergy,* 2020(1),1-17.

Health Direct. (2019). *Party Drugs* https://www.healthdirect.gov.au/party-drugs

Huntley, A. (2015). The Relationship Between Drug Use and Depressive Symptoms Among High School Students. *University of Connecticut*.

Ibrahim, F. & Zakaria, E. (2014). *Youth Involvement in Drug Abuse: Analysis on the Level of its Relationships with Peers*. *Jurnal Pembangunan Sosial, 17*, 71–85.

Jasni, M. A., Ah, S. H. A. B., Yusoff, J. Z. M., Shahid, K. M., & Azman, Z. (2018). Kekurangan Akses kepada Jagaan Lanjutan dan Faktor-Faktor Risiko Yang Membawa Kepada Relaps Dadah dalam Kalangan Bekas Banduan. *Jurnal Perspektif*, *10*(2), 34–44.

Jennifer P. (2019). In debates about drug use, fun is important. *The Conversation*. https://theconversation.com/in-debates-about-drug-use-fun-is-important-110696

Kaur, P. (2014). Selection of Vendor Based on Intuitionistic Fuzzy Analytical Hierarchy Process. *Advance in Operation Research*, 2014(1), 1-10.

Lallanilla, M. (2013). 6 Party Drugs That May Have Health Benefits. *Live Science*. https://www.livescience.com/41277-health-benefits-illegal-drugs.html

Latib, S. (2018). *Pengaruh rakan sebaya faktor utama terjebak dadah* . *BHOnline*.

Malay Mail (2023). National Anti-Drug Agency: Addiction cases up by 27pc in first six -anti-drug-agency-addiction-cases-up-by-27pc-in-first-six-months-of-2023/92064 months of 2023. *Malay Mail*. https://www.malaymail.com/news/malaysia/2023/09/21/national

Majid, M. I. A. (2019). Pusat Racun Negara - Kumpulan Dadah Peransang. *National Poison Centre, USM*.

Md Salleh, M. F. (2020). Masyarakat berperanan banteras salah guna dadah. *BHOnline*.

Mohamad, N. & Kamarudin, A. (2015). Kerinduan Atau Ketagihan Terhadap Dadah: Punca Belia Kecundang Dan Kembali Menagih. *International Drug Prevention and Rehabilitation Conference (Prevent 2015)*, *Prevent*, 200–215.

Mohd Ekhwan et. al. (2018). Evaluation of Drug Addicts Rate with Environmental Components Study in Terengganu, Malaysia. *International Journal of Engineering & Technology*, 7(2018), 26 - 29.

Muhammad et. al. (2020). Relapse among Drug Addicts in East Coast Malaysia: A Qualitative Study of Risk Factors. *International Journal of Academic Research in Business & Social SciencesI,* 10(12), 432-447.

Muzaffar, S.M (2020). Drug Abuse Among Youth in Malaysia. *International Journal of Academic Research*, 9(1), 36-44.

MyHEALTH (2012). Drugs Abuse in Sports. Ministry of Health Malaysia Official Portal. http://www.myhealth.gov.my/en/drugs-abuse-in-sports/

National Anti-Drug Agency (NADA)(2020). Ministry of Home Affairs, Malaysia, https://www.adk.gov.my/en/public/drugs-statistics

Njoku, J. N., & Obogo, G. O. (2017). Prevalence of depression and its relationship with drug abuse among senior secondary school students in Calabar, Calabar Cross river state, Nigeria. *Global Journal of Educational Research*, *16*(2), 155.

Nora, D.V. (2020). Stigma and the Toll of Addiction. *The New England Journal of Medicine,* 382, 1289-1290.

Putra, M. S. D., Andryana, S., Fauziah & Gunaryati, A. (2018). Fuzzy analytical hierarchy process method to determine the quality of gemstones. *Advances in Fuzzy Systems*, 2018, 1-6.

Radionovs, A., & Užga-Rebrovs, O. (2016). Fuzzy analytical hierarchy process for ecological risk assessment. *Information Technology and Management Science*, *19*(1), 16–22.

Raharja, S., Wibhawa, M. R., & Lukas, S. (2018). Mengukur rasa ingin tahu siswa. *Jurnal Ilmiah*, *14*(2), 151.

Shafi, M.A. & Chandrashekar, R. (2021). The Relationship between Factors of Drug Abuse and Perception among Youth in Malaysia. *Research in Management of Technology and Business,* 2(2), 86-91.

Shahera, N.D. & Azizan, Z. (2021). Social Determinants of Drug Abuse Among Youth in Selangor: A Case Study in Serendah's Rehabilitation Centre. *Journal of Administrative Science*, 18(1), 219-236.

Yusoff, A. N. M. (2019). Perangi Dadah Habis-Habisan . *Fakulti Ekologi Manusia, UPM*.

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MEDICAL STUDENTS' ATTITUDES TOWARDS MUSIC EDUCATION: AN EXPLORATORY RESEARCH IN NINGXIA

Zhikai Wang[1], Boo Ho Voon [2*], Yusman Yacob[3] & Ying Lang[4]

[1, 2, 3] Unversiti Teknologi MARA(UiTM), Kota Samarahan, Sarawak, MALAYSIA.
1,4 Ningxia Medical University, Yinchuan, Ningxia, CHINA

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Corresponding Author:
bhvoon@uitm.edu.my

ABSTRACT

Music education is useful for medical students especially in meeting their psychological needs and reducing stress amidst their busy medical training. A medical student-oriented music education system, as one part of arts, most probably could help to develop an entire medical knowledgeable system, which is strongly associated with education, medicine and life. Hence, the medical students' knowledge of music and attitudes towards music education need to be understood for strategic and more balanced medical education development. This research aims to explore the medical students' perception of music and music education, and understand the importance of the integration of music into medical education. Besides, it also hopes to provide a basis for high-quality development of education and its realization. An online questionnaire was done in Ningxia. A total of 1,232 medical students participated in the online survey consisted of more than 20 questions. The findings indicated that the medical students had a positive perceptions of music education. Recommendations are provided for music education in medical universities to benefit the students and the universities.

1. Introduction

As an art, music plays an important role in the cultivation of students' musical accomplishment and moral quality. Therefore, enough attention must be given to music teaching. However, in the current stage of college music teaching, the concept of music teaching is still relatively backward, and the concept of quality education has not been implemented into specific practice, making music teaching either a mere formality or the study of theoretical knowledge, and students' enthusiasm for music learning is not high (Chen, 2017). With the continuous development of China's education and teaching reform, the current people are generally required to carry out quality education, and music education occupies the core position in quality education. In the ordinary colleges of higher learning music education has been widely recognized, but in universities music education is still in the stage of development, and the theoretical research is still not rich (Ou, 2017). Therefore, in the case of the vigorous development of quality higher education, music education is essential as it can help the students to improve their ability to cope with pressure as well as improve their comprehensive quality (Cheng,2014).

Medicine is the life guarantee and its progresses abundantly implies biomedical advances not only as natural science but art. In this discipline which is closely related to life and even determines life, how medical students view life, understand life and save life is particularly important; a medical student-oriented music education system, as one part of arts, could help to develop entire medical knowledgeable system, which is strongly associated with education, medicine and life. Goethe famously said: "The tree of life is always green, and theories are often gray." This reveals an unbreakable truth, that is, if any theory, including aesthetic theory, is only satisfied with system changes can only be gray.

In China's journey towards modernization, human modernization is as important as the modernization of material life, in which aesthetic education is an essential link to promote this modernization. As early as 1904s, Wang Guowei published "Confucius' aesthetic education", which used Schiller's aesthetic education views to explain Confucius' thoughts; Cai Yuanpei positioned the purpose of aesthetics as moral education, believing that "cultivating virtue is better than advocating aesthetic education", and put forward the theory of "replacing religion with aesthetic education". Indeed, aesthetic education is both sentiment and spiritual education. It can not only improve people's aesthetic quality, but also affect people's emotions, interests, temperament and mind, stimulating people's spirit, warming people's mind, and imperceptibly promoting people's all-round development.

According to statistics, there are more than 280 ordinary colleges and universities with medical majors in China. Ningxia Medical University is the only institution of higher medical education in Ningxia, which shoulders the important task of training medical talents for Ningxia. With more than 60 years of schooling experience, Ningxia Medical University has attached unprecedented importance to music education in recent years. Due to the heavy academic burden of medical students in medical universities, aesthetic education for medical students is often ignored. In the late 1990s, China formally incorporated aesthetic education into the educational policy, making it an important wing of cultivating new socialist people with all-round development. However, in medical universities, aesthetic education is often a foil and appendage compared with moral education, intellectual education and sports. It is an optional, more or less, light or heavy "soft task".

2. The Role of Music Education for Medical Students

Cultivation effect of music education in medical universities, music education plays an irreplaceable important role in improving the whole quality of the people, improve people's quality of life, cultivate innovative talents, innovation ability and shaping perfect personality, enhance people's ideological and moral cultivation, promote people's physical and mental health and social relations(Wang, 2020). In order to better realize people's development, we must strengthen art education in the medical universities and colleges though it could be challenging due to the large number of professional courses, need to adjust measures to suit the local conditions. Undoubtedly, the medical students have to excel in their professional course learning, but as a person, the physical and mental health require the appropriate art education and art practice to complement.

The existence of music activities in the medical universities is essential. Appropriate integration of music education for rational thinking, professionalism will most probably equip the medical students (Wang, 2020). Relevant music can heal. The wounded and/or dying patients need the relevant art work to relax. be respected, accepted, be care for through this kind of positive energy transfer. As medical college students, in the course of heavy workload at times, they can transfer power through appropriate music activities. In art activities, every team cooperation, every concerted effort, under the pressure of no strict examination of the course, every heart- moving and beautiful pictures brought by music will achieve the goal of cultivating the benevolence of medical student and/or workers.

2.1 Supplementary role of art education in medical school curriculum

Traditional Chinese medicine has long been said as 'Five tones and five elements.' The Huangdi Neijing records that the heaven has five tones, people have five viscera, heaven has six laws, and people have six viscera. For instance, the angle is the wood sound to the liver, the palace is the earth sound to the spleen, and the feather is the water sound to the kidney. The tones can play a role on the corresponding five viscera. This shows that the traditional medicine in China is holding a positive attitude towards using music to treat diseases (Su & Zhang, 2011).

In addition to the important fundamental medical courses, the art education courses are potentially important in the medical universities. However, because of the limitation of course time, rigorous medical courses, the integration of the relevant art education curriculum becomes very challenging and could be a potential conflict. But, if the institutions do not accept the integration of art education, the useful roles of emotional education, spiritual education, caring education, and empathy education will not be recognized accordingly too. It is undeniable that in the medical education, the emotional education, spiritual education, caring education, and empathy education are necessary.

Yin Bo (2007) put forward in the 'Study of Chinese modern art education thought' that the improvement of art education in the sense of emotional education is prominently reflected in the role of art education in emotion and spirit (Yin. 2007). It not only aims at the promotion of interest, the improvement of hobbies, the cultivation of spirit and the cultivation of sentiment, but also emphasizes the emotional role of art education to wash people's hearts and improve national character; and starts from the modern complete educational concepts and the educational ideals of the comprehensive construction of modern personality knowledge, emotion and meaning, establishing the significance and status of art education, avoiding the limitations of "subjective knowledge" education, and coordinating emotional education to promote the all-round development of cognition and morality. How to simultaneously improve the civilization of the public, especially how to promote the all-round development and healthy growth of medical students in medical universities, has increasingly become a major issue of common concern to the whole society.

3. Exploring the Students' Perceptions of Music Education

Knowledge, Attitude/Belief, and Practice (KAP) is a commonly used model used to explain how personal knowledge and beliefs affect changes in healthy behaviour, proposed by the British Kirst in the 1960s. The theory divides the change of human behavior into three continuous processes of acquiring knowledge, generating belief and forming behavior.

Among them, Knowledge is the understanding of relevant knowledge, "letter" is the correct belief and positive attitude, "line" is action. There is a dialectical relationship between the three elements of this theory, knowledge is the basis of behavior change, belief and attitude are the driving force of behavior change. Only when people acquire knowledge and think positively about it, with a strong sense of responsibility, can they gradually form beliefs, and knowledge can only be changed in a positive manner if it rises to belief (Wang, 2014).

Strengthening music education and improving music curriculum, acquiring knowledge from learning, and gaining emotional and positive attitudes from medical students, can enable them to establish good values for future career development and doctor-patient relationships, and influence future behavior.

3.1 The Medical Student's Perception of Music Education

In the face of medical students, music education is to transfer the ability to appreciate music and the wonderful charm of music to the hearts of medical students. (Wang, 2020). The implementation of music education in medical colleges and universities is to ease the study pressure of medical students, and to build a harmonious coexistence with themselves, with the team, with teachers, with future patients and every life (Ma, 2000).

When the doctors are healing the patients and saving the lives, the suitable music is potentially nourishing and/or healing the doctors directly or indirectly. What kind of life awe today's medical students will show in tomorrow's medical work depends on whether today's medical students' life construction is healthy or not. A healthy life can have music education into it as life is ideally balanced; with the good mix of physical, emotional and spiritual elements. The right music can bring people the desirable benefits such as comfort and encouragement All the related wonderful functions are needed by medical students. Even though medical schools do not offer music education courses, it is believed that most medical students will enjoy their favorite music to accompany themselves when permitted.

In the company of music, medical students' schoolwork pressure and other difficulties will be relieved more or less. This relief, of course, starts from the individual's mind. We cannot deny that when people's mind gets the greatest rest and quiet, the state of study or work will be better. The freedom of the heart is most probably not without the participation of musics. Only when the mental adjustment of medical students achieves the right position, can they ensure the right position in their learning and future medical work performance. Besides, music also has the greatest effect of resolving conflicts, first of all, resolving the contradictions between oneself and oneself, and then resolving the contradictions around. Listen to your favorite songs and/or musics, whether when one is alone or with a group of people, that moment is normally soft and gentle. As a medical student, soft heart and gentle conscience are essentials towards molding a life-saving doctor.

4. Methodology

This research aims to explore the medical students' perception of music and music education, and understand the realization of the integration of music into medical education. Besides, it also hopes to provide a basis for high-quality development of education and its realization. A total of 1,232 medical students participated in this online survey in Ningxia, China. The samples of this study are selected at different levels: i) the undergraduate students of medical university; ii) the graduates of this school were drawn from the staff of the affiliated hospitals of the first-category school. The scope of the study is limited to the northwestern region of China, which presents certain characteristics of regional education.

The questionnaire was designed to explore the suitability on the integration of music education into the medical student training system, it was decided to conduct a questionnaire survey. The questionnaire consisted of 24 specific questions in four areas. One is the basic personal information; the other is to reflect your understanding of basic music knowledge; the third is to reflect your understanding of music education; the fourth is to reflect the integration of music education into the curriculum.

The questionnaire survey used an online questionnaire system. In order to better understand the real situation, the various medical students of Ningxia Medical University (i.e., including the clinical medicine, pediatrics, imaging, anesthesiology, laboratory medicine, rehabilitation therapy, traditional Chinese medicine, Acupuncture and Tuina, Chinese and Western medicine clinical science, public health, nursing and other majors), covering the first-year, second-year, and third-year trainees as well as the the fourth-year interns were included. In the stage of setting up the questionnaire, students of different majors and different grades in the school were also invited to participate in the design. After the first draft of the questionnaire was drafted, the lead-author (Mr. Wang) conducted a small-scale pilot survey interview to test the questionnaire's text expression, topic order, question format and length Whether there are any improprieties or not. Some modifications were made based on the respondents' suggestions. In the questionnaire distribution process, the teachers in different colleges who managed the students used the class WeChat group, QQ group, for their students to scan the QR code and answered the questionnaire. At the same time, the lead-author also used personal WeChat, QQ, Weibo and other effective media to distribute the questionnaire. The students voluntarily participated in the survey.

5. Results

From the 1,232 respondents, 29.5% (363) are male and 70.5% (869) female students. In terms of the location, about 72% of them came from rural areas and about 28% from the cities. The students' year of study (grade) and their majoring areas are shown in the Figure 1 and 2.

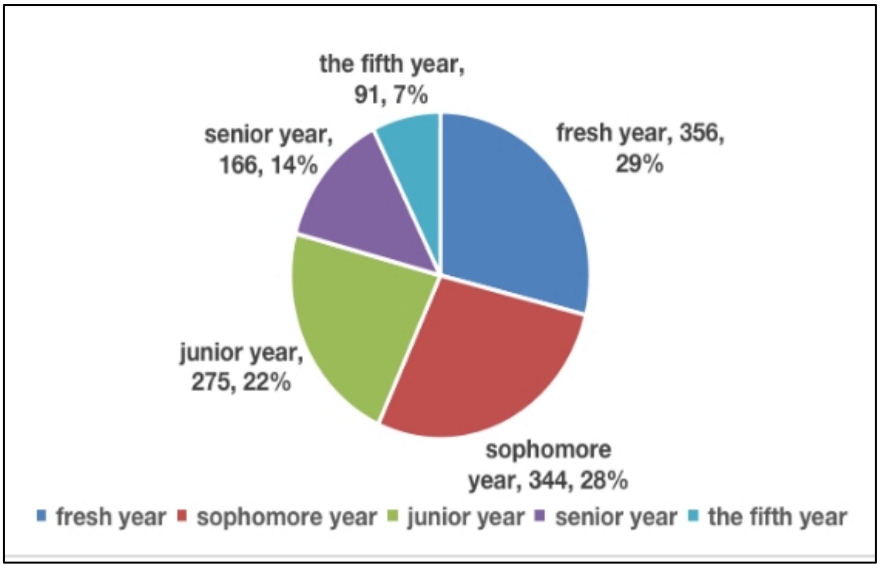

Figure 1: The Students' Year of Study (Grade)

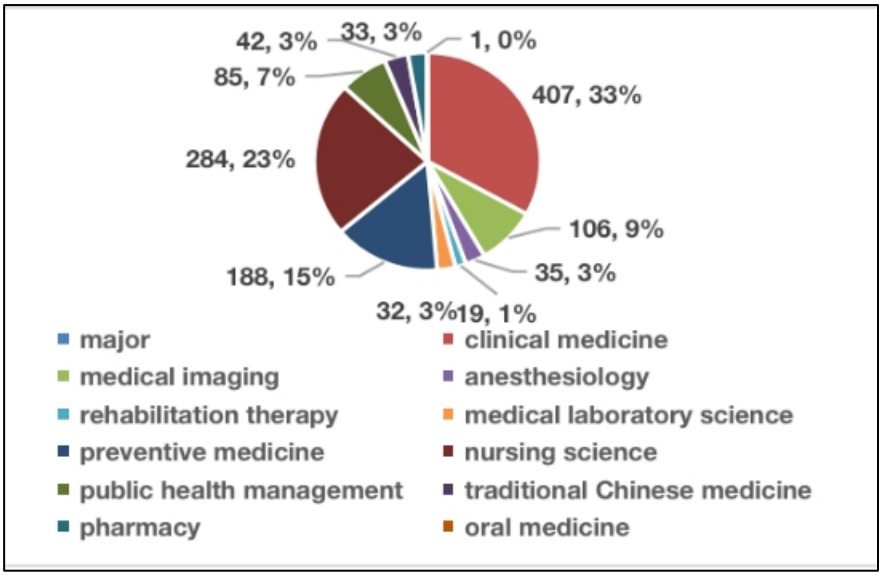

Figure 2: The Students' Majoring Areas

The questionnaire survey found that 69% of the students have never been exposed to musical instruments and pay more attention to pop music (Figure 3), while other types of music pay less attention. In the music course, 35% of the students said they could not accept the content of music professional knowledge, but in the third part, it can be seen that students have an urgent need for music education. In terms of music setting, most music courses can cover the basic knowledge of music, but the output effect is not great.

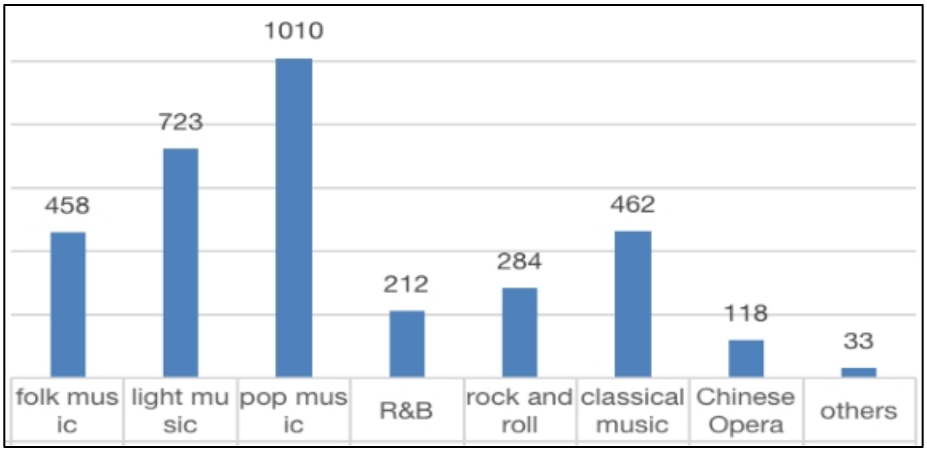

Figure 3: Kind of Music You Usually Choose to Enjoy

Figure 4 shows that 634 students believed that they received music education through music appreciation in medical schools, and 367 students believed that they received music education through music practice such as choral singing.

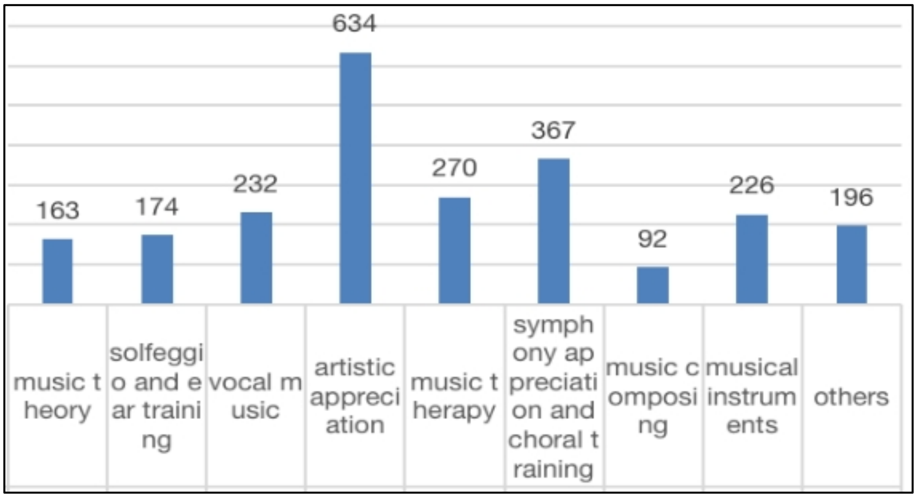

Figure 4: Music Courses Available in the University

Figure 5 shows the students' expectations of what music courses the university should provide. It is learned that more medical students want music education in medical schools in the form of music therapy (623), and music instruments (595), and music appreciation (547). These types of music education were the ways to reflect a student-oriented music education.

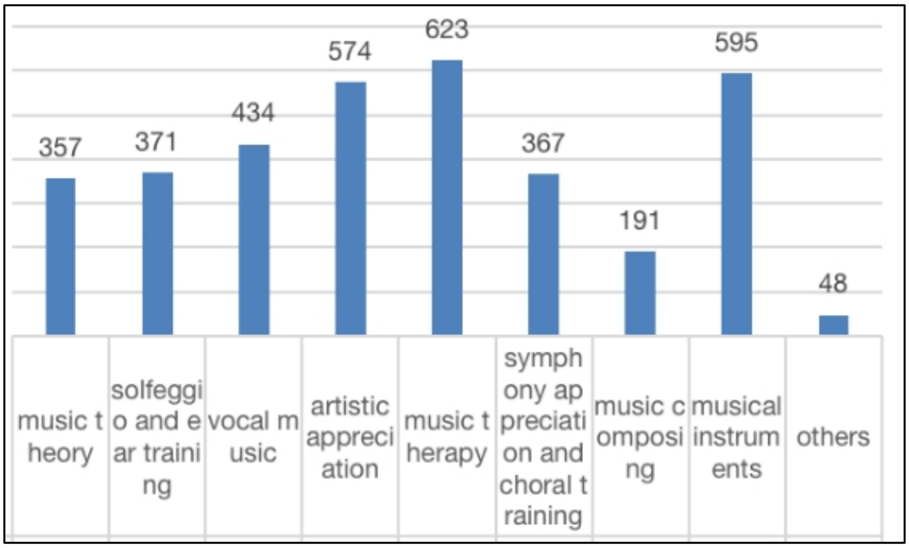

Figure 5: Music Courses that the University Should Provide

Figure 6 shows the students perceptions of the impact of music education on them. The most frequently chosen answers are that the music 'can relieve mood and stress' (1058), followed by 'improve quality and culture' (875) and 'cultivate aesthetic ability' (855). These findings hinted that appropriate music can be very useful for medical students who are commonly busy and stressful at times due to their relatively heavy workload.

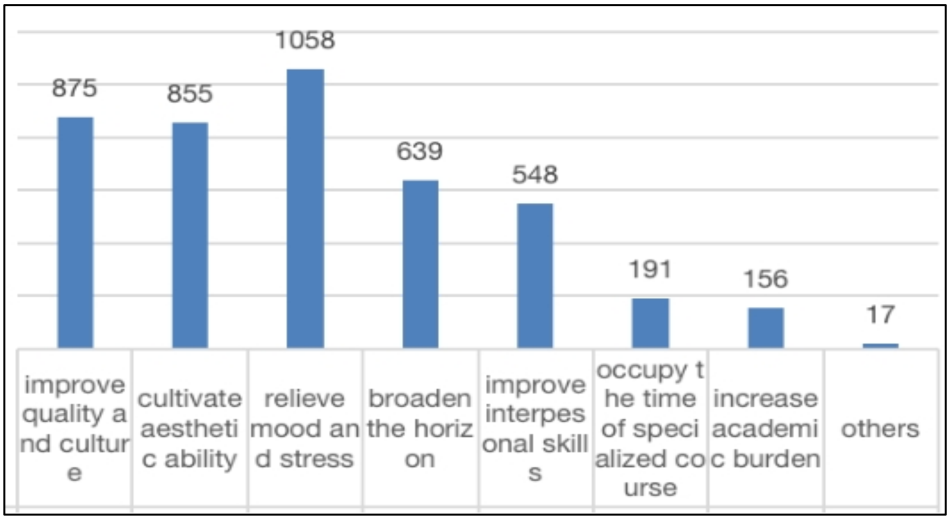

Figure 6: Perceived-impact of Music Curriculum

Table 1 shows the results of the respondents' basic knowledge and attitudes of music. The results reflect the awareness and attitude of Ningxia Medical University students toward music education. It is found that about 80% of the participating students liked or loved music and 76.8% thought that music education could improve the aesthetic quality and moral sentiment of medical students.

Table 1
The Respondents' Knowledge and Attitudes on Music

Options / Questions	A	B	C	D
1. Do you like music?	Love 33.2%	Like 47.0%	Not bad 18.5%	Dislike 1.3%
2. Do you know any world's famous musicians?	Very well 3.4%	Know some of them 29.2%	Not bad 51.3%	No 16.1%
3. Have you ever learned musical instruments?	More than two 16%	More than one 15%	Never 69%	_
4. What do you pay more attention to in the music?	Lyrics (758)	Rhythm (1051)	Emotions (834)	Others (7)
5. Have you learned anything about music in the previous music courses?	Much 12.9%	A bit 51.7%	None 35.4%	-
6. Do you understand the basic elements/composition of music?	Very well 8.8%	Yes 23.7%	A bit 33.8%	No 33.7%
7. Do you know the common nouns, meanings and symbols?	very well 4.8%	Yes 19.4%	A bit 36.4%	No 39.4%
8. Have you received training on music or had a certain understanding of music?	In-depth 5.5%	A bit 34.8%	Never 59.7%	-

9. Do you think medical university need to set up corresponding music courses?	Yes 55.4%	Not essential 30.6%	No 14%	-
10. Which type are the music courses provided?	Compulsory 6.8%	Optional 93.2%	-	-
11. Are you actively taking music courses?	Yes 28.6%	Seldom 53.2%	No 18.2%	-
12. Why do you take music courses?	Pleasure 68%	Beneficial to study 13.8%	Official requests 13.9%	Others 4.3%
13. Do you think music education can improve the aesthetic quality and moral sentiment of medical students?	Yes 76.8%	No 5%	Not clear 18.2%	-
14. Can music education promote the cultivation of great medical ethics of the students?	Yes 70.7%	No 6.7%	Not clear 22.6%	-
15. Can music education develop students' creativity?	Yes 70.4%	No 6.1%	Not clear 23.5%	-
16. Can music education improve the psychological quality of medical students?	Yes 75.1%	No 4.9%	Not clear 20.0%	-

About 69% of the surveyed students have never learned any musical instrument and about 60% of them have never received any training in music. However, about 52% of the students have learned a bit about music in the previous music courses.

Interestingly, a total of 68% took music due to pleasure. The students tend to pay attention to the aspect of Rhythm (1050), followed by Emotions (834) and Lyrics (758).

6. Discussion

The following section discusses several recommendations for music education in the medical universities to benefit the medical students.

i. Establish the concept of discipline integration

This article tries to strengthen the integration of music education and professional education, fully exploring and applying the beauty of spirit, ceremony, language, behavior, science, order and health, and reflecting the spirit and national aesthetic characteristics of Chinese aesthetic education. Organically integrate the contents of aesthetic education in relevant disciplines to promote the in-depth integration of curriculum teaching, social practice and campus culture construction, and vigorously carry out interdisciplinary education and extracurricular practical activities with aesthetic education as the theme. Ningxia Medical University has made great efforts in aesthetic education in recent years. First, open enough elective courses and gather all aesthetic education teachers in the whole school to carry out aesthetic education for students in the form of elective courses. The second is to promote curriculum reform and bring art education into the category of compulsory courses since 2021 to ensure the fundamental implementation of the curriculum.

ii. Scientific orientation of curriculum objectives

This article tries to build an aesthetic education curriculum system that is suitable for medical education, to classify the aesthetic education curriculum objectives of medical colleges, to integrate art education into the curriculum system, strengthen the artistic practice of medical students, cultivate high-quality technical talents with aesthetic cultivation, guide students to improve personality cultivation, enhance cultural innovation consciousness, and cultivate high-quality talents with lofty aesthetic pursuit and noble personality cultivation.

iii. Enrich artistic practice activities

Establish a standardized art practice mechanism for all students, and vigorously promote group dance, chorus, ensemble and art practice to benefit all students. Medical students have less spare time because of the heavy curriculum. （Wang, 2020）In order to enable more students to receive music education, seven art teachers of Ningxia Medical University set up chorus rehearsal, military band rehearsal, dance rehearsal, music appreciation and drama rehearsal in their spare time and weekends, participating in provincial and national competitions on behalf of our university every year. While all medical students received art education, we were glad to see that most of the students were admitted to graduate schools, and some students got the opportunity to be recommended to other top universities.

iv. Accelerate the innovation and development of art discipline

Establish a cooperative school running mechanism, integrating the resources of aesthetic education, art, pedagogy and other disciplines, and strengthening the construction of aesthetic education. For medical education, we should be determined to cultivate medical leading talents who can serve the healthy China strategy and improve national health and well-being (Wang, 2014). We should practice the purpose of "serving the people" in the training of medical students, and cultivate medical students with excellent soul with moral education; to cultivate medical students with intelligence and morality to master the future; medical students who strive with sports morality; medical students with humanistic feelings by aesthetic education. "Don't indulge in fantasy, don't concentrate on empty voice"(Wang, 2020）Trying to have the courage to play and act, carrying forward the humanistic spirit of medicine, reflecting the temperature of the times of medicine, and be worthy of the national mission and this great era.

7. Conclusion

Music is composed of a series of music through a certain combination, so as to form the music with melody, rhythm and other characteristics of the combination. This combination requires more to instilling human thoughts and emotions. Soothing and beautiful music can let people relax and eliminate fatigue, while impassioned music can make people excited and full of power. Music education is important for medical students amidst their busy schedule in their daily medical trainings. The online questionnaire survey which was participated by more than one thousand medical students in Ningxia (China) found that music and music education were perceived to be useful for them psychologically and hence most probably can help to improve their performance, personally and professional. As such, several recommendations were put forward for strategic and continual development of music education in the medical universities.

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References

Cai,Y.P.(1901).General theory of philosophy. People's Publishing House,Shijia zhuang. 10-16.

Chen,H.R. (2004).How to realize the function of aesthetic education in the music elective courses of medical schools. Journal of Jinggangshan Medical College, 11(6), 32-33. ·

Gong, H. Z. (2005). The influence of background music on mood changes of hospitalized patients. Journal of Guangxi University of Traditional Chinese Medicine,8(1), 75-76.

He, L. (2004) Medicine and art: exploration of the relationship between clinical medicine and medical humanities. Medicine and Philosophy,25(12), 29-31.

Jang, Q. (2004). The application of music therapy in nursing patients with ventricular arrhythmia. Chinese International Journal of Nursing,3(12), 933-934.

Liu, G. (2005). The latest research and clinical application of music therapy[J].Chinese Journal of Clinical Rehabilitation, 9(4), 140-142.

Ma, Y. N. (2000). Attempts to use music therapy to improve the quality of life of cancer patients. Journal of Nursing of Chinese People's Liberation Army, 17(4), 35-36.

Pu, K.Y. (1996) Principles of Music Therapy[J]. Music Art: Journal of Shanghai Conservatory of Music, 8(3), 71-73.

Ring, J & Duke L. (2005). Visual thinking strategies: a new role for art in medical education. Fam Med, 37，250-2.

Steele K.M. Dalla Bella S., & Peretz I. (1999). Prelude or requiem for the “Mozart effect”. Nature. 400，826-827.

Su, W. J., & Zhang, A. I. (2011). Medical humanities education from the perspective of "The Great Physician's Sincerity". Journal of Nanjing Medical University, 11(3), 230-232.

Wang, G. W. (1904). Confucius' aestheticism. The world of Education, 1, 3-4.

Wang, G. W. (1903). On the purpose of education. The world of Education, 7(10),2-3.

Wang, Z. K. (2020) Role of Art Education in Medical Colleges and Universities. People of the times Journal. Shaanxi People's Publishing House, 10, 138-139

Wang, Y. (2014). Research on the efficiency of art education in ordinary universities and its improvement path (PhD dissertation, Nanjing Agricultural University).17（5）4-5.

Wang, Y. H.(2003) Reflections on the Training Goals and Curriculum Structure System of Music Education Major in Normal Universities. China Music Education, 2, 21-23.

Wang, Y.Y. (2005) The effect of music therapy on the adjuvant therapy of chronic schizophrenia. Journal of Clinical Psychiatry,15(2), 85-85.

Wang, Y.（2014）. Research on the efficiency of art education in ordinary universities and its improvement path (PhD dissertation, Nanjing Agricultural University.16（2）14-15.

Wang, S. H. (2006). Existing problems and countermeasures of music education in ordinary colleges and universities. Education and Occupation,7(12), 60-61.

Wang, H. (2020). Thought and discussions on some deviations of music education in colleges and universities. Shaanxi Education, 8(10), 77-78.

Xie, P. (2003). Research on the Status Quo and Countermeasures of Music Education in General Universities in my country, Master's Thesis, Hunan Normal University,(06)，3-4

Yu, D. D. (2020). Research on pop music education and talent training in colleges and universities under the background of the new era. China National Expo, 22, 46-48.

Yin, B. (2007). Research on Chinese modern art education thought. China knowledge net paper, 8(11), 56-68.

Zhang, C. H. (1995), On the development direction of music education in ordinary colleges and universities. Journal of Zhejiang University (Social Science Edition), 2, 21.

Zhang, W. C. (2004) Several problems in the clinical application of traditional Chinese medicine music therapy. Journal of Jiangxi University of Traditional Chinese Medicine,16(5), 16-17.

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A COMPARISON OF MOTIF DESIGNS BETWEEN TENUN PAHANG DIRAJA AND TERENGGANU SONGKET

Mas Ayu Zainal @ Ismail[1]* , Siti Rohaya Yahaya[2] & Nani Hartina Ahmad[3]

[1]School of The Arts, Universiti Sains Malaysia, Penang & College of Creative Arts, Universiti Teknologi MARA (UiTM), Kedah Branch, Kedah, MALAYSIA
[2]School of The Arts, Universiti Sains Malaysia, Pulau Pinang, MALAYSIA
[3]College of Creative Arts, Universiti Teknologi MARA(UiTM), Kelantan Branch, Machang Campus, Kelantan, MALAYSIA

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Corresponding Author:
ayuzainal.ad@gmail.com

ABSTRACT

The songket weaving art has been passed down through Malay society for hundreds of years. The origins of this fabric can be traced back to the 13th century, during a period of trade between the Malays and the rest of the world, including India, China, Egypt, and the West. The trade relationship developed as a result of the Malay World's strategic location, which led to its status as the world's main trading route. Among the Malays, textile is known as the most desired merchandise, and it remains so to this day. Notably, silk and songket weaving are important local activities in Pahang, Terengganu, and Kelantan, where weavers incorporate local cultural values and identities in their motif pattern designs. The motif's design is prominent to emphasise the weaving's uniqueness in addition to incorporating the elements of daily life such as cultural, religious, aesthetic, and symbolic values. Many of the terms and designs that are used in weaving and songket motifs are similar. This textile design and aesthetic aspiration can be found in the fabrics of Tenun Pahang Diraja and Terengganu Songket. Songket weaving motifs are inspired by nature, such as flowers, plants, and animals. Despite their apparent similarities, the motif's touches on both fabrics displayed unique distinctiveness. Therefore, the objective of this study is to identify the least visible differences in the motif designs of Tenun Pahang Diraja and Terengganu songket. This comparison also seeks to highlight how the overall traditional motif design is developed to create a work that stands out in its own right. The tangible articulation demonstrates that the local heritage textiles possess elements of the nation's cultural art tradition as well as the inventive ability to establish a detail on the production of a perfect look through product statement.

1. Introduction

The Malay songket weave motif design is the result of nature's transformation, which has been fashioned and created through the formation of art elements that are based on the beauty and cultural norms of Malay society. The created motifs and designs are testaments to the fabric weaver's inspirations, which are brought to life through their creativity and are made tangible, beginning with object selection and ending with the creation of traditional artwork. The selection and creation of motifs is an important step in enhancing the beauty and uniqueness of a fabric.

According to Ahmad Farid Abdul Jalal (2013) in his work *Tenun Pahang Diraja: Warisan, Tradisi dan Falsafah*, there is a trend to diversify nature's elements in order to create a touch of luxury and exclusivity in design, as well as to present the entire structure of the fabric.

Fabric creation processes such as the cleaning of silk (*melikas*), dyeing, preparation of textile warp threads using a warping frame (*mengani)*, connecting the warped threads to the *karap* or Handle Eyes (*mengubung*), and weaving have gone through tremendous changes since its introduction. This phase of transition gives the motif a new effect and appearance. Moreover, weaving techniques are constantly evolving in order to explore and process patterns in terms of colour matching and fabric patterns. The global advancement of textile art has resulted in a shift in the selection of newer songket weaving design styles (Habibah Abdul Jabbar *et al.,* 2015; Arba'iyah Mohd Noor; Norazilawati Abd Wahab, 2019), in keeping with the fast-paced fashion world of this decade.

Various parties initiated the effort to preserve silk weaving and songket weaving in the 1960s (Natipah @ Nortipah Abdul Kadir, personal interview, 19 July 2022). Weavers from Pahang, Kelantan, and Terengganu have been actively changing and creating new pattern designs. The changing inclination of weavers at the time ushered in a new phase of textile industry production. Weavers strive to surpass one another by creating designs that highlight local identity and essence (Siti Zainon Ismail, 2018). This attitude demonstrates their unwavering commitment to elevating the cottage industry. According to Halimaton Abdul Shukor *et al.* (2009), a weaver's skills and creativity are displayed through motif design, ideal weaving motifs, and consistency.

The idea of traditional and contemporary motif designs draws inspiration from a variety of natural sources, here, the weaver's surroundings usually influenced the creation of these motifs. These natural sources served as the muse for the concept of motif creation, which not only reflects the weavers' creativity and care when creating fine woven fabrics but also highlights the elegance of silk weaving and songket, which are steeped in tradition and heritage.

This study compares the Tenun Pehang Diraja fabric motif to the Songket Terengganu motif. Its goal is to educate the community about the differences in pattern design between the two fabrics. When appreciated through the wisdom of the plans that were orchestrated by weavers for each weave of the weaved fabric and songket, the design of motif forms weaved from threads of cotton, silk, and metallic materials rich with meaning and aesthetical values are highlighted. The findings of this study are critical because the art of weaving and songket not only concerns its history and development, but it also fills a gap that is left by previous local researchers.

2. Tenun Pahang Diraja Fabric Pattern and Motif Design

On May 8th. 2009, the late Sultan Ahmad Shah Al-Musta'in Billah Sultan Abu Bakar Ri'ayatuddin Al-Muadzam conferred the title "Diraja" (Royal) during the branding ceremony and launch of the Tenun Pahang Diraja logo. This demonstrates the continuation of the role that is played by the royals, which was first initiated by DYMM Tengku Ampuan Meriam in 1903 and is now gaining the attention and support of DYMM Tengku Puan Pahang Tunku Hajah Azizah Aminah Maimunah Iskandariah Binti Almarhum Al-Mutawakkil Alallah Sultan Iskandar Al-Haj, to continue the preservation of traditional Pahang art. On June 25th. 2007, the idea of establishing the Tengku Ampuan Afzan Tenun Pahang Diraja Institute at the Kampung Pulau Keladi Cultural Complex in Pekan was born out of a deep interest in the arts of this nation's heritage.

The Tenun Pahang Diraja fabric is distinct from other songket weaves. The simplicity of the designs and motifs show special features, and they are matched with high-quality silk colours and combinations, emphasising its status as royal family wear. Previously, woven fabrics had no pattern (Yaakub Isa, 2009; Fatimah Ismail, 2009). Weavers began to experiment with new techniques over time, which resulted in the development of patterns and decorative patterns.

Figure 1. Traditional Patterns of Tenun Pahang Diraja
Source: Pahang State Museum Collection (Photo by Sahaimi Abd. Manaf et al., 2006)

Each sheet of woven cloth that is produced has moved away from the original influence of Tok Tuan Keraing Aji, a Bugis high official in the 17th century AD. Checkered patterns, vertical stripe patterns, and horizontal stripe patterns were among the first patterns that had been introduced. At the beginning of the development of the weaving techniques, aristocratic pattern designs such as the Eminent Person Pattern (*Corak Orang Kenamaan*), the Mayor's Pattern (*Corak Datuk Bandar*), and the *Tok Muda* pattern began to emerge. There is a significant change as Tenun Pahang continues to create a new dimension with the emergence of exclusive and simple contemporary patterns. The Cross Tie Pattern (*Corak Ikat Bersilang*), Comb Pattern (*Corak Sisir*), Wajik Cut Pattern (*Corak Potong Wajik)*, and Broken Rice Pattern (*Corak Beras Patah*) are a few examples. Bamboo shoots (*pucuk rebung*), chicken tails (*lawi ayam*), four-burst flowers (*bunga pecah empat*), and six-burst flowers (*bunga pecah enam*) are popular fashion adornment of the fabric (Yaakub Isa, 2009; Zubaidah Sual, 2013). These motifs are also similar to songket. Tenun Pahang Diraja's speciality is the design of its motifs using the *colek* technique. Weavers in Pahang demonstrate their creativity by developing new motifs that are also more contemporary, sometimes solely based on individual interpretations and observations (Ahmad Farid Abdul Jalal, 2013; Zubaidah Sual, 2013). Motifs are used as the primary element in creating the woven fabric's unique identity.

3. Terengganu Malay Songket Adornment Motif

According to Siti Zainon Ismail (1994) and Maznah Mohamad (1996), the cooperative relationship that was established with the Bugis community around the 17th century had created opportunities for textile development in Terengganu. Looking at the complexity of the songket-making process as well as the sharpness of the motif decoration mindset, it becomes clear that not only expertise is required, but also patience and diligence, which results in fine and high-quality handiwork (Norwani Mohd Nawawi, 2002).

Recognising the significance of using textile motifs as decorative styles in the production of Terengganu songket, inspiration from nature relates to the community's culture of thought. Tenderness and decency are used in accordance with the Malays' life philosophy, which adheres to Islamic principles (Haziyah Hussin, 2006) to discourage the use of animals in each design. As such, floral and geometric motifs take precedence, while fauna motifs are abstracted so that they do not resemble animate elements.

Flora motifs (flowers, leaves, stems, fruits, shoots, and trees), fauna motifs, material world and nature motifs, food motifs, cosmos motifs, and calligraphic motifs are the most common types of songket motifs (Arba'iyah Ab. Aziz, 2018; Norwani Mohd Nawawi, 2002; Siti Zainon Ismail, 1997; Haziyah Hussin, 2006). The bamboo shoots and chicken tail motif is a popular decorative motif in songket, and is used as a decoration on the sarong's head.

Figure 2. Full Pattern Songket
Source: Norwani Mohd Nawawi (2002)

4. Methodology

The research began with the collection of data from primary and secondary sources, including documents and photographs, that were related to the designs of Tenun Pahang Diraja and Terengganu Songket. This study was based on field studies that had been conducted in the vicinity of Pulau Keladi, Pekan in Pahang, and Kampung Bukit Depu, Kuala Terengganu in Terengganu. Accordingly, to confirm the collected data, field investigations and informant diaries were the most helpful. The weavers, entrepreneurs in Pulau Keladi, Pekan in Pahang, and Terengganu, fashion designers, textile experts, academic experts, the *Yayasan Tenun Pahang Diraja* (Tenun Pahang Diraja Foundation), the *Perbadanan Muzium Negeri Pahang* (Pahang State Museum Corporation), and the *Perbadanan Kemajuan Kraftangan Malaysia* (Malaysian Handicrafts Development Corporation) Terengganu and Pahang Branches, as well as numerous secondary sources were used to obtain the data. In addition, a thorough interpretive review of weaving, design, and influence is analysed.

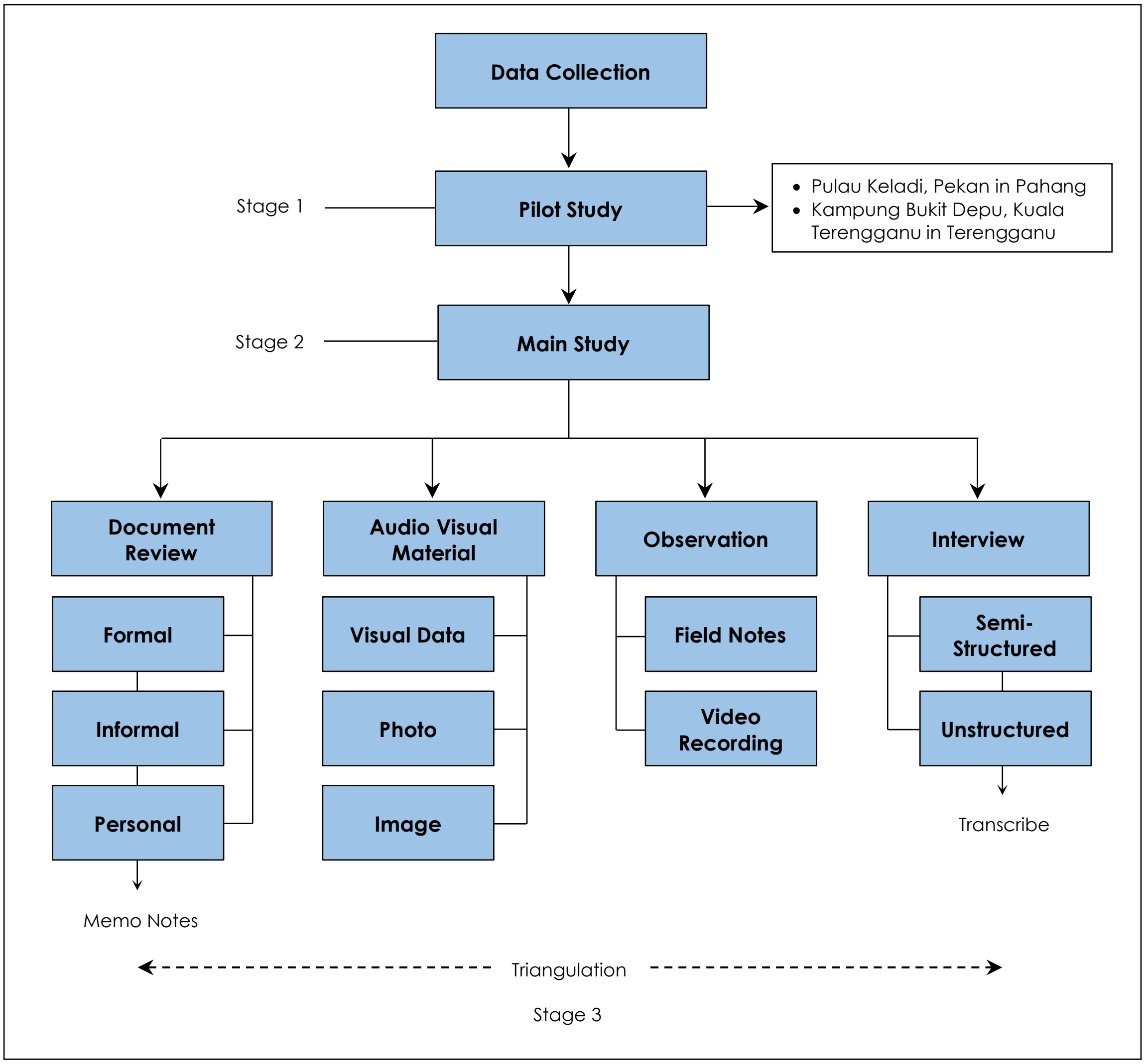
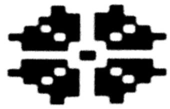
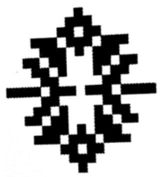
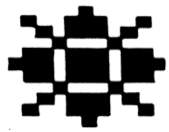
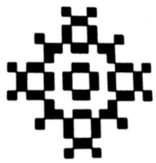
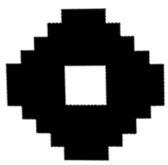
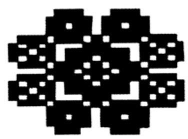
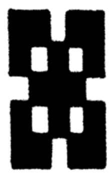
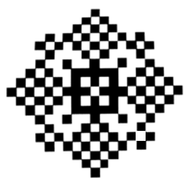
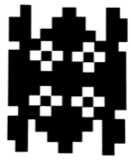
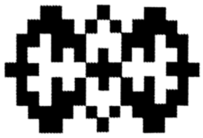
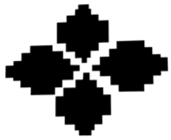
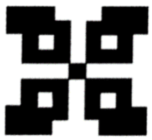
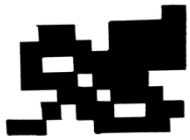


Figure 3. Data Collection Method
Source: Mas Ayu Zainal @ Ismail (2023)

5. Motif Design Difference Between Tenun Pahang Diraja and Terengganu Songket

Table 1
The motif design difference between Tenun Pahang Diraja and Terengganu Songket

No.	Motif	Tenun Pahang Diraja	Terengganu Songket
1.	Star Flower Eight Burst Flower (*Bunga Bintang Bunga Pecah Lapan*)		
2.	Sun Flower (*Bunga Matahari*)		
3.	Cempaka Kembang Flower (*Bunga Cempaka Kembang*)		
4.	Cermai Flower (*Bunga Cermai*)		
5.	Cloves (*Bunga Cengkih*)		
6.	Blooming Mushroom Flower (*Bunga Cendawan Kembang*)		

7.	Star Anise (*Bunga Lawang*)		
8.	Kembang Semangkuk Flowers (*Bunga Kembang Semangkuk*)		
9.	Ylang-ylang Flower (*Bunga Kenanga*)		
10.	Henna Leaves (*Bunga Daun Inai*)		

The above table illustrates some of the design differences between the Tenun Pahang Diraja fabric motif and the Terengganu songket. The weaver's keen observation and imagination in his creation demonstrate that both have their respective distinctiveness. Similarities can be seen simply by looking at the elements that have been inspired by the same object.

The floral motif is portrayed as a key motif and a fan favourite. In her work, Norwani Mohd Nawawi (2002) demonstrates how weavers alter existing designs to create motifs to their liking.

In the Tenun Pahang Diraja process, the *colek* technique involves only a few layers of threads to create a luxurious finish with a lustre that enhances the motif. Terengganu songket, on the other hand, employs numerous layers of threads to create the embossed effect, which also serves as an identity marker for the state's weavers.

6. Conclusion

Woven fabric and songket is a luxurious fabric that employs a variety of decorative threads that are highly prized, particularly among courtiers and royals. Traditional motifs that are based on natural resources are still present in this fabric. Each motif represents a philosophy and the weaver's nature, which prioritise Malay identity and culture, in addition to the individual's appreciation towards his or her respective historical links and past cultures. It is common practice for the weaving art to be passed down through families. Weaving skills are not only dependent on the weaver but also on his or her bearings and attitude, which clearly emphasises certain beliefs during the weaving process.

Malay culture is synonymous with woven fabric and songket. As a result, it is one of the great arts that should be preserved. The meaning and philosophy behind each pattern design reflect the Malays' ingenuity and thought process, which are inherent in their cultural values. The elegance and pattern of motifs emphasised the master weaver's creativity, sensitivity, and appreciation. Aspects of psychology, philosophy, and Malay culture coexisted with motif design styles.

To understand the roles of motifs in highlighting the distinct characteristics of fabric design, it is necessary to examine the design pattern and adornment that styles Tenun Pahang Diraja fabric and Songket Terengganu. Tenun Pahang Diraja fabric was adorned in the most understated manner. Songket Terengganu, on the other hand, emphasises every inch of its head, fabric body, and border sections that boast its unique function based on these sarung demarcations.

As a result, similar studies, particularly those focusing on motif design in textile art, should be conducted. Pattern design studies could provide new insights, allowing distinct elements in obscure designs to stand out. Hence, the elegance of a creation exudes its uniqueness, transcending the role of merely being an ensemble of one's attire. In fact, each material, technique, pattern, and motif plays a unique role in the creation of a high-quality, exquisite fabric.

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Conflict of Interest

No conflict of interest is associated with this publication.

References

Ahmad Farid Abdul Jalal. (2013). *Tenun Pahang Diraja: Warisan, Tradisi dan Falsafah*. Kuantan: Penerbit Muzium Malaysia Pahang.

Arba'iyah Ab. Aziz. (2018). *Simbolisme dalam Motif Songket Melayu Terengganu*. Kuala Lumpur: Dewan Bahasa dan Pustaka.

Arba'iyah Mohd Noor & Norazilawati Abd Wahab. (2019). *Pengaruh Indonesia Terhadap Tekstil di Terengganu Pada Abad Ke-19*. Jurnal Pengajian Melayu. Kuala Lumpur (01 -27), Akademi Pengajian Melayu, Universiti Malaya.

Fatimah Ismail. (2009). *Kain Tenun Pahang: Tradition, Design and Usage*. Prosiding Seminar Antarabangsa Tenun Nusantara: Kesinambungan Tradisi dan Budaya. Kuantan (484 – 499), Jabatan Muzium Negeri Pahang Malaysia dan Akademi Pengajian Melayu, Universiti Malaya.

Habibah Abdul Jabbar *et al*. *(*2015). *Tenun Pahang Diraja: Melestarikan Kesenian Warisan Melayu Melalui Aktiviti Tenun Dalam Kalangan Banduan*. Proceeding Conference: International Conference on Malay Heritage and Civilisation 2015 (ICOMHAC 2015). Langkawi, Kedah (648 – 660).

Halimaton Abdul Shukor *et al*. *(*2009). *Seni Kraf Tenunan: Motif & Teknik*. Selangor: Institut Kraf Negara

Haziyah Hussin. (2006). *Motif Alam dalam Batik dan Songket Melayu.* Kuala Lumpur: Dewan Bahasa dan Pustaka.

Maznah Mohamad. (1996). *The Malay Handloom Weavers: A Study of The Rise and Decline of Traditional Manufacture*. Singapore: Stamford Press Pte. Ltd.

Norwani Mohd Nawawi. (2002). *Songket Malaysia.* Kuala Lumpur: Dewan Bahasa dan Pustaka.

Sahaimi Abd Manaf *et al.* (2006). *Tenun Pahang.* Kuala Lumpur: Perbadanan Kemajuan Kraftangan Malaysia.

Siti Zainon Ismail. (1994). *Terengganu Pusat Tenunan: Satu Pemerian Koleksi Tekstil Melayu*.. Bengkel Pakaian dan Tekstil Melayu, Anjuran Bersama Kerajaan Negeri Terengganu Darul Iman Persatuan Muzium Malaysia dengan Kerjasama Jabatan Muzium Negeri Terengganu, 9 hingga 11 Disember 1994.

Siti Zainon Ismail. (1997). *Tekstil Tenunan Melayu: Keindahan Budaya Tradisional Nusantara.* Kuala Lumpur: Dewan Bahasa dan Pustaka.

Siti Zainon Ismail. (2018). *Reka Bentuk Kraf Tangan Melayu Tradisi.* Kuala Lumpur: Dewan Bahasa dan Pustaka.

Yaakub Isa. (2009). *Kain Tenun Pahang.* Prosiding Seminar Antarabangsa Tenun Nusantara: Kesinambungan Tradisi dan Budaya. Kuantan (49 – 65), Jabatan Muzium Negeri Pahang Malaysia dan Akademi Pengajian Melayu, Universiti Malaya.

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EXPLORING THE LEGAL FRAMEWORK AND POLICIES OF CLIMATE CHANGE ACROSS BORDERS: LOCAL GOVERNMENT RESPONSE TO CLIMATE CHANGE IN SELECTED ASEAN COUNTRIES

Nor Zaini Zainal Abidin[1], Nur Irinah Mohamad Sirat[2]* & Nurul Mazrah Manshor[3]

[1] Faculty of Administrative Science & Policy Studies, Universiti Teknologi MARA(UiTM), Kedah Branch, Kedah, MALAYSIA
[2,3] Faculty of Law, Universiti Teknologi MARA(UiTM), Kedah Branch, Kedah, MALAYSIA

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Corresponding Author:
irinah@uitm.edu.my

ABSTRACT

Climate change is an urgent and pressing issue with far-reaching implications for all nations worldwide. Indonesia, in particular, has emerged as a significant contributor of carbon dioxide (CO2) emissions in Southeast Asia, with a staggering 619 metric tons in 2021, placing it among the top five CO2 emitters in the Asia-Pacific region. Japan, too, is a notable contributor to carbon emissions, ranking fifth globally. Given these alarming statistics, various local governments have taken proactive steps and measures to reduce emissions and foster low-carbon growth within their respective jurisdictions. This paper focuses on the top CO2 emitters in ASEAN: Malaysia, Indonesia, and Japan. Through a doctrinal legal research analysis, the paper examines the international legal framework, national laws, and climate change policies these countries implemented. Additionally, the study highlights several noteworthy projects initiated to combat climate change. Policymakers, governments, and local governments can leverage the research findings and insights to formulate and implement effective strategies to address the issue of climate change in their respective regions.

1. Introduction

Malaysia is one of the top carbon dioxide (CO_2) emitters in the ASEAN region, with 225 million tons of CO_2 released in 2019 (Muhammad, 2021). In this sense, Malaysia has committed to global environmental goals by signing the Kyoto and Paris Agreements in 1997 and 2015, respectively. As part of its Nationally Determined Contribution (NDC) to the Paris Agreement, Malaysia has committed to reducing its economy-wide carbon intensity (related to GDP) by 45% in 2030 compared to the 2005 level. In 2009, the National Policy on Climate Change was implemented to integrate climate change into mainstream policies, enhancing institutional capacity and mitigating the adverse effects of climate change. Most recently, the government announced that efforts were in place to introduce a Climate Change Act. The development of the national climate change Bill is expected to take two to three years (Soo, 2023). This demonstrates Malaysia's dedication to sustainable development and mitigating the effects of climate change.

Regarding the nation of Indonesia, it is noteworthy that in the year 2021, the energy sector's carbon dioxide emissions amounted to approximately 600 million metric tons (Mt CO2), positioning Indonesia as the world's ninth-largest emitter of such emissions. (International Energy Agency (IEA), 2022). According to the International Energy Agency (IEA) 2022 data, per capita energy-related CO2 emissions are just 2 tonnes, representing half the global average. Indonesia has ratified the United Nations Framework Convention on Climate Change and its associated international agreements, such as the Kyoto Protocol and the Paris Agreement. As a party to the UNFCCC, the Kyoto Protocol and the Paris Agreement to the UNFCCC, Indonesia has shaped its national regulatory policies based on its international pledge in its Nationally Determined Contribution (NDC) to reduce greenhouse gas (GHG) emissions by 29 per cent to 41 per cent of the business-as-usual scenario by 20. Indonesia has implemented national policies for various sectors, including energy, industrial processes, product use, agriculture, forestry, and waste, to regulate climate-related issues. However, no specific law in Indonesia solely focuses on climate change (Detterman & Auslander, 2022). Instead, the country utilises its current environmental regulations as the primary framework to address and combat the issue of climate change while also supporting international conventions.

With the global climate change issue, Japan, the fifth-largest emitter in the world, has taken significant steps to address the problem (Betty et al., 2022). Furthermore, Japan was crucial in forming the Kyoto Protocol, an international climate treaty in 1997. Japan's commitment to climate change is an excellent example for other countries. During the initial Kyoto Protocol, Japan reduced their emissions by 6 per cent below the 1990 levels between 2008 and 2012 (Betty et al., 2022). Additionally, Japan chose not to participate in the second phase of the Kyoto Protocol, as they believed it needed to address more of the world's emissions to be effective (Betty et al., 2022). In Japan, the primary law explicitly regulating climate matters is the Climate Change Adaptation Act of 2018, which legally establishes adaptation initiatives (Fujita et al., 2023). According to the Act, the local government is expected to establish a regional climate change adaptation centre (LCCACs), collecting, evaluating, and providing information and advice on the impact and adaptation of climate change (Fujita, et al., 2023).

Local government plays a crucial role in implementing climate change adaptation measures at the community level (Fujita et al., 2023). To effectively promote adaptation actions, local governments must gather all necessary information regarding climate change and its potential impact on communities (Fujita et al., 2023). Local officials can make informed decisions and take appropriate measures to protect and support their constituents by staying knowledgeable and current. This proactive approach can help mitigate the adverse effects of climate change and ensure the community's well-being. Therefore, local governments are expected to establish a system that may serve as a foundation for gathering, evaluating, and disseminating information and recommendations in the relevant field (Fujita et al., 2023). Conversely, no specific measures are highlighted to address the problem of climate change, and each local government is expected to perform countermeasures to combat climate change. In this regard, many local authorities encountered challenges when attempting to comply with the central government's directives in this matter.

Hence, this paper examines the international legal framework for climate change and the national laws and policies of these countries have implemented. The paper also highlights several noteworthy projects that combat climate change. Policymakers, governments, and local governments can leverage the research findings and insights to formulate and implement effective strategies to address the issue of climate change in their respective regions.

2. Literature Review

2.1 Definition of Climate Change

The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as the change that can be attributed "*directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable periods*" (Article 1 of the UNFCC, 1992). In particular, the Intergovernmental Panel on Climate Change (IPCC) defines climate change as "*a change in the state of the climate that can be identified ... by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer*"(IPCC,2022).

2.2 Definition of Adaptation and Mitigation

According to the Intergovernmental Panel on Climate Change (IPCC), adaptation is the "*process of adjustment to actual or expected climate and its effects*". "*In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to the expected climate and its effects*" (IPCC,2022). The Intergovernmental Panel on Climate Change (IPCC) also defines mitigation of climate change as "*a human intervention to reduce the sources or enhance the sinks of greenhouse gases*" (GHGs) (IPCC,2022).

2.2 The International Legal Framework on Climate Change

The United Nations has played a vital role in developing many bindings of international treaties on climate change. Several significant pieces of global climate change legislation are highlighted below.

Table 1
An Overview of International Climate Change Negotiations

International Climate Change Negotiations	***Year***	***Key Points***	***Sources***
1. First UN Environment Conference in Stockholm	1972	United Nations Environment (UNEP) was formed as a result.	https://www.un.org/en/conferences/environment/stockholm1972

2. First World Climate Conference	1979	Establishment of the World Climate Program. Sponsored by UNEP, the World Meteorological Organization (WMO).	https://unfccc.int/cop3/fccc/climate/fact17.htm
3. Establishment of the International Panel on Climate Change (IPCC)	1988	This body, consisting of the world's leading climate scientists, plays a unique role in climate science: providing policymakers with regular, comprehensive, and authoritative scientific assessments on climate science knowledge, building on the work of thousands of scientists worldwide.	https://www.ipcc.ch/
5. Rio Earth Summit	1992	The primary objective of the Rio 'Earth Summit' was to produce a broad agenda and a new blueprint for international action on environmental and development issues that would help guide international cooperation and development policy in the twenty-first century.	https://www.un.org/en/conferences/environment/ rio1992
6. The United Nations Framework Convention on Climate Change (UNFCCC)	1994	The UNFCCC aims to stabilise green-stabilise concentrations in the atmosphere at a level that allows ecosystems to adapt naturally to climate change so that food production is not threatened while enabling economic development to proceed sustainably. Almost all nations in the globe have ratified the UNFCC.	https://unfccc.int/process-and-meetings/
7. Kyoto Protocol	1997	The 1997 Kyoto Protocol to the UNFCCC was adopted in response to the lack of legally binding emission reduction targets and timelines in the UNFCCC. It shares the UNFCCC's objective and is likewise based on the principle of common but differentiated responsibilities.	https://unfccc.int/kyoto_protocol

8. Doha Amendment	2012	Doha Amendment 2012 resulted in an amendment to the Kyoto Protocol establishing a second commitment period 2013-2020.	https://unfccc.int/process/the-kyoto-protocol/the-doha-amendment
9. Paris Agreement	2016	The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015. It entered into force on 4 November 2016.	https://unfccc.int/process-and-meetings/the-paris-agreement?gclid

Therefore, there are numerous legally binding multilateral environmental agreements and international legal frameworks addressing climate change. These multilateral mechanisms target specific environmental concerns that are impacted by, or have an impact on, climate change.

2.3 The Malaysian Legal Framework and Policy on Climate *Change*

Malaysia has various environmental laws and regulations that indirectly contribute to addressing climate change. These laws focus on pollution control, natural resource management, and environmental impact assessments. While they do not explicitly target climate change, they provide a legal framework to address environmental concerns contributing to it.

Table 2
An Overview of Malaysian Legislation

Acts	Key Points
1. Environmental Quality Act 1974	This act provides the legal basis for pollution control and environmental quality management in Malaysia. However, the Environmental Quality Act 1974 does not define or address climate change.
2. Renewable Energy Act 2011	This Act encourages developing and utilising renewable energy sources in Malaysia.

(Source: Environmental Quality Act 1974 and Renewable Energy Act 2022)

The Environmental Quality Act (EQA)1974 and the Renewable Energy Act 2011 indirectly contribute to reducing carbon emissions; however, they have no direct relationship to climate change (Maizatun Mustafa, 2020). Recently, the development of the national climate change Bill is expected to take two to three years (Soo, 2023). The development of the Bill will adopt a whole-nation approach that includes the engagement process with relevant stakeholders (Basyir, 2023). The forthcoming legislation is anticipated to possess greater comprehensiveness and yield a more substantial effect (Basyir, 2023).

Table 3
An Overview of National Policies that Address the Climate Change in Malaysia

Year	***Policy***	***Description***
2002	National Policy on the Environment	This policy aims to achieve a clean, safe, healthy, and productive environment for the present and future generations. It also seeks to conserve the country's unique and diverse cultural and natural heritage through the active participation of all society.
2009	National Green Technology Policy	This policy involves several sectors that have a direct impact on the environment, namely energy, building, transport, water, and waste management.
2009	National Policy on Climate Change	This policy aims to achieve the following: i. Mainstream climate change through wise management of resources and enhanced environmental conservation, resulting in strengthened economic competitiveness and improved quality of life. ii. Integrate responses into national policies, plans and programmes to strengthen the resilience of development from arising and potential impacts of climate change; and iii. Strengthen institutional and implementation capacity to better harness opportunities to reduce the negative impacts of climate change.
2010	National Renewable Energy Policy and Action Plan	This policy aims to reduce GHG emissions and environmental pollution effectively. It facilitates the growth and development of renewable energy while maintaining the environment. It also seeks to enhance the utilisation of indigenous energy resources to contribute towards national electricity supply security and sustainable socio-economic development.
2016	National Solid Waste Management Policy	This policy aims to minimise municipal solid waste through 3R, promote waste-to-energy projects and improve waste management in general. It has targeted that 18% of waste generated is to be treated by high-technology applications such as thermal heat plants and that the recycling rate by 2020 is at 22%
2016	National Policy on Biological Diversity 2016–2025	This policy aims to improve carbon stocks and promote green/carbon tax and carbon offset schemes. It has targeted that at least 20% of terrestrial and 10% of coastal and marine areas are to be conserved.

(Source: Reorganize from National Low Carbon Cities Masterplan (2021))

Malaysia has demonstrated a solid commitment to the development and execution of policies aimed at mitigating the effects of climate change. Consequently, the government has developed several policies to ensure climate-resilient development is compatible with the national sustainability agenda. The first attempt occurred in 2002 when the government implemented the national environmental policy that laid out principles and strategies for Malaysia to exploit its natural resources more sustainably while developing its economy (National Policy on Climate Change, 2010). The Malaysian government implemented the National Policy on Climate Change in 2009, which aimed to integrate climate change considerations into various sectors, establish policies, and enhance institutional capacity to mitigate the adverse effects of climate change. Subsequently, more policies emerged as the government realised that climate change does not involve environmental issues alone but also affects economic growth and social aspects.

2.4 An Overview of the Legal Framework and Policies of Climate Change in Indonesia and Japan

In Indonesia, no specific law solely focuses on climate change (Detterman & Auslander, 2022). Indirectly, the Law on Meteorology, Climatology, and Geophysics (Law No. 31 of 2009) is the relevant legislation related to climate change. This law, comprising 105 articles, covers meteorological, climatological, and geophysical measures to ensure public safety, protect national interests and security, advance national self-sufficiency in science and technology, support national development, promote environmental conservation, and foster international cooperation. Regarding policy implementation, Indonesia's approach to managing climate change involves a combination of policy initiatives, decrees, and regulations (Meteorology, Climatology, and Geophysics (Law No. 31 of 2009), 2009). Indonesia continues to rely on its environmental laws as the primary framework for reducing the impact of climate change. These include Law No. 32 of 2009 regarding Environmental Protection and Management, as amended by Law No. 11 of 2020 on Job Creation, and Law No. 41 of 1999 regarding Forestry, as amended by Law No. 11 of 2020 on Job Creation, including their implementing Government Regulations (Government Regulation No. 23 of 2021 regarding Organization of Forestry and Government Regulation No. 22 of 2021 regarding Organization of Environmental Protection and Management, respectively)(Detterman & Auslander, 2022).

Indonesia is a signatory to the United Nations Framework Convention on Climate Change and its Kyoto Protocol and Paris Agreement. Indonesia has established national regulatory policies based on its Nationally Determined Contribution (NDC) to reduce greenhouse gas (GHG) emissions in line with its international commitments. The NDC pledges to decrease emissions by 29 to 41 per cent of the business-as-usual scenario by 2030. On the domestic front, Indonesia's laws and regulations about climate matters, such as the recently enacted Presidential Regulation No. 98 of 2021 on Carbon Economic Value (the Carbon Regulation), draw on the UNFCCC, its Conferences of the Parties' outcomes, and the NDC as guiding principles. The Indonesian government has taken steps to reduce greenhouse gas emissions and meet its NDC target. This includes implementing a carbon tax and economic value, which the Harmonized Tax Law and the Carbon Regulation regulate. Additionally, they have established climate change information systems, such as the National Greenhouse Gases Inventory System and the National Registry System on Climate Change Control, to monitor and report GHG emissions (Detterman & Auslander, 2022).

Before passing the Climate Change Adaptation Act of 2018, Japan relied on the Promotion of Warming Countermeasures (Act No. 117 of 1990) to implement measures to reduce greenhouse gases. Nevertheless, there was a need for more targeted legislation to address climate change. The Climate Change Adaptation Act of 2018 was passed in Japan to position the adaptation initiatives legally (Fujita, et.al., 2023). The Climate Change Adaptation Act obligates the national government to formulate a global warming countermeasure plan and take measures to promote the suppression of greenhouse gas emissions (Umeda, S.,2018). Local governments must promote measures to control emissions of greenhouse gases through the natural and social conditions of the area (Umeda, S.,2018). According to the Act, the local government is expected to establish a local climate change adaptation centre (LCCACs), collecting, evaluating, and providing information and advice on the impact and adaptation of climate change (Umeda, S.,2018).

3. Methodology

This paper employs qualitative doctrinal legal research to provide a comprehensive discussion. For this purpose, the discussion adopts the doctrinal content analysis method by examining the primary sources such as the Environmental Quality Act 1974, Renewable Energy Act 2011, and Local Government Act 1976. Moreover, the national policies that will be referred to are the National Policy on the Environment 2002, National Green Technology Policy 2009, National Policy on Climate Change 2009, National Renewable Energy Policy and Action Plan 2010, National Solid Waste Management Policy 2016, and National Policy on Biological Diversity 2016–2025. The relevant primary sources from Indonesia and Japan will be examined, such as the Law on Meteorology, Climatology, and Geophysics (Law No. 31 of 2009) and the Climate Change Adaptation Act 2018. The secondary data are collected from academic journal articles, newspaper articles, textbooks, and government reports. In addition, online databases such as Lexis Nexis, Emerald Insight and Hein Online are used for this purpose.

4. Findings

4.1 Adaptation and Mitigation Programmes by Local Authorities in Malaysia, Indonesia and Japan

Table 4
Government Motivation and Government Programmes

Theme	***Malaysia***	***Indonesia***	***Japan***
Government Motivation	- Green Investment Tax Allowance (GITA) and Green Income Tax Exemption (GITE) -Low Carbon Catalyst Grant (GeRAK) -Green Technology Financing Scheme (GTFS)	-Tax Relief -Reduced Fossil Energy Subsidies -Green Financing	-Collaboration with academia and research institutes (Fukuoka city) -Funding to local enterprises (Tochigi prefecture) -Seminars (Osaka prefecture) -Green Growth Strategy
Government Programmes	-National Low Carbon Cities Masterplan (NLCCM)	-Solar household -Biogas program -Greenhouse Gas	-Limit greenhouse gas emission -Construction of

	-Low Carbon Cities (LCC) -ILHam City -Penang Nature-Based Climate Adaptation Programme (PNBCAP)	Profile (GHG) -Creating Kampung Iklim -Construction of Coastal Inundation Dike -Preparing Environmental Information Program Energy Sector Climate Change Hotspot (CHC)	seawalls to counter tsunami disaster -AI technology – snake robots -Smart city project -Carbon tax pricing

(Source: Reorganize from National Low Carbon Cities Masterplan (2021, National Medium Term Development Plan 2020-2024, Mabon et. al, 2019)

The three countries targeted for this paper have made several efforts to address climate change scenarios. Based on Table 4 above, the adaptation and mitigation process for climate change has been grouped into government motivation and government programs. Malaysia, Indonesia and Japan are committed to meeting their target of achieving net zero greenhouse gas emissions by 2050. As such, they are increasing existing funding programmes and extending tax incentives to encourage the adoption of green technology in the country. Moreover, the Malaysian government, through budget 2023, proposes to extend the period to apply for the Green Investment Tax Allowance (GITA) and Green Income Tax Exemption (GITE) to Dec 31, 2025 (Malaysian Green Technology and Climate Change Corporation, 2023). It also proposes extending the tax allowance and exemptions from three to five years (Malaysian Green Technology and Climate Change Corporation, 2023). Moreover, the government of Malaysia also allocated RM35 million under the Low Carbon Catalyst Grant (GeRAK) to local authorities to drive climate change actions at the grassroots level (Suhaidi, 2021). In 2022, 150 local governments received an RM250,000 Low Carbon Cities Catalyst Grant (GeRAK) to support high-impact, low-carbon city initiatives (Bernama, 2023). The local government's response to (GeRAK) has been highly positive, and the government will continue to provide this grant (Bernama, 2023). Besides that, the government is also improving the Green Technology Financing Scheme (GTFS) by increasing the guaranteed value to RM3 billion up to 2025, expanding the scope of the guarantee to the electric vehicle (EV) sector with a guaranteed limit of up to 60% (Malaysian Green Technology and Climate Change Corporation, 2023).

The Jakarta province has made a dedicated effort to promote the Low Carbon Development Initiative (LCDI) by offering tax and land exemptions for structures that comply with green building standards. This commitment demonstrates the province's commitment to sustainable development and environmental conservation. The government has also continuously cut back on subsidies for fossil fuels and redistributed the funds for energy infrastructure improvements like intelligent grids and feed-in tariffs for renewable energy. The Indonesian government also uses various green financing tools, including green sukuks, carbon trading, and carbon tax laws, to produce financial streams. Through the Clean Development Mechanism (CDM), the Joint Credit Mechanism (JCM), and the Nusantara Carbon Scheme, carbon trading is carried out (Sambodo et. al., 2022).

Meanwhile, in Japan, to encourage the activation of businesses related to climate adaptation in 2012 (2023), the Tochigi LCCACs distributed grant cash to local businesses. The Osaka Prefecture

LCCACs also offer a seminar series for businesses to aid in their understanding of climate change (Fujita, et. al., 2023). The Japanese government unveiled a green growth strategy in December 2020 to encourage private investment through public funding, tax incentives, modifications to rules and standards, and public-private partnerships. Fukuoka City's initiative to collaborate with academic institutions and research centres aims to gather expert input, leading to plans to incorporate mitigation and adaptation with the city's overall environmental plan and recognise the significance of ecosystem services in climate change response (Mabon, et. al., 2019).

These three countries have created initiatives and plans for Low Carbon Development (LCD) to encourage low-carbon development initiatives. Malaysia launched the National Low Carbon Cities Masterplan (NLCCM) in August 2021 as a strategic initiative to mitigate the impacts of climate change and promote sustainable urbanisation. The master plan provides complete guidance to state governments and local authorities in developing low-carbon cities in their respective administrative areas. Climate adaptation initiatives were similarly essential to improve the quality of life, lower temperatures, and protect people from the drastic effects of climate change. This is where the city's goal is to create an intelligent, liveable, and happy (ILHam) city. The ILHam City focuses on five domains: smart e-governance, smart mobility, innovative economy, innovative environment and innovative social. Another key initiative is developing a Low Carbon City, which aims to reduce greenhouse gas emissions in Penang Island by promoting sustainable transport, energy-efficient buildings, and waste reduction. The Malaysian Green Technology and Climate Change Corp (MGTC) has honoured Penang for its design as part of its drive to promote Low Carbon Cities (LCCs) in Malaysia, with the state given the “Diamond” award for PSI’s design at the Low Carbon City 2022 event (Choong, 2023). In addition to these initiatives, the Penang Island City Council and Think City will jointly apply for US$10 million (RM41.4 million) from the World Bank Adaptation Fund when they submit a final proposal on their nature-based climate adaptation programme in November 2020 (Buletin Mutiara, 2020). Moreover, the effort by the Penang Nature-Based Climate Adaptation Programme (PNBCAP) for the urban areas of Penang addresses the issues of heat stress and flooding while strengthening social resilience and institutional capacity. Thus, the MBPP has engaged with the community through education and outreach programs to raise awareness about climate change and the need for action.

In addition, the regional government of Indonesia, such as West Nusantara, is employing the Biogas programme, while Jakarta province has been adopting solar-powered homes (Sambodo et al., 2022). In Central Java, there are numerous intensive climate change strategies. The greenhouse gas (GHG) profile is currently being put together. Data on GHG inventories had been submitted using a programme called SIGNSMART. Involved are around 60% of the regencies and cities in central Java. Desa Pekalongan, Central Java's local government has developed a kampung iklim, or climate village. It was developed by Pekalongan community organisations, who also built dwellings, fishponds, prawn farms, rainwater catchment systems, bio pores, and sustainable food systems. Nine climate communities have been constructed in Pekalongan. The Department of Transportation is responsible for the transportation services associated with the energy sector. Among the initiatives to cut carbon emissions were boosting student public transport usage and routinely measuring the exhaust gas emissions of motorised cars using petrol and diesel fuel (Handayani, 2021). A “Climate Change Hotspot” (CHC) concept has also been established. However, it only applies to a small number of high-potential places that have already seen temperature increases of 2 degrees Celsius over the baseline circumstances. (UN, 2022).

Numerous local governments in Japan have started implementing their emission reduction action plans. The Kyoto City Global Warming Countermeasure Ordinance was passed by Kyoto City to reduce GHG emissions, making it the first municipal government in Japan to do so. Kyoto and Osaka followed in 2005, Nagano in 2006, Wakayama and Shizuoka in 2007, and so on (Mabon, et. al., 2019). After the tsunami and nuclear calamity struck Japan, the Japanese government built several seawalls in Taro and Tohoku. These seawalls defend against the region's periodic tsunami attacks (Matanle, Littler & Slay, 2019). The snake robot supported a search effort in Okayama Prefecture during the 2018 heavy rains. Construction of the Kashinawa-no-ha (Oak Leaves) intelligent city project represents a public-private-academic initiative (Mavrodieva & Shaw, 2020).

5. Discussion

Malaysia is among the ASEAN region's top carbon dioxide (CO2) emit. According to Muhammad (2021), in 2019, the country released 225 million tons of CO2. Indonesia, on the other hand, is a significant contributor to CO2 emissions in Southeast Asia. In 2021 alone, the country released a staggering 619 metric tons, placing it among the top five CO2 emitters in the Asia-Pacific region. Japan is also a significant contributor to carbon emissions, ranking fifth globally. Governments in Asian countries are increasingly implementing legal and policy frameworks to support low-emission and resilient growth, in line with the Paris Agreement's climate response efforts. The adoption of domestic laws and policies leading up to the Paris Agreement (2009-2015) highlights the crucial role that national legal and policy frameworks play in driving global climate action. This underscores the interdependence between strengthening national climate action and advancing the international agenda.

According to a project encompassing 32 countries in the Asia-Pacific region, a noteworthy 75% have established either national or sectoral policies and legal frameworks to effectively regulate climate action (Asian Development Bank, 2020). While not implementing a Climate Change Act, Malaysia has yet to take steps to regulate its national climate responses through a combination of national policies, plans, and updates to existing legislation. Recently, the development of the national climate change Bill is expected to take two to three years (Soo, 2023). The development of the Bill will adopt a whole-nation approach that includes the engagement process with relevant stakeholders (Basyir, 2023). The forthcoming legislation is anticipated to possess greater comprehensiveness and yield a more substantial effect (Basyir, 2023). Meanwhile, Indonesia has no specific law that solely focuses on climate change (Detterman & Auslander, 2022). Indonesia's approach to managing climate change has involved policy initiatives, decrees and regulations. On the other hand, no specific legislation was in place in Japan to address climate change. The Climate Change Adaptation Act of 2018 was passed in Japan to position the adaptation initiatives legally (Fujita, et.al., 2023). Therefore, due to their geographic susceptibility to earthquakes and tsunamis, Malaysia, Indonesia and Japan must have progressive legislation and take steps to combat climate change.

As a developed country, Japan has made significant progress in addressing climate change through national policies and actions. As can be seen, since the 1990s, research on this topic has been conducted in association with several stakeholders (Mabon, et al., 2019). As an illustration, Fukuoka created its local climate change strategy in 1994. Kyoto, Kobe, and Osaka then did the same. According to Takao (2012), most Japanese municipalities already have "long-term comprehensive plans" at the most advanced stage of local government planning. On the other side, Malaysia and Indonesia need to find the fortitude to address the issue of climate change. Some provinces in Indonesia cannot perform equally due to disparities in regional financial capabilities. In light of that, research has revealed that Indonesia needs help allocating its budget and obtaining the necessary funds to cover the tipping charge for a waste-to-energy project in Suwung, Bali. Reactor upgrade and repair issues also plagued the West Nusantara Biogas programme (Sambodo, et. al., 2022). As for Malaysia, the local governments continue to advance various measures to mitigate and adapt to climate change. For instance, the Malaysian Green Technology and Climate Change Corp (MGTC) has honoured Penang for its design as part of its drive to promote Low Carbon Cities (LCCs) in Malaysia, with the state given the "Diamond" award for PSI's design at the Low Carbon City 2022 event (Choong, 2023). On the other hand, Shah Alam City Council (MBSA) received 16 diamond recognition and provisional certification awards at the Low Carbon City 2030 Challenge for its efforts in reducing carbon emissions (The Star, 2021). Through the projects, it strives to create a future where cities and their inhabitants are more resilient and sustainable.

6. Conclusion

In conclusion, Malaysia, Indonesia, and Japan must continue strengthening their international commitments to address climate change. These countries have taken steps to regulate climate action through a combination of policies, plans, and existing environmental laws. It is recommended that governments enact comprehensive laws addressing climate change. For instance, the Climate Change Act 2008 introduced the United Kingdom's first legally binding target for 2050 to reduce greenhouse gas emissions by at least 80% compared to 1990. UK emissions have continued to fall since the Climate Change Act was passed in 2008. Hence, the Act has been used as a model for creating climate law in several countries, including Denmark, France, Germany, Ireland, Mexico, New Zealand, and Sweden. The governments and local authorities in Malaysia, Indonesia, and Japan have taken proactive steps to address national policies. Among these initiatives, the Low Carbon City Development Initiative (LCDI) is a notable effort to combat climate change by the Paris Agreement. The LCDI is a comprehensive program that promotes sustainable urban development, reduces carbon emissions, and enhances energy efficiency. Through this initiative, these countries are working diligently to create a greener and more environmentally friendly future for themselves and the rest of the world. However, the success of these projects depends on how fully committed each partner is. Although climate change is a global phenomenon, its effects are felt locally, necessitating a response from local governments. Since local governments are in charge of putting policies and programmes in place that can help alleviate the effects of climate change and prepare for its implications, their participation in combating it is vital.

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All authors contributed equally to this publication.

Conflict of Interest

There is no conflict of interest associated with this publication.

References

16 awards for MBSA at Low Carbon City 2030 Challenge. (2021, May 12). *The Star*. https://www.thestar.com.my/metro/metro-news/2021/05/12/16-awards-for-mbsa-at-low-carbon-city-2030-challenge.

Baker, I., Peterson, A., Brown, G., & McAlpine, C. (2012). Local government response to the impacts of climate change: An evaluation of local climate adaptation plans. *Landscape and Urban Planning*, *107*(2), 127-136. https://doi.org/10.1016/j.landurbplan.2012.05.009

Basyir, M. (2023, February 24.). 'We don't want toothless climate change bill.' *New Straits Times*. https://www.nst.com.my/news/nation/2023/02/883040/ we-don't-want -toothless-climate-change-bill

Bernama (2023, March 9). Most Malaysians not sure what they can do to tackle climate change - Expert. *New Straits Times*. https://www.nst.com.my/news/nation/2023/03/887295/most-malaysians-not-sure-what-they-can-do-tackle-climate-change-expert#

Bernama (2023, March 19). Johor proposes setting up climate change flood management committee - MB. *New Straits Times*. https://www.nst.com.my/news/nation/2023/03/890631/johor-proposes-setting-climate-change-flood-management-committee-mb

Choong, M. Y. (2023, February 21). Penang 'islands project' wins award for low-carbon city plan. *The Star*. https://www.thestar.com.my/news/nation/2023/02/21/penang-islands-project-wins-award-for-low-carbon-city-plan

Eileen, N. (2023, March 3). Flooding worsens in four Malaysian states; Johor still worst hit. *The Straits Times*. https://www.straitstimes.com/asia/se-asia/flooding-worsens-in-four-malaysian-states-johor-still-worst-hit

Environmental Quality Act 1974 (Act 127) Regulations, Rules & Orders. (2022). (As of 5th January 2002). Selangor: ILBS.

Fujita, T., Mameno, K., Kubo, T., Masago, Y., & Hijioka, Y. (2023). Unraveling the challenges of Japanese local climate change adaptation centers: A discussion and analysis. *Climate Risk Management*, *39*, 100489. https://doi.org/10.1016/j.crm.2023.100489

Handayani, A. (2021). Local Government Response to the Impact of Climate Change: A Review of Climate Change Strategies in Pekalongan, Central Java, Indonesia. *IOF Conference Series: Earth and Environmental Science,* 724, 1-8.

IEA (2022), An Energy Sector Roadmap to Net Zero Emissions in Indonesia, IEA, Paris https://www.iea.org/reports/an-energy-sector-roadmap-to-net-zero-emissions-in-indonesia, License: CC BY 4.0

IPCC, 2022: Annex II: Glossary [Möller, V., R. van Diemen, J.B.R. Matthews, C. Méndez, S. Semenov, J.S. Fuglestvedt, A. Reisinger (eds.)]. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V.

Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 2897–2930, doi:10.1017/9781009325844.029.

KASA (Ministry of Environment and Water) (2021). National Low Carbon City Master Plan. Retrieve from https://www.kasa.gov.my/resources/alamsekitar/NLCCM.pdf

Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, 2303 U.N.T.S. 162

Local Government Act 1976 & Selected Subsidiary Legislation (2020) (Act 171) (Malaysia)

(n.d.). *Low Carbon Cities 2030 Challenge*. Malaysian Green Technology and Climate Change Corporation. Retrieved May 21, 2023, from https://www.mgtc.gov.my/what-we-do/low-carbon-cities-lcc/low-carbon-cities-2030-challenge/

Mabon, L., Shih, W-Y., Kondo, K., Kanekiyo, H., and Hayabuchi, Y. (2019). What is the Role of Epistemic Communities in Shaping Local Environmental Policy? Managing Environmental Change through Planning and Greenspace in Fukuoka City, Japan. *Geoforum,* 104, 158-169

Matanle, P., Littler, J. and Slay, O. (2019). Imagining Disasters in the Era of Climate ChangeL Is Japan's Seawall a New Maginot Line? *The Asia-Pacific Journal: Japan Focus,* 13(1), 1-30.

MAvrodieva, A.V. and Shaw, R. (2020). Disaster and Climate Change Issues in Japan's Society 5.0 – A Discussion. *Sustainability,* 1-17.

MBPP and Think City applying for RM41mil funding for climate adaptation programme. (2020, October 20). *Buletin Mutiara*. https://www.buletinmutiara.com/mbpp-and-think-city-applying-for-rm41mil-funding-for-climate-adaptation-programme/

Maidin, A. J., & Mobarak Ali, B. B. (2009). Powers of the Local Authority in Regulating Land Planning and Development Control: Whither Control. *Planning Malaysia*, *7*(1). https://doi.org/10.21837/pm.v7i1.75

Maizatun Mustafa (2020, January 21). Malaysia's environmental laws don't relate to climate change — Academician. *The Borneo Post*. https://www.theborneopost.com/2020/01/21/malaysias-environmental-laws-dont-relate-to-climate-change-academician/

Muhammad, I. (2021). Challenges in implementing carbon pricing policy in Malaysia. The Bartlett. https://www.ucl.ac.uk/bartlett/news/2021/nov/challengesimplementing-carbon-pricing-policy-malaysia

National Policy on Climate Change (2010). (1st ed.). Kementerian Sumber Asli dan Alam Sekitar Malaysia.

Osman, T. (2021). A framework for cities and environmental resilience assessment of local governments. *Cities*, *118*, 103372. https://doi.org/10.1016/j.cities.2021.103372

Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104.

Renewable Energy Act 2011 (2011) (Act 725) (Malaysia)

Sambodo, M.T., Yuliana, C.I., Hidayat, S., Novandra, R., Handoyo, F.W., Farandy, A.R., Inayah, I., and Yuniarti, P.I. (2022). Breaking Barriers to Low-Carbon Development in Indonesia: Deployment of Renewable Energy. *Heliyon 8,* 1-11.

Sanghi, A. (2021, November 13). On climate change, Malaysia has three stories to tell. *The Star*. https://www.thestar.com.my/news/focus/2022/11/13/on-climate-change-malaysia-has-three-stories-to-tell

Smalec, Agnieszka & Niemczyk, Agata & Seweryn, Renata & Obrenovic, Bojan. (2021). Cooperation Between Local Government and Non-Governmental Organizations as a Platform for The Development of Social Dialogue. Journal of International Business Research and Marketing. 6. 2021. 10.18775/jibrm.1849-8558.2015.62.3002

Suhaidi, N. (2021, July 14). Govt launches low-carbon sustainable city master plan and RM35m GeRAK. *The Malaysian Reserve*. https://themalaysianreserve.com/2021/07/14/govt-launches-low-carbon-sustainable-city-master-plan-and-rm35m-gerak/

Soo, W. J. (2023, February 23). Three years to develop Malaysia's climate change Bill, says Nik Nazmi. *Malay Mail*. https://www.malaymail.com/news/malaysia/2023/02/23/three-years-to-develop-malaysias-climate-change-bill-says-nik-nazmi/56385

Takao, Y. (2012). Making Climate Change Policy Work at the Local Level: Capacity-Building for Decentralized Policy Making in Japan. *Public Affairs,* 85(4), 767-788.

Tomohiro Fujita, Kota Mameno, Takahiro Kubo, Yoshifumi Masago, Yasuaki Hijioka, Unraveling the challenges of Japanese local climate change adaptation centers: A discussion and analysis, Climate Risk Management, Volume 39, 2023,100489, ISSN 2212-0963, https://doi.org/10.1016/j.crm.2023.100489.

Umeda, S. (2018) *Japan: Climate Change Adaptation Act Enacted*. [Web Page] Retrieved from the Library of Congress, https://www.loc.gov/item/global-legal-monitor/2018-06-26/japan-climate-change-adaptation-act-enacted/.

United Nations Framework Convention on Climate Change, May 9, 1992, S. Treaty Doc No. 102-38, 1771 U.N.T.S. 107.

UPEN, (2016) Selangor State Government State Economic Planning Unit, Workshop On LCCF Application in Planning Permission In Selangor (Selangor,Malaysia)

World Bank Group. 2021. World Bank Group Climate Change Action Plan 2021–2025: Supporting Green, Resilient, and Inclusive Development. © World Bank, Washington, DC. http://hdl.handle.net/10986/35799 License: CC BY 3.0 IGO."

Zillman, John. (2009). A history of climate activities. WMO Bulletin. 58.

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FACTORS IMPACTING THE COMPANY'S PROFITABILITY IN FARMING AND AGRICULTURE SECTORS

Nur Hafizah Ahmad[1], Nurul Labanihuda Abdull Rahman[2]* & Abdul Hafiz Yusof[3]

*1,2, 3 Faculty of Business and Management,
Universiti Teknologi MARA (UiTM), Perlis Branch, Arau Campus,
Perlis, MALAYSIA*

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Corresponding Author:
labanihuda@uitm.edu.my

ABSTRACT

Agriculture, forestry, and fishing have been the main sectors contributing to the Malaysian Gross Domestic Product since independent day. Eventually, the manufacturing sector has been booming since the '80s which boosted the Malaysian economy. Demand in the manufacturing sector creates a shift in job filling from agriculture to manufacturing. Since then, the agriculture sector faced a huge gap in worker and the sector seem to have lost popularity in gaining new employee. This study focuses on finding impacting sources to the profitability faced by farming and agriculture-listed companies in Malaysia. The timeline for this study of profitability determination in the agriculture sectors in Malaysia is from 2017 to 2021. There are 50 companies listed in Bursa Malaysia that were selected mostly based in the farming industry. The findings show that return on asset, operating margin and asset turnover have a positive relationship with profitability. Return on asset has the highest impact towards profitability followed by operating margin and asset turnover. The results will give an idea for agriculture sector management to make a decisive decision for future planning. Ultimately, it will give a guideline for the companies to avoid wastage, implement new policies, sustain productivity, and guarantee profits.

1. Introduction

The farming sector is strategically important and has a significant potential to enhance the agriculture sector (Herchenbach et al., 2023). Moreover, industry participants are encouraged to create the best business plan because of the more intense commercial competition. In a corporate environment that is always changing, determining a strategic orientation can improve a company's performance (Vlasic, 2023). In the Ninth Malaysian Plan, the agriculture sector was ranked third in terms of the nation's income generators, behind manufacturing and services (Abdullah & Abu Samah, 2013). The Ninth Malaysian Plan has put a lot of emphasis on commercialising large-scale agriculture, ensuring high-quality and value-added agricultural activities, and fully exploiting biotechnology, among other things. By increasing production, the agricultural industry has been transformed into a booming industry, aiding in this effort.

Besides that, Malaysia is fortunate to have a decent climate and excellent land for the agriculture sector. Since the country's independence in 1957, it has boosted the Gross Domestic Product (GDP) of Malaysia and established itself as the foundation of the nation's economy (Abdullah et al., 2023). Furthermore, other country such as Indonesian also showed 48.85% of all SMEs in Indonesia are in the agricultural sector in Central Java Province. This indicates that agricultural SMEs have a lot of room to expand and have high potential to penetrate the ASEAN market (Kusnandar et al., 2023).

A significant portion of the world's population receives its protein intake from the cattle agricultural sector. Not only serving as a source of food, but also making a significant contribution to global agricultural development. Through the provision of organic fertilisers that are beneficial to the environment, the livestock industry helps to meet some of the demands of the agricultural sector. The agriculture industry's connection with the livestock farming sector is a mutually beneficial arrangement. A farm in a specific location that integrates plants and animals is essentially an agricultural system defined by a close link between plant and livestock components. Farmers may be encouraged to fill their unplanted land with fodder if there is a growth in the number of livestock in the region. Land protection shall be the focus of all carried-out guidance activities (Said, 2021).

There are several ways to increase the time, cost, or man-hour efficiency of the agricultural sector. It must consider digitalizing the agricultural businesses to make them more productive and efficient in the day when everything will be done online. We need to make certain changes by digitising and automating various tasks, one of which is irrigation systems, to make our farming businesses more effective and efficient. By 2030, the water supply will fall 40% short of satisfying the world's water demands, according to a McKinsey study. Better water management is made possible by agriculture technology, which digitalizes and automates the entire process. (Goedde et al., 2020)

Economic activity enables farmers to increase their income and diversify their risk across several traditional and alternative food chains and economic sectors. They are therefore seen as a measure of how well farmers have adapted to the pressures and demands of the changing urban environment and as a means of sustaining an economically viable agricultural environment. The effectiveness of all those experiences in affecting the farming system's ability to remain economically viable has been called into doubt. Food producers do not usually direct farming practices, and their objectives do not always include maximising farmers' profits. The profit is erratic and inconsistent over time, which makes farming less sustainable in the long run. Farmers using agricultural systems and multifunctional agriculture may not always have the necessary competence, which has an impact on how well the activity is managed. (Gaviglio et al., 2021)

Owing to several issues, including the workforce's inability to leave the house to work due to the COVID-19 curfew, agricultural productivity decreased. Additionally, let's not overlook the issue of buying raw materials with fluctuating prices. A farmer who wants his farm successful must consider all of this. To determine the industry-specific characteristics that would lead to profitability in farm companies especially in Malaysia, further research is required. Asset turnover and operating margin are sector-specific variables that may have an impact on agricultural industries' effectiveness. Farmers will get insight from this study on the need to sustain their businesses, particularly at this challenging time.

The main objectives of this study are to look at the link between the internal factors that influence profitability performance in the Malaysia agriculture sector Specifically, the return on asset, operating margin, and asset turnover of the company are three company-specific variables that this study will look at in connection to three farming efficiency factors. This study is significant because it may inform farming companies about the areas in which they should concentrate their efforts and help them plan their operations effectively over a longer time frame. The specific goal of this study is;

1. To examine the variables affecting productivity in the farming and agricultural sectors

2. To investigate how the farming and agricultural industry's profitability is affected by Return on Asset, Operating Margin, and Asset Turnover.

2. Literature Review

Numerous published studies show that a variety of factors can influence the determinants of an organization's profitability decisions. Thus, this study will discuss the dependent variable and the factors of profitability decisions that have been derived from previous studies.

2.1 Profitability

Return on equity was used as a dependent variable in this study to reflect profitability. The ability of a business to generate profits on all its capital assets is assessed using return on equity, based on dividing the entire equity by the net profit after taxes. The mean ROE percentage for manufacturing businesses that were registered with ISE from 2006 to 2010 was 10.93% (Rosikah et al., 2018). According to Calamar (2016), the amount of earnings produced by each dollar of equity is shown by the term "return on equity." It may provide important information on how a business operates. The better the ROE, as, all else being equal, high ROE firms will generate more earnings and free cash flow that can be utilized to support greater levels of growth, maintain the company's financial stability, and give cash returns to shareholders.

A similar study by Purba et al., (2023) suggested investors might use ROE as a guide when choosing their investments. The signaling hypothesis can be used to explain how the ROE variable affects stock prices. The signal is either strong or weak. A bad signal can be conveyed by ROE that keeps rising so that stock prices keep falling, and vice versa. A favorable signal can be reflected in an ROE that keeps declining so that stock prices keep rising.

2.2 Return on Asset

Return on asset is used to gauge a company's capacity to generate profits utilizing all the assets it already owns. For any investor to consider investing in a firm that will have an impact on the rise in company stock on the capital market, it must be viewed as a favorable indicator (Heikal, 2014; Rosikah et al., 2018; Ibendahl, 2018). Moreover, a study by Anton et al., (2023) indicated that the greater the ROA ratio, the more efficiently the firm is using its assets to produce net profit after tax. The firm will make more money if the ROA figure is higher, and the book value will also rise. A low return on assets suggests that the firm is not making the best use of its assets to produce profits. This ratio is frequently emphasized when analyzing financial records since it might signal a company's ability to generate profit. Therefore, the present study proposes the following hypothesis (H1):

H1: There is a significant relationship between return on asset and the profitability performance of Malaysian agriculture companies.

2.3 Operating Margin

The Operating margin ratio is used to assess a bank's management team's capacity to manage earning assets and create revenue sharing on those assets so that financial performance improves (Sunarya & Lutfiani, 2020). Besides that, the bank's management of numerous risks that might arise in margin and profit sharing is evaluated by operating margin. This implies that when the profit sharing changes, the associated revenue and expenses likewise change. The capacity of banks to manage their productive assets so that they can produce a margin or return is strongly tied to the ratio of operating margin (Rahardja et al., 2020).

According to earlier studies, the operating margin demonstrates the company's capacity to produce profits sufficient to offset fixed expenditures or other operating expenses. The cost of goods sold has a big impact on operating margin. The OPM will decline as the cost of items sold rises (Mahdi & Khaddafi, 2020). Operating margin may also be used to determine if a company's production or sales operating expenses are excessively high or low in comparison to those of other businesses operating in the same sector. Management might adopt a lower price approach to gain market share if the firm has a better operational profit margin than its rivals. A previous study by Husnadi et al., (2022) revealed that the shareholder welfare ratio (ROE) was significantly impacted by the operating margin ratio. Moreover, the ability of productive assets to produce net income is gauged by the ratio known as the operating margin. The company manages its productive assets more effectively with a higher operating ratio and boosted business to success. Therefore, the present study proposes the following hypothesis (H2):

H2: There is a significant relationship between the operating margin and the profitability performance of Malaysian agriculture companies.

2.4 Asset Turnover

Numerous research has stated that asset turnover is a measurement of how well a company utilizes its assets to produce sales (Rajagukguk & Siagian, 2021; Purba et al., 2020; Efendi et al., 2018). The total asset turnover ratio evaluates a company's performance in utilising its assets to generate revenue. Moreover, the assets turnover ratio also calculates how effectively investments are managed in each particular asset item. A greater ratio indicates that the business can manage its resources to bring in money and increase profits. A similar study by Maharani and Ekadjaja (2023) also highlighted this ratio's value can be interpreted as a measure of how well a company uses its assets to produce overall net sales. When a corporation uses its resources wisely by increasing net sales, it shows that its financial performance is strengthening.

Moreover, Sunjoko (2016) indicated that the asset turnover activity ratio is the most useful one. Asset turnover is a ratio that demonstrates overall asset turnover as determined by sales volume, or, put another way, how much revenue can be generated by all assets. This ratio can demonstrate how well a business uses its resources to produce profits. A corporation will have a greater asset turnover ratio if it can generate revenues utilizing assets as little as possible. Hence, the present study proposes the following hypothesis (H3):

H3: There is a significant relationship between asset turnover and the profitability performance of Malaysian agriculture companies.

3. Methodology

3.1 Research Framework

The effect is a response or behaviour that is influenced by the independent variable. The primary problem or issue that researchers hope to examine in the study is referred to as the dependent variable. The inclusion of a dependent variable aids in the smooth operation of the evaluating process. Profitability (ROE) has been recognized by researchers as the primary metric for assessing agricultural firms' financial success. For this study, three independent variables are classified as related to the chosen dependent variables which are Return on Asset (ROA), Operating Margin (OM) and Asset Turnover (ATO) in the agriculture sector.

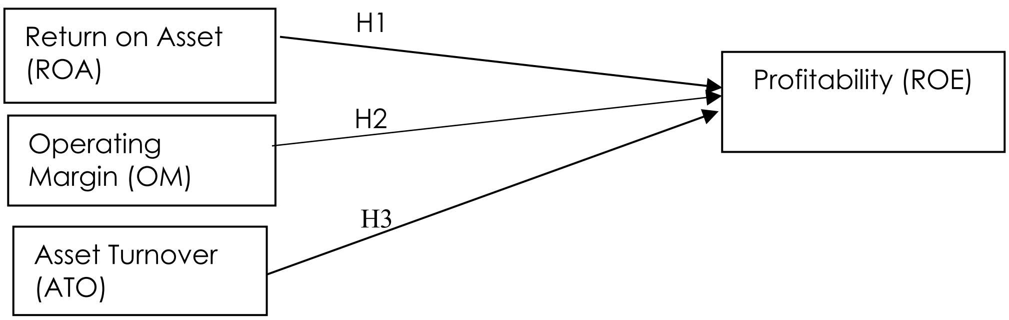

Figure 1. Research Framework Showing the Relationship Between Return on Asset (ROA), Operating Margin (OM), and Asset Turnover (ATO) with Profitability

3.2 Data and Sampling Method

This study is conducted to learn more about the effects of independent variables. For the previous five years, from 2017 to 2021, 5 years of observation were collected to explore the factors that influence agricultural profitability in various locations in Malaysia. The emphasis of this study is on farming companies that are listed on Bursa Malaysia. Bahvest Resources Bhd, CAB Cakaran Corporation Bhd, Sinmah Capital Bhd, Lay Hong Bhd, PWF Corporation Bhd, QL Resources Bhd, Sunzen Biotech Bhd, Leong Hup International Bhd, LTKM Bhd, and Teo Seng Capital Bhd are the ten farming companies that are the focus of this study. In this study, profitability proxy by Return on Equity (ROE) is the dependent variable which analysis measures by Return on Asset (ROA), Operating Margin (OM) and Asset Turnover (ATO) are the independent variables. In general, there are three options for gathering data, including secondary data from Thomson Reuters Eikon to obtain financial information on ten businesses listed on Bursa Malaysia. The results were then generated using Software for Statistics and Data Science (STATA), a multipurpose statistical software program created by StataCorp for data processing, visualization, statistics, and automated reporting. The researcher then used data from articles in databases including Emerald, ResearchGate, and Science Direct to do more research on this topic. Descriptive statistics, panel specification tests (F-Test, BP-LM Test, Hausman Test), diagnostic tests (multicollinearity, serial correlation, heteroskedasticity), and panel regression were all used in this study's panel data analysis.

3.3 Regression Model

To confirm the hypotheses of the study, the empirical analysis carried out is based on the regression model as shown in Equation (1).

$$ROEit = \beta0 + \beta1ROAit + \beta2OMit + \beta_3ATOit + \varepsilon it$$

Where,
ROEit = Return on Equity
ATOit = Asset Turnover
ROAit = Return on Asset
Omit = Operating Margin
Bi = Coefficients (i = 1,2,3)
ε = Error Term Measurement of Variable

3.4 Measurement of Variables

In terms of variable measurement, the study used profitability as the dependent variable. The three independent variables are Return on Asset (ROA), Operating Margin (OM) and Asset Turnover (ATO). Table 1 shows the measurements and variables used in this study.

Table 1
Variables Measurement

Variables	Measurement
Dependent Variable:	
Profitability proxy by	
Return on Asset (ROE)	Net Income After Tax / Total Equity
Independent Variables:	
Return on Asset (ROA)	Net Income / Total Asset
Operating Margin (OM)	Operating Income / Revenue
Asset Turnover (ATO)	Net Sales / Average Total Asset

4. Result and Discussion

The findings regarding the performance and profitability of the Malaysian agriculture sector are covered in this part. The hypotheses were explained after the process of deriving the results from the findings. A significant connection between the independent variables (Return on Asset, Operating Margin, and Asset Turnover) is sought in the objective-based hypothesis. It might influence the profitability of the company, which is the dependent variable. Pearson correlation and multiple regression were used to determine the most significant relationships.

4.1 Descriptive Analysis

The descriptive statistic for the firm-specific factors influencing the profitability of farms in Malaysia is shown in Table 2. In this study, a total of 50 observations were used. OM has the greatest mean at 4.692, followed by ATO at 0.9512 and ROE at 0.6698. ROA has the lowest mean at -0.4022. OPM has the largest standard deviation value (23.98502), followed by ROE (16.42508) and ROA (11.53952). ATO has the lowest standard deviation statistics at 0.47189. ATO displays the highest minimum and greatest maximum values. OPM displays the greatest maximum value, and ROE has the lowest minimum value (85.7).

Table 2
Descriptive Analysis for Firm-Specific Factors Affecting Farms' Profitability

Variable	Obs	Mean	Std. Dev.	Min	Max
ROE	50	.670	16.425	-85.7	20.1
ROA	50	-.402	11.540	-69.5	10.6
OM	50	4.692	23.990	-67.7	141.3
ATO	50	.951	.472	.1	2.7

ROE: Return on Equity, ROA: Return on Asset, OM: Operating Margin, ATO: Asset Turnover

4.2 Correlation Analysis

The findings of the study's correlation analysis for the independent and dependent variables are shown in Table 3. The table shows that Return on Asset, which is 0.9718, has the largest positive correlation with Return on Equity, followed by Operating Margin, which is 0.3503, and Asset Turnover, which is 0.2059. Everything relates positively to Return on Equity. Return On Asset is the main factor affecting a farm's profitability. More leverage will result in better future returns.

Table 3
Correlation Analysis for Firm Specific Factors Affecting Farms' Profitability

	Return On Equity	Asset Turnover	Return On Asset	Operating Margin
Return On Equity	1.0000			
Asset Turnover	0.2059	1.0000		
	0.1514			
Return On Asset	0.9718	0.1699	1.0000	
	0.0000	0.2381		
Operating Margin	0.3503	-0.1278	0.3474	1.0000
	0.0126	0.3764	0.0134	

4.3 Estimation Result

Table 4 presents the regression results for three independent factors on the profitability of the agricultural business using Random-effects GLS regression with the cluster option, followed by the regression model for the variables. The results showed that while asset turnover and operating margin are not related to profitability, return on asset, and return on equity do have a statistically significant relationship. A unit increase in asset turnover will increase the return on equity by 1.62 units, a unit increase in return on asset will increase the return on equity by 1.36 units, and a unit increase in operating margin will increase the return on equity by 0.02 units. In addition, all of the variables showed asset turnover, return on asset, and operating margin have positive relationships with profitability.

$$\mathbf{ROEit = (-0.41) + 1.62\ ATOit + 1.36\ ROAit + 0.02\ OMit + eit}$$

Table 4
Regression Analysis

	Fixed-Effect (Within) Regression with Cluster Option
Asset Turnover	1.62
	-1.18
Return on Asset	1.36***
	-11.92
Operating Margin	0.02
	-0.86
Constant	-0.41
	(-0.31)
N	50.00
r2	
r2_a	
r2_w	0.95
r2_b	0.96
r2_o	0.95
F	
p	0.00
chi2	1618.63

(Notes: t statistics in parentheses *significant at 10% level, **significant at 5% level***significant at 1% level)

4.4 Panel Specification Test

To choose the best model for this study, Panel Specification Tests were undertaken. The F-Test, BP-LM Test, and Hausman Test were the three tests that were run. An F-test is used to compare Fixed Effect (FE) with Pooled Ordinary Less Square (POLS). The F-Test result, which is less than 0.05 based on Table 5, is 0.0801. This suggests that POLS is a more suitable model than the Fixed Effect Model. To determine if POLS and Random Effect are significant, the BPLM test is next performed. The result of the BP-LM test is 1.0000, which is more than 0.05. This suggests that POLS is a better fit for this study than the Random Effect model. To compare the Fixed Effect model to the Random Effect model, Hausman tests were used. The outcome displays a p-value of 0.0074, which is lower than 0.05. Fixed Effect (FE) is hence the model that is most suited.

Table 5
Panel Specification Test for Ten (10) Agriculture Companies in Malaysia

Model	F-Test	BP-LM Test	Hausman Test	Technique
Model 1	0.0801	1.0000	0.0074	POLS
	POLS	POLS	FE	

Diagnostic Test

Three distinct tests which are Multicollinearity, Heteroscedasticity, and Serial Correlation were used in diagnostic tests to examine the issue in this study. Multicollinearity is used to investigate the correlation between independent variables. According to Table 6, this study has no multicollinearity issues because its Variance Inflation Factor (VIF) is 1.15, which is less than 10. Heteroscedasticity testing is then done to ensure that the data are consistent. The variance is not constant because of the heteroscedasticity issue. The p-value is 0.000, which is lower than 0.05. The autocorrelation issue can be verified using serial correlation. There is no serial correlation issue in this study, according to the result's p-value of 0.7715, which is greater than 0.05. Fixed-effects (inside) regression is presented as a solution to the heteroscedasticity issue.

Table 6
Diagnostic Test for Ten (10) Agriculture Companies in Malaysia

Model	Multicollinearity	Heteroskedasticity	Serial Correlation
Model 1	1.15	0.0000	0.7715
	No multicollinearity problem	Heteroskedasticity problem exist	No serial correlation problem

5. Discussion

The results show that Return on Equity (ROE) and Return on Asset (ROA) have a considerable positive relationship, as indicated by the positive coefficient of return on equity. Utilizing ROA has the advantage of avoiding the issues associated with comparing farm operations of various sizes. Because it would be very hard to make direct comparisons with others, return on assets is a better indicator of farming profitability (Detre et al., 2011). The importance of return on asset and return on equity in assessing a company's profitability cannot be overstated. According to this study and other studies, return on assets is the main factor affecting profitability. This study suggests that for the company to be more profitable, the return on assets like assets has to be raised.

Asset turnover and return on assets have a positive relationship, but there is no discernible relationship, according to the findings. Profit margin evaluates the farm's capacity to control expenses associated with generating revenues, whereas asset turnover reflects the farming company's ability to create revenues from assets. The farming business plan contributes to the degree of asset turnover (Wolf et al., 2020). The results show that operating margin also has a positive relationship, but there is no discernible relationship. Given the anticipated impact of productivity, or sales, on profitability as well as the necessity to manage assets in a farming sector, the research presented here evaluated profitability using operating margin to measure total financial success (Vanhuyse et al., 2020).

Despite the fact that return on assets is positively correlated with profitability, and as indicated by the positive coefficient of return on equity, farming companies should manage their financial situation. An appropriate return on asset indication is heavily influenced by sales revenues, overall operating expenses, and a company's asset structure (Avlokulov & Akhunjonov, 2018). Operating margin and asset turnover are positively correlated with profitability but there is no discernible relationship with return on equity. Profitability is significantly impacted by asset turnover. Profitability is positively impacted by the model feasibility analysis results. The study's findings imply a considerable impact of asset structure on financial performance (Nurlaela et al., 2019). For further research, it is best to study a broader set of variables that determine farming's profitability.

6. Conclusion

In conclusion, the primary goal of this research is to identify the variables that affected corporate profitability in the agriculture sector from 2017 to 2021. This study is being conducted to look at the factors that affect agriculture sector profitability. The results suggest that the study may have achieved its objective, and the literature review is consistent with this. Additionally, there is proof that the dependent and independent variables are strongly and quantitatively connected. Return on equity served as the research's proxy for the factor that determines profitability. In addition, we used the information we gathered to assess the chosen factors that determine profitability in the farming industry, including return on assets, operating margin, and asset turnover. The purpose of this study is to determine whether or not farming industry profitability is important. As a result, the data suggest that profitability and the farming sector are significantly related.

Moreover, considering that farms are becoming increasingly important for growth in both farming and the agricultural industry, this research gives useful information to associated parties and farming operations in structuring operations and creating profit. Furthermore, these results show that in order to help agriculture adjust to both internal and external economic shifts, the government should offer sufficient funding and incentive programmes that affect agriculture's productivity, methods, and financial management. In addition, the extra incentives offered by the private sector in the agriculture sector have the potential to enhance the human capital and skilled labour force, particularly in rural regions. Last but not least, in order to guarantee sustained production for food security and safety, the agricultural sector's expansion is thus able to support the Malaysian National Agro-Food Policy 2021-2030 (NAP 2.0) and effectively handle the difficulties in both domestic and global markets.

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Conflict of Interest
No conflict of interest is associated with this publication.

References

Abdullah, F. A. ., Zamzuri Noor, M. S. ., & Sidek, S. (2023). The differences of farm financial performance in innovation adoption in beef cattle farming: A study in Peninsular Malaysia . Journal of Tropical Resources and Sustainable Science, 11(1), 1–4.

Abdullah, F. A., & Samah, B. A. (2013). Factors impinging farmers' use of agriculture technology. Asian Social Science, 9(3), 120.

Anton, Lorensa, S., Purnama, I., Eddy, P., & Andi. (2023). Net Profit Margin, Earnings per Share, Return on Asset, Debt Equity Ratio, and Current Ratio on Firm Value in Agricultural Sector Companies Listed on Indonesia Stock Exchange 2016-2021. Journal of Applied Business and Technology, 4(2), 155-167.

Avlokulov, A. (2018). Return on assets and financial soundness analysis: case study of grain industry companies in Uzbekistan. International Journal of Management Science and Business Administration, 4(6), 52-56.

Azis, M. I., Rohansyah, M., Muthalib, D. A., & Rosikah. (2018). Effects of Return on Asset, Return on Equity, Earning Per Share on Corporate Value.

Rosikah, Prananingrum, D.K.,Azis Muthalib, D., Azis, M.I., & Rohansyah, M. (2018). Effects of Return on Asset, Return On Equity, Earning Per Share on Corporate Value The International Journal of Engineering and Science (IJES), 7(3), 06-14

Detre, J. D., Uematsu, H., & Mishra, A. K. (2011). The influence of GM crop adoption on the profitability of farms operated by young and beginning farmers. Agricultural Finance Review, 71(1), 41–61.

Efendi, A., Putri, L. P., & Dungga, S. (2019, August). The effect of debt to equity ratio and total asset turnover on return on equity in automotive companies and components in Indonesia. In 3rd International Conference on Accounting, Management and Economics 2018 (ICAME 2018), 182-188. Atlantis Press.

Gaviglio, A., Filippini, R., Madau, F. A., Marescotti, M. E., & Demartini, E. (2021). Technical efficiency and productivity of farms: a periurban case study analysis. Agricultural and Food Economics, 9(1), 18.

Goedde, L., Katz, J., Ménard, A., & Revellat, J. (2020). Agriculture's connected future: How technology can yield new growth. McKinsey and Company.

Heikal, M. K. (2014). Influence Analysis of Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM), Debt To Equity Ratio (DER), and current ratio (CR), Against Corporate Profit Growth In Automotive In Indonesia Stock Exchange. 14.

Husnadi, T. C., Marianti, T., & Ramadhan, T. (2022). Determination of shareholders' welfare with financing quality as a moderating variable. APTISI Transactions on Management (ATM), 6(2), 191–208.

Herchenbach, J. S., Briggeman, B. C., Bergtold, J. S., Shanoyan, A., Low, S. A., & Miller, B. (2023). A qualitative assessment of farmer director skills in agricultural cooperatives. International Food and Agribusiness Management Review, 1-18.

Ibendahl, G. (2018). Comparing the Financial Ratios ROA and ROE. Kansas State University Department of Agricultural Economics, 3-6.

Kusnandar, K., Setyowati, N., & Rahayu, W. (2023). Strategic Orientations to Strengthen Policymaking: Study of Small-Scale Cassava-Based Agroindustry in Central Java, Indonesia. AGRARIS: Journal of Agribusiness and Rural Development Research, 9(1), 113-128.

Mahdi, M., & Khaddafi, M. (2020). The influence of gross profit margin, operating profit margin and net profit margin on the stock price of consumer good industry in the Indonesia stock exchange on 2012-2014. International Journal of Business, Economics, and Social Development, 1(3), 153-163.

Maharani, D. E. N., & Ekadjaja, A. (2023). The Effect of Financial Ratios and Company Size on Company Financial Performance. International Journal of Application on Economics and Business, 1(1), 374-381.

Nurlaela, S., Mursito, B., Kustiyah, E., Istiqomah, I., & Hartono, S. (2019). Asset turnover, capital structure and financial performance consumption industry company in indonesia stock exchange. International Journal of Economics and Financial Issues, 9(3), 297.

Purba, M. N., Sinurat, E. K. B., Djailani, A., & Farera, W. (2020). The Effect of Current Ratio, Return on Assets, Total Asset Turnover and Sales Growth on Capital Structure in Manufacturing Company. International Journal of Social Science and Business, 4(3), 489-500.

Purba, D. A., Irawati, N., & Fachrudin, K. A. (2023, February). The Effect of Financial Ratio on Stock Price in Agricultural Companies on The Indonesia Stock Exchange 2017-2020 Period. In Proceeding Medan International Conference on Economic and Business, 1, 412-418.

Purba, M. N., Sinurat, E. K. B., Djailani, A., & Farera, W. (2020). The Effect of Current Ratio, Return on Assets, Total Asset Turnover and Sales Growth on Capital Structure in Manufacturing Company. International Journal of Social Science and Business, 4(3), 489-500.

Rahardja, U., Handayani, I., Lutfiani, N., & Oganda, F. P. (2020). An Interactive Content Media on Information System iLearning+. IJCCS (Indonesian Journal of Computing and Cybernetics Systems), 14(1), 57-68.

Rajagukguk, J., & Siagian, H. (2021). The effect of liquidity and total asset turnover on profitability: Research study n pharmaceutical companies in indonesia stock exchange. Ekonomis: Journal of Economics and Business, 5(2), 444-448.

Said, M. I. (2022). The role of the livestock farming industry in supporting the global agricultural industry. Agricultural Development in Asia-Potential Use of Nano-Materials and Nano-Technology, 1, 13.

Sunarya, P. A., & Lutfiani, N. (2020). Analisis Sistem Sertifikasi Profesi Untuk Pengembangan Kompetensi Mahasiswa. ADI Bisnis Digital Interdisiplin Jurnal, 1(1), 70-77.

Sunjoko, M. I., & Arilyn, E. J. (2016). Effects of inventory turnover, total asset turnover, fixed asset turnover, current ratio and average collection period on profitability. Jurnal Bisnis dan Akuntansi, 18(1), 79-83.

Vanhuyse, F., Bailey, A., & Tranter, R. (2020). Management practices and the financial performance of farms. Agricultural Finance Review, 81(3), 415–429.

Vlasic, G. (2023). Comparative analysis of the role of strategic orientation, strategic performance metric focus and strategic audacity in driving firm performance: family businesses vs nonfamily businesses. Journal of Family Business Management, 13(1), 7–25.

Wolf, C. A., Black, J. R., & Stephenson, M. W. (2020). Benchmarking upper midwest dairy farm profitability. *Agricultural Finance Review*, *80*(5), 733–744.

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DEVELOPING TRANSFORMATION MODULES FOR YOUNG INMATES IN MALAYSIAN PRISON SCHOOLS

Storey, J. M[1]* & Jawing, E[2],

[1&2] Centre for the Promotion of Knowledge and Language Learning, Universiti Malaysia Sabah, Kota Kinabalu, MALAYSIA

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Corresponding Author:
storey61@ums.edu.my

ABSTRACT

Education is a pivotal aspect of correctional programs in prison institutions, aiming to equip inmates with the essential skills and knowledge needed for successful reintegration into society post-release. However, concerns arise regarding the educational experiences of young inmates serving short-term sentences, typically less than one year. This case study addresses these concerns by developing supplementary modules specifically designed for young inmates in a selected prison school. Following the ADDIE framework, the study progressed through three phases. The needs analysis phase, conducted from July 2021 to August 2021, identified the specific requirements of six teachers working in the prison school. This ensured that the modules aligned with the educators' and young inmates' needs and challenges. During the design and development phase, from January 2022 to March 2022, experts provided feedback on the overall module design, content, and activities, refining them for effectiveness. The implementation phase occurred from April 2022 to September 2022, involving 57 students and 4 teachers in the selected prison school. Interviews and observations were conducted to gather data on the students' experiences with the modules. The analysis revealed positive outcomes: students expressed enjoyment, indicating their engagement and interest in the modules. This study has significant implications for the pedagogical approach in prison schools. By showcasing the success and effectiveness of the supplementary modules, it provides insights and guidance for planning fluid and organic teaching and learning activities in similar settings. The findings contribute to ongoing efforts to enhance educational opportunities for young inmates, promoting their successful reintegration into society upon release.

1. Introduction

1.1 Young offenders in Malaysian Prisons

From a legal perspective, Malaysian citizens bears criminal responsibility from the age of 10. However, they are not likely to be detained in prison or approved school (e.g., Henry Gurney) unless they have reached the age of 14 years or above. It is at this age that they are considered juveniles rather than children. The Prison Department of Malaysia categorizes those between 14 and 21 years as juveniles. This paper focuses specifically on this juvenile population and addresses the potential disruption to their education resulting from incarceration.

Approximately 70,000 inmates were detained in Malaysian prisons in 2021(World Prison Brief: Malaysia, 2023), of which less than 5% were children / juveniles. Of the total 3457 detainees, 3147 (91%) were first time offenders, while only 310 (9%) were classified as repeat offenders (Department of Statistics, Malaysia, 2023). It is thus clear that a very high proportion of young offenders detained are new to the prison system and are likely to have been convicted of non-capital offences, such as drug taking or house breaking. Since the Malaysian courts are renowned for passing lenient sentences on children / juveniles, particularly those who are first time offenders, it is reasonable to assume - in the absence of specific statistics on types of crimes committed by juveniles and average sentence lengths - that a high proportion of young inmates are serving sentences which can be measured in months rather than years (citation). The causes of juvenile crime are varied with poverty being a primary factor, along with mental health issues, and associations which might lead to criminal behaviour.

2. Literature Review

2.1 The Role of the Malaysian Prisons Department in Rehabilitation

The issue of the incarceration of children and juveniles is not without controversy. Some believe that custodial sentences are too harsh and may cause lasting psychological damage to young minds, whereas others maintain that drastic measures are needed to stem the tide of crime and reduce recidivism. Regardless of ethical and other considerations, the fact remains that thousands of juveniles are serving prison time each year. Each of these young inmates is entitled according to international law to receive education while incarcerated. In line with this decree, the Malaysian Prisons Department makes it possible for young inmates to continue with their formal school education (e.g., PMR / SPM examination courses), and to undertake a four-part rehabilitation programme designed to prepare them for re-integration into society.

In 2002, the Malaysian Prisons Department launched a rehabilitation programme known as the Human Development Plan (PPI) based largely on holistic principles. As well as providing academic study and vocational skills courses, the programme addresses the inmates' physical, mental, and spiritual needs. Organised sequentially, it begins by instilling basic discipline and respect for self and others, before going on to inculcate the work/life skills and self-confidence needed to thrive on re-entry into mainstream society. Thus, character or identity building is the key aim of the programme. The phases are titled the Orientation Phase, the Consolidation Phase, the Skills Phase, and Pre-Independence phase. In the Orientation Phase (2 months), young inmates learn to master themselves and their daily conduct, while in the following phase, Consolidation (6-12 months), the focus is on character development through counseling and spiritual guidance. In the Skills Phase (6-12 months), inmates are able to choose from a number of validated courses which offer certification and the prospect of employment e.g., the Certified Skills Module, Vocation Module and Business Module. Finally, the Pre-Independence Phase (3 months) is specifically for those who have completed all the other phases and who have less than one year of their sentence remaining, it gives students the opportunity to slowly assimilate back into society through participation in local school and community events. According to UNICEF (2013), "Overall, by participating in these programmes, young people are afforded the opportunity to develop not only their competitive skills, but also to change their thinking, goals and values."

Despite the sincere and high ambitions of the PPI, the results of the programme have not been altogether successful. According to Sham and Selvaratnam (2018, cited in Rosli et al, 2021), marginalization of former inmates by family members, employers and society in general has resulted in a significant number of them remaining homeless and jobless for sustained periods after their release. Rosli (2019) states that approximately 90% of inmates released from Kajang Prison, Kuala Lumpur end up homeless, with only 5-10% being picked up by their families. Perhaps the devisers of the PPI have underestimated the difficulty in overcoming stigma and prejudice when trying to get inmates accepted back into society. Another issue is that if the parents and families of the young offenders do not participate in the rehabilitation process the outcome is more likely to be negative (Savatia, Simiyu, & Nabiswa, 2020).

2.2 The Role of Universities in Prison Education

While the Malaysian Prisons Department are endeavouring to provide transformational education for their inmates, Malaysian universities also have an important contribution to make. Higher education institutions are becoming ever more conscious of their civic responsibility and are launching outreach programmes designed to bring knowledge, training, and skills to the local community, of which the prison population is an often marginalised but equally important part. Such outreach programmes can offer benefits to the universities as well as the communities they serve, by enhancing their reputations as both knowledge and social welfare providers and cementing their significant role in community development. University programmes can be adapted for use in prison and can contribute to the rehabilitation of young offenders by helping them to attain the hard and soft skills that will enable them to become valued members of society on their return to civil life. Thus, such programmes have something to offer the wider community, as well as the young inmates who enroll in them.

3. Methodology

The researchers decided to use an adapted form of the ADDIE model devised in the 1970s (Bundrage & Mapson, 2022) to develop learning content for the proposed intensive course. The ADDIE model has five sequential phases, namely Analysis, Design, Development, Implementation, and Evaluation, but for the purposes of this study, these were amalgamated into three: (i) Needs Analysis, (ii) Design and Development, and (iii) Implementation and Evaluation. The benefits of the ADDIE model are that it helps identify the learning needs in a structured way and ensures all learning activities serve that goal, thus offering an integrated approach to learning.

Initially, six teachers, each with more than 10 years' experience of teaching in mainstream and prison schools were interviewed. They were asked about their experience of prison school education and more specifically about the aspects of the young inmates' education that could be improved. Their responses were very illuminating, and the main issues highlighted by them are summarised below.

The Government-endorsed courses taught in prison schools are usually of one year or more in duration. Therefore, young inmates serving minimal sentences of a few months are unable to complete them. Teaching and learning in prison schools is often interrupted because inmates are obligated to fulfil administrative or procedural requirements, such as attending enrolment sessions or probation hearings. Syllabuses are frequently based on the ones used in schools, and consequently they are not necessarily suited to the needs of those whose priority is to find employment on their release.

Thus, the main areas of contention for the interviewees were with regard to the unsuitability of the existing education courses as well as their duration. As has been established, with over 90% of the juveniles detained in Malaysian prisons being first-time offenders, the majority are likely to be serving short term sentences of less than one year. The PPI rehabilitation programme, depending on the skills certification options taken, is likely to take at least two years, while government school examination syllabuses, such as those for PMR (3 years) and SPM (2 years) are unsuitable both in terms of their length and much of their content. Therefore, in the current scenario there is little likelihood of young inmates serving short sentences graduating from prison school.

The psychological impact of not being able to receive recognition for successfully completing a course of education could be devastating particularly for those young people who have already experienced disappointment – academic or otherwise - and who perceive themselves as failures. This may further exacerbate existing feelings of hopelessness and contribute to low self-esteem and depressive illness. It has been well documented that mental health issues are a significant factor in criminal behaviour. Approximately 60% of male Malaysian prisoners aged 18 to 20 have mental health problems, and the prevalence of mental illness for prisoners is 2–4 times higher than the rate in the general population (Relate Malaysia, 2016). The association between institutionalisation and poor mental health has been long established. frequently leading to a loss of agency and self-worth. A substantial portion of the prison population may have committed crimes due to poor mental health and these issues are only likely to be compounded by incarceration. Such undesirable outcomes run contrary to the stated aims of the PPI namely, to imbue inmates with the self-belief and confidence needed to overcome any adversity or difficulty they might encounter on their return to civil life.

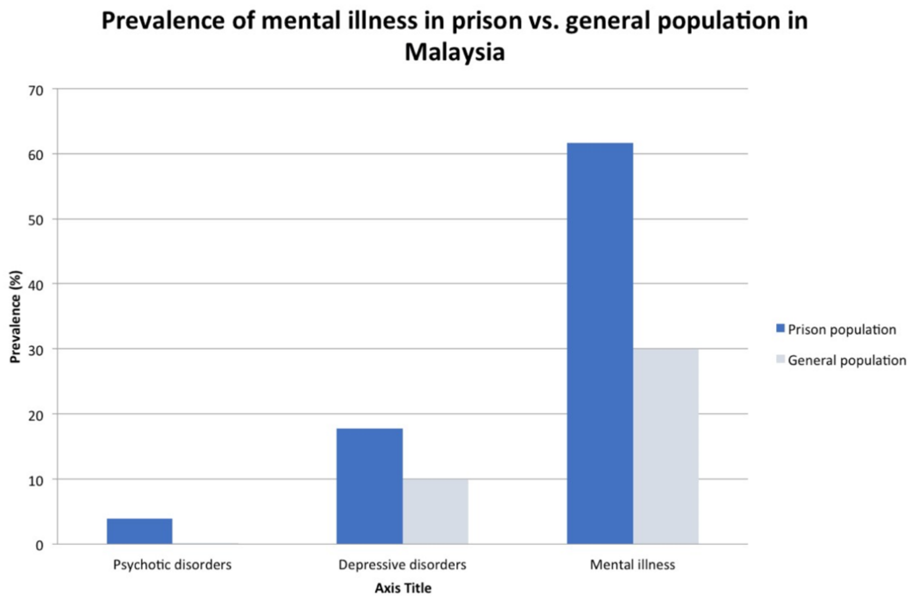


Figure 1: Bar chart showing prevalence of mental illness in prison vs. general population in Malaysia (Relate Malaysia, 2016)

Consequently, a need was identified for a new type of intensive course to complement the main rehabilitation programme, a course that teaches both practical and transferable skills, and which is designed to meet the needs of young inmates serving short sentences. After the interviews with the staff a list of key objectives was drawn up as follows:

1. To design a short, modular programme for young inmates that will give them the opportunity to satisfactorily complete a course of education and most importantly become certified, thereby boosting their self-esteem and confidence in their own abilities.

2. To design courses that fill gaps in the inmates' formal education resulting from interrupted and/or unfinished schooling and teach them a range of skills which will enable them to compete with others in the job market.

3. To design and develop a programme which will complement the aims of the prison rehabilitation programme to ensure that the inmates receive a well-rounded and comprehensive education by the time they leave prison.

3.1 Design and Development Phase

Evidently, many young inmates in correctional institutions or prisons suffer from poor mental health and low levels of self-esteem. Thus, it makes sense to employ the same humanistic and holistic principles – identity building and character reinforcement - that underpin the Human Development Plan in designing and developing intensive courses for juveniles. It is important for young inmates to realise that they have the capacity for change. This realisation is in itself empowering. By learning new life skills, inmates are able to take charge of their lives, to develop self-agency and to let go of habitual and self-destructive ways of thinking and behaving. By adopting new life strategies, young inmates have a greater chance of breaking out of the cycle of crime and punishment that results from recidivism. Hence an appropriate term for such a course would be transformation modules. One important lesson that inmates need to learn is that others have similar experiences, feelings, and dilemmas as they do. In other words, they need to develop empathy through meaningful interaction with their peers, they are more likely to be able to manage their own negative thoughts and impulses (citation: virtues of empathy in combating depression, low self-esteem). Interaction is therefore the cornerstone for change.

One programme that was intended to have a transformative effect on inmates was the Learning Together Programme devised by the University of Cambridge in 2014. The premise for the programme was that change can only occur in an authentic social setting where acceptable modes of behaviour can be observed and learned. According to Armstrong, Ludlow, Obsuth & Lamour (2020), inmates experience considerable stigma in and outside prison and this can seriously hinder rehabilitation. However, social interactions between inmates and others can help eradicate prejudice and foster personal transformation (p.40). Under the programme, inmates and University of Cambridge students on the same MPhil course attended lectures and discussion groups together for the duration of the course. Based on feedback from the participants, the researchers compiled a list of qualities or attributes that had been considerably enhanced during the programme namely, the ability to see things from the perspective of others; self-esteem; the ability to make friends; and the confidence in one's ability to achieve goals (Armstrong et al, 2020, p.41-2). From participant feedback, it was made clear that the Learning Together programme had precipitated changes in modes of thinking and significant improvement in levels of self-esteem.

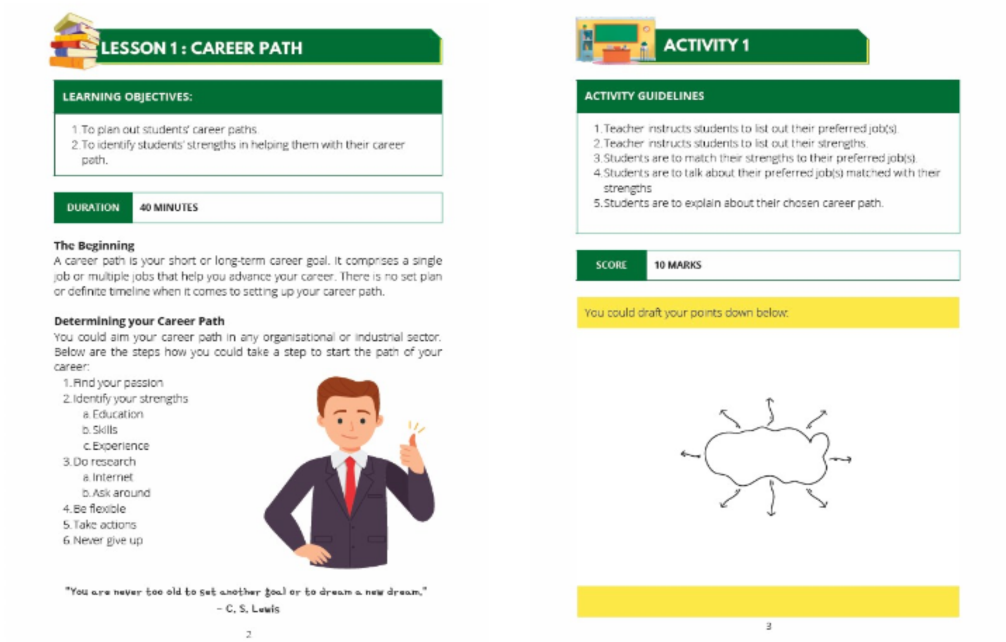
Another approach that could radically transform prison pedagogy is advanced within the African philosophical framework of Ubuntuism. According to this worldview, all things are interdependent: just as our mind, body and spirit are one, so our identities are forged through our relationships with others (whether living or departed), and our lives meaningless divorced from family, friends, and community. The philosophy is best summed up by the saying: "I am because of others" (cited in Chigangaidze, Matanga, & Katsuro, 2022). Thus, ubuntuism is a philosophical practice that is humanistic and which places great value on self-awareness, social responsibility, and compassion (Van Breda, 2019). Ubuntogogy is the educational system that derives its contents from the ubuntu philosophy: it preferences experience over book learning as a means of developing resilience against adversity, and acknowledges that students are more comfortable dealing with lesson tasks in their mother tongue or indigenous language rather than foreign languages, such as English (Omodan & Diko, 2021). Clearly, the emphasis on brotherly love and concern for others inherent in ubuntogogy has relevance to the lives of young inmates in Malaysian prisons. A prison community based on the principles of mutual care and concern is much more likely to be able to cope with the difficulties associated with incarceration.

A method of empowering students, which is in keeping with the ubunto philosophy is to develop learning kit programmes. Che Ghani et al (2019) used learning kits to help mechanical engineering students understand the concept of renewable wind energy (p.240). A learning kit typically contains instructional tools in the form of visual, text and audio resources, sometimes together with models, which can be utilised by groups of students to lesson content more easily through autonomous and self-directed learning. Using learning kits is an effective way to combat passivity and disinterest in the classroom through appealing to students' innate desire to explore and investigate a topic for themselves without the pressure of having to come up with a designated answer or a specific result (Nurhanim Saadah et al., 2013). Using such an approach may also be able to reduce self-consciousness, anxiety and stress.

After conducting the needs analysis and reviewing the literature, the researchers set about designing a short course for young inmates based on the principles of ubuntogogy and utilising the learning kits concept. One of the most important criteria was that the skills taught had to be of practical value to inmates on their release. Consequently, the following subjects were chosen for the pilot programme: Basic English-Speaking Skills, Job Hunting Skills and Employment Rights

Universiti Malaysia Sabah endorsed the course and agreed to issue certificates. A learning kit booklet was produced for each subject containing 10 lessons, of which only a core number is necessary for graduation. The lesson plans are essentially guidelines allowing for adaption, creativity, and individual learning in class to suit the needs of students of differing abilities and interests. Furthermore, lessons are standalone, i.e., comprehension is not dependent on knowledge taught earlier during the course. Each lesson is structured similarly containing a set of guidelines, instructions for a pair or group activity or task, a simple assessment rubric, and a section for reflection on what has been learnt. However, facilitators may modify lesson content as required by circumstances. Thus, the learning kits allow for a more open and organic approach to learning in keeping with ubunto philosophy.

One of the learning kit modules, Job Hunting Skills states that the anticipated learner outcomes are that students will be exposed to job-seeking skills and career exploration, document writing for job applications, and preparation for job interviews. The titles of the 10 lessons that make up the module indicate the practical bias of the course: Career Path; Job-Hunting Skills; Social Network Account; Email; Resume; Cover Letter; Interview Types; Interview Preparation; Interview Questions; and Interview Etiquette.


LESSON 1 : CAREER PATH

LEARNING OBJECTIVES:

1. To plan out students' career paths.
2. To identify students' strengths in helping them with their career path.

DURATION	40 MINUTES

The Beginning
A career path is your short or long-term career goal. It comprises a single job or multiple jobs that help you advance your career. There is no set plan or definite timeline when it comes to setting up your career path.

Determining your Career Path
You could aim your career path in any organisational or industrial sector. Below are the steps how you could take a step to start the path of your career:

1. Find your passion
2. Identify your strengths
   a. Education
   b. Skills
   c. Experience
3. Do research
   a. Internet
   b. Ask around
4. Be flexible
5. Take actions
6. Never give up

"You are never too old to set another goal or to dream a new dream."
– C. S. Lewis

2

ACTIVITY 1

ACTIVITY GUIDELINES

1. Teacher instructs students to list out their preferred job(s).
2. Teacher instructs students to list out their strengths.
3. Students are to match their strengths to their preferred job(s).
4. Students are to talk about their preferred job(s) matched with their strengths
5. Students are to explain about their chosen career path.

SCORE	10 MARKS

You could draft your points down below:

3

Figure. 2: Pages from Lesson 1 (Career Path) of the Job-Hunting Skills Learning Kit.

3.2 Implementation and Evaluation Phase

On being approached by the UMS research team, the Malaysian Prisons Department agreed to enter into a collaboration aimed at furthering their aims of rehabilitating and reintegrating young offenders so that they can contribute to society (Malaysian Prison Department, 2021). They consented to allow a pilot teaching and learning programme - known hereafter as the Scholars Project and based on the learning kit modules - to be run at Kepayan Prison, Kota Kinabalu from April to September 2022. A total of 57 students within the prison school system aged between 16 and 20 years participated in the programme with educational attainment levels ranging from Primary 3 to SPM/Diploma. The largest groupings were of those who had reached Primary 6 (20 students) and Form 3 (19 students). All of the students were serving sentences of less than one year or were on remand. The three learning kit modules – Basic English-Speaking Skills, Job Hunting Skills, and Employment Rights - were conducted via one-hour weekly lessons at the prison library.

A mixed method impact assessment was conducted to determine whether this socially innovative programme had managed to transform the lives of the participants in terms of their knowledge, skills, attitudes, and ambitions. Quantitative data collected included information about educational history and sentencing duration, while qualitative data were obtained through interviews and surveys, whereby inmates were encouraged to recount their personal experiences of education in a prison school. Data were collected before and after the project implementation in 3 phases: Phase 1 (4 April -12 May); Phase 2 (18 July - 29 July); and Phase 3 (19 September - 6 October). The same questionnaire was distributed to the participants after each phase to assess the impact pre- and post-test. Responses were given to the following questions via a five-point scale ranging from very high to very low:

1. To what extent have you gained knowledge through this project?
2. To what extent has the knowledge you gained benefitted you?
3. To what extent has the knowledge you gained through this project added to your skills?
4. To what extent would you like to continue with this project?
5. To what extent would you like to build on the knowledge gained through this project by going to the next level of study?

4. Results

In Phase 1 (4 April-12 May), the pre-test revealed that all 12 respondents had a low level of knowledge prior to participating in the Scholars Project. However, there was a significant change in the impact post-test: after six lessons, the responses to the questions were mostly 'very high' or 'high.' In the accompanying interviews, the students expressed their desire to run the project again saying that it should be extended in length so that they could further hone their skills. Likewise, in Phase 2 (18 July – 29 July) 100% of the 22 respondents stated that they had a low level of knowledge before entering the course in response to items 1,2, 4 & 5. Post-test, after 7 lessons, there was again a significant change in the impact: all the students chose 'very high' as their response to the questions. It was evident that they had benefited significantly from the knowledge gained and they showed both the inclination to continue with the Scholars Project and to take part in similar future projects. Finally, in Phase 3 (19 September – 6 October), the 23 respondents expressed either a moderate (87%) or low (13%) level of knowledge about the project prior to undertaking it. However, their responses to items 4 and 5 showed encouraging commitment to the project with 19 students selecting 'very high' for the former, and 18 students selecting 'very high' for the latter. After 7 lessons, the post-test impact level was once again greatly altered with all the respondents selecting 'high' or 'very high' for each item.

5. Discussion

Overall, the interview sessions revealed that that the majority of the inmates were committed to improving themselves in terms of academic development and personal growth. The key issues that emerged during the discussions were the lack of financial resources, social stigma and the limitations imposed by prison life. Despite these challenges, the young inmates expressed their determination to improve their situation and this was demonstrated in their positive attitude towards the Scholars Project. Significantly, the students affirmed that the project had changed their perception of education for the better, and they now viewed learning as a vehicle for personal growth and development and acceptance back into society. They now looked to the future with more optimism. Various studies have indicated that extra-curricular educational programmes can restrict students' involvement in crime and improve their academic performance, and these are the aims of the Scholars Project as it seeks to transform the lives of young offenders though rehabilitation.

6. Conclusion

This study has shown that modular courses, such as the Scholars Project have the capacity to rejuvenate the lives of young inmates serving short sentences in Malaysian prisons. They are empowered by the realisation that these continuing education programmes can imbue them not only with practical work and life skills, but also importantly the confidence and self-belief that they will need to thrive on leaving prison and resuming life in mainstream society. The demand for such courses is clear: the current Ministry of Education syllabuses do not cater for the needs of those serving short sentences as they are based on the standard academic year. Consequently, there is demand for flexible and adaptable courses that can both complement the longer courses and offer a road to academic fulfilment for those whose stay in prison is fleeting (although still potentially devastating). Such programmes offer hope not only for the betterment of young offenders but also for the betterment of society as a whole.

Inevitably, this study has some limitations: the sample size was small for the implementation and evaluation phase. Furthermore, the participants in the study were all male. Clearly, the project needs to be replicated among a broader population that includes female and non-binary genders. Research into other aspects of young offenders' cognition and behaviour promises to yield fascinating results. Until then, the future looks bright due to the development of a new type of educational programme that offers hope and opportunity to young offenders serving minimal sentences in Malaysian prison schools.

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Authors Contributions

The authors contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

Conflict of Interest

There is no conflict of interest associated with this publication.

References

Armstrong, R., Ludlow, A., Obsuth, I., & Larmour, S. (2020). 'The learning happens in the interaction': exploring the 'magic' of the interpersonal in Learning Together. Prison Service Journal, 250, 37-61.

Baharuddin, A., Yusof, M., Akhtar, S., Nik Jaafar, N. R., & Zakaria, H. (2010). Psychiatric disorders among young male adult prisoners: a cross sectional study in a Malaysian prison. Malaysian Journal of Medicine and Health Sciences, 6(2), 65-70.

Bundrage, C. & Mapson, K. (2022). Design and Development of an Online Professional Development Course on Culturally Responsive Pedagogy Using the ADDIE Model. In E. Langran (Ed.), Proceedings of Society for Information Technology & Teacher Education International Conference (pp. 299-307). San Diego, CA, United States: Association for the Advancement of Computing in Education (AACE). https://www.learntechlib.org/primary/p/220742/.

Che Ghani Che Kob, A. Shah, Halimaton Shamsuddin & Noor Aida Aslinda Norizan (2019). The Effect of using Learning Kit Material among Students. International Journal of Recent Technology and Engineering (IJRTE), 7(6S2), 2277-3878.

Department of Statistics, Malaysia (2023). Children Statistics, Malaysia, 2022. https://www.dosm.gov.my

Chigangaidze, R. K., Matanga, A. A., & Katsuro, T. R. (2022). Ubuntu Philosophy as a Humanistic–Existential Framework for the Fight Against the COVID-19 Pandemic. Journal of Humanistic Psychology, 62(3), 319–333. https://doi.org/10.1177/00221678211044554

Nurhanim Saadah Abdullah, Ramlan Zainal Abidin, & Suhaimi Mohamad. (2013). Kesan penggunaan kit pengajaran bersepadu magnetik-PLC (Programmable Logic Controller) terhadap kefahaman konsep asa kawalan magnet dan PLC. Journal of Chemical Information and Modeling, 53(9), 1689–1699.

Omodan, B. I. & Diko, N. (2021). A Conceptualisation of Ubuntugogy as a Decolonial Pedagogy in Africa. Journal of Culture and Values in Education, 4(2), 95-104. https://doi.org/10.46303/jcve.2021.8

Relate Malaysia. (2016, November 25). Mental Health in Prison: Malaysia.https://relate.com.my/mental-health-in-prison/

Rosli, F. A. (2019). Berita Harian. https://www.bharian.com.my/rencana/komentar/2019/06/572561/peluang-kedua-elak-bekas-banduan-tersisih

Rosli, M. R. B. M., Anuar, M. A. M., & Hamzah, S. R. (2021). Exploring Prison Rehabilitation Programs and the Factors That Contributed to Former Prisoners' Career Success. International Journal of Academic Research in Business and Social Sciences, 11(12), 1709–1731.

Savatia, B A., Simiyu, R. N., & Nabiswa, J. (2020). Effectiveness of Rehabilitation Programmes in Management of Juvenile Delinquency within Penal Institutions in Kakamega County, Kenya. International Journal of Multidisciplinary and Current Research, 8 (Sept/Oct), 721-729.

UNICEF. (2013). The Malaysian Juvenile Justice System: as study of mechanism for handling children in conflict with the law. http://www.unicef.org/malaysia/The_Msian_Juvenile_Justice_System_Nov_13_R2.pdf

Van Breda A. (2019). Developing the notion of Ubuntu as African theory for social work practice. Social Work/Maatskaplike Werk, 55(4), 439-450. https://doi.org/10.15270/55-4-762

World Prisons Brief (2023). Malaysia. https://www.prisonstudies.org/country/malaysia

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LEARNERS' LANGUAGE ANXIETY AND ENGLISH LANGUAGE LEARNING MOTIVATION: AN EXPLORATORY ANALYSIS

Nurshahirah Azman[1]*, Mirza Madihah Zainal[2], Noor Fazzrienee JZ Nun Ramlan[1] & Amirah Athirah Amir Yazid[1]

*[1] Academy of Language Studies
Universiti Teknologi MARA (UiTM), Seri Iskandar, Perak, MALAYSIA*

[2] The International School of Penang (UPLANDS), Pulau Pinang, MALAYSIA

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Corresponding Author:
nurshahirah@uitm.edu.my

ABSTRACT

Language anxiety is an ongoing concern for ESL instructors and educators, impacting students' performance in English language classrooms. Despite years of discussion, learners still grapple with language anxiety. Simultaneously, motivation has emerged as a pivotal factor in English language learning success. This research examines how diverse types of learning anxiety, such as fear of negative evaluation, apprehension of speech and fear of assessments have a bearing on learners' motivation. Employing a quantitative approach, this exploratory study gathered data through questionnaires distributed to 74 undergraduate students, chosen purposively. A 5-point Likert-scale questionnaire was used, incorporating demographic details, the English Language Classroom Anxiety Scale, and the English Language Motivation Scale. The results spotlight a significant correlation between learners' anxiety levels and their language learning motivation, with fear of negative evaluation as the main predictor impacting motivation. Motivation and language learning anxiety level were also found to be moderately low among the respondents, with the relationship being weak, positive in nature. These findings illuminate how motivation could potentially alleviate anxiety's impact, thus enhancing language learning effectiveness.

1. Introduction

English has largely become a global language as it has been commonly used by speakers from different parts of the world (Rao, 2019). In schools and higher education, English is a compulsory subject to take and pass in the academic year. Thus, this has led to students competing as to who is able to speak and understand that language fluently. The competitiveness has been derived from English being the fastest most popular language used in business and education as explained by Rao (2019), where English is broadly used throughout this modern world. This has led to students being expected to be able to articulate the English language inside and outside of the classroom. Hence, it correlates to one's motivation in learning the English language as Lau et al. (2019) explains that learning ESL may boost students' confidence to work harder to achieve fluency in the targeted language.

However, despite having their own personal reasons and goals in learning the English language, some students do face anxiety when learning a certain language. In the Malaysian context, language anxiety can happen as early as kindergarten since language is taught from adolescents up to adults. When Malaysians learn English as a second language, it may lead to language anxiety as they are worried about their language ability and skills (Tandang & Arif, 2019).

In Malaysia, English is highly seen as a second language that learners must fluently master to be respected and seen in any organisations. This leads to people being motivated because of their desire to succeed to improve themselves in the future. Nevertheless, learners are still not adequately proficient in English language, mainly affected by their learning motivation and anxiety. Many previous studies have only explored on the role of motivation and anxiety as separate components, while the interplay of these two would lead to greater insights for language teachers and educators to have to improve learners' performance in their English language classes.

Both anxiety and motivation are significant factors influencing language learning results and are closely intertwined in the context of second or foreign language acquisition. However, research examining both language anxiety and motivation concurrently within a language learning context appears to be somewhat limited up to this point. Consequently, there is a need for further investigation in this domain to ascertain the extent to which English language learning anxiety and language learning motivation intersect. Consequently, this current study endeavours to explore the correlation between English language learning anxiety and English language motivation among undergraduate students in a higher education setting.

The ensuing research questions are as follows:

RQ1: How do English language learners perceive their level of English language anxiety and English language learning motivation level?

RQ2: How does students' language learning anxiety (fear of negative evaluation, apprehension of speech communication and fear of assessments) impact their level of language learning motivation?

2. Literature Review

2.1 Language Learning Anxiety

In a second language classroom where learners are required to gain fluidity of, there is always an essence of anxiety as Dansieh et al. (2021) explained in detail, it is a common phenomenon among students when they must speak in the English language setting. The word anxiety itself gives the connotation of a learner feeling pressured, nervous, and worried inside their nervous systems (Toghraee & Shahrokhi, 2014 as cited in Tandang & Arif, 2019). Thus, language learning anxiety is not an uncommon issue as Lau et al. (2019) believes that in English as a Second Language (ESL) classroom, countless students have a fear of speaking in English.

Language learning anxiety often exists in a setting where communication plays an important part in the classroom. As mentioned by Genelza (2021), when students need to communicate inside the class using English, most of them are reluctant to speak because they are anxious of speaking in front of the whole class. Said & Omar (2022) supports this by explaining that when students give a brief presentation in class, it can lead to them having severe anxiety which leads to them feeling stressful.

2.2 Motivation in Language Learning

For a person to master a second language, they have to acquire a strong sense of motivation as it plays an important role in achieving success. As stated by Genelza (2021), motivation can happen in the classroom itself as the goal is to educate students on how to communicate effectively in the English language. Aside from that, intrinsic motivation may happen inside the second language classroom as Lau et al. (2019) disclosed that undergraduate students become confident in language learning because these students anticipate the possibility of being able to speak the English language fluently in the future.

Moreover, when students learn a second language, their anxiety sparks as a motivation for them to try harder to become proficient in the targeted language (Lau et al., 2019). This is also supported by Said & Omar (2022) since having a certain amount of anxiety would act as a positive guide for learners to maintain their motivation in language learning.

2.3 Relevant Past Studies on Learning Anxiety and Learning Motivation

Previous studies have explored language learning anxiety and learning motivation. Majority reported moderate levels of anxiety experienced by students (Cabansag, 2020; Lau et al., 2019; Solangi et al., 2021). Several studies reported a moderately low to high level of anxiety (Sabri et al., 2021; Said & Omar, 2022; Tandang & Arif, 2019) mainly due to fear of failure affected by their apprehension of assessments. This eventually led to students' low performance in assessments. Sabri et al. (2021) revealed that when learning the English language, students are expected to have a native-like language proficiency, and this may cause anxiety as it could hinder one's motivation in learning that language. Solangi et al. (2021) further proposed that in India and Pakistan, English language is commonly used, and students are demanded to excel in that language. This may give impact on students' motivation and language learning anxiety.

In terms of motivation, Gede et al. (2020) in their study reported a moderate level of motivation among the high school students, with integrative motivation being the main drive. Subramaniam et al. (2021) on the other hand found in their study that their respondents experienced high motivation levels, leading them to be more willing to participate in activities.

The interplay between language learning anxiety and learning motivation together has not been extensively explored by many, but a few (Genelza, 2021; Malik et al., 2023; Shehzadi et al., 2021; Zabidin et al., 2023). Significant correlation was reported between the two variables, which showed the importance of taking into consideration learners' anxiety level to ensure their motivation level is sustained (Shehzadi et al., 2021; Zabidin et al., 2023). Besides that, among most of the type of learning anxiety which are influential towards learners' motivation level, majority of the studies revealed that learners are reluctant to participate and most likely become demotivated due to fear of negative evaluation (Alharbi, 2017; Chioukh & Kaouache, 2021; Dansieh et al., 2021; Nkhi, 2023; Sabri et al., 2021; Sun & Zhang, 2022) and fear of oral communication (Genelza, 2021).

In sum, these past studies have shown significant findings on second language learning anxiety and how it affects students' motivation.

3. Methodology

This study included 74 undergraduate students (52 females and 22 males) from various academic disciplines at both public and private universities, selected through purposive sampling. It adopted a quantitative approach to examine the relationships between language learning motivation and anxiety. A 21-item Foreign Language Classroom Anxiety Scale, adapted from Horwitz et al. (1986), assessed anxiety across dimensions: fear of negative evaluation, apprehension of speech, and fear of assessment. Motivation levels were measured using a 21-item scale adapted from Schmidt & Watanabe's (2001) English Language Motivation Scale, focusing on intrinsic motivation, instrumental orientation, integrative orientation, interest in foreign languages and cultures, task value, strength of motivation, and competitiveness, tailored to the context of university-level English language learning.

Data analysis employed SPSS version 22, including descriptive statistics (means and standard deviations) for variable summaries. Pearson's correlation analysis explored the relationship between language learning anxiety and motivation, while multiple linear regression assessed the predictive power of motivation on English language proficiency, controlling for relevant covariates. Mean score interpretations were conducted for RQ1 following Norasmah & Salmah (2011) guidelines in Table 1(a), and Pearson's correlation results were interpreted based on Kowang et al. (2015) as illustrated in Table 1(b).

Table 1(a)
Mean Scores Interpretation

Mean Score	***Interpretation of Mean Score***
1.00 – 2.00	Low
2.01 – 3.00	Moderately Low
3.01 – 4.00	Moderately High
4.01 – 5.00	High

Source: Norasmah & Salmah (2011)

Table 1(b)
Pearson Correlation Coefficient (r) Interpretation

R	**Strength**
0 – 0.19	Very weak
0.20 – 0.39	Weak
0.40 – 0.59	Moderate
0.60 – 0.79	Strong
0.80 – 1.00	Very strong

Source: Kowang et al. (2015)

Instrument content validity was ensured by adapting established instruments. Reliability was established through a pilot study with 20 respondents, demonstrating strong internal consistency. The Cronbach's alpha coefficient for the Foreign Language Classroom Anxiety Scale was 0.912, and for its sections, it ranged from 0.806 to 0.853. The English Language Motivation Scale exhibited a Cronbach's alpha coefficient of 0.856, with subsections ranging from 0.577 to 0.957, affirming their reliability.

4. Results

The demographic analysis of the respondents reveals a gender distribution, with 29.7% identifying as male and 70.3% as female. Most respondents fall within the age category of 18-20 years (889.2%), with a smaller proportion falling into the 21-23 years age category (10.8%). Notably, none of the respondents are aged 24 years or older. In terms of academic programs, the majority are enrolled in diploma programs (87.8%), while the remaining respondents are pursuing degree programs (9.5%) and foundation programs (2.7%). Regarding the educational institutions, 51.4% of respondents are undergraduate students attending public universities, while the remaining 48.6% are affiliated with private universities.

When considering the semester of study, most respondents are in their first semester (60.8%), followed by those in their second semester (27%), third semester (9.5%), fourth semester (1.4%), and fifth semester (1.4%). Additionally, the data indicates that most respondents are currently enrolled in one English language course (51.4%), while 39.2% are taking their second English language course. A smaller percentage of respondents (5.4%) are enrolled in three English language courses, and 4.1% have taken four English language courses during their academic pursuits.

Learners' Perception on Their Level of English Language Learning Anxiety and Motivation

To determine the participating respondents' perception on their level of English language learning anxiety, as well as level of learning motivation, the statements for both instruments used were analysed. The scale for the English Language Learning Anxiety is interval, so its central tendency is the mean scores, with standard deviation for its variability (Mohd Ghazali & Jahari, 2021). Hence, mean score interpretation was conducted to analyse the variable.

Table 2
Learners' Perception on Their Level of English Language Learning Anxiety

Mean	Median	Std. Deviation
2.37	2.357	.425

The findings in Table 2 reveal that participants' English Language Learning Anxiety, as indicated by a mean score of 2.37 (S.D.= 0.425) across 21 statements, falls within the category of Moderately Low based on the mean score interpretation by Norasmah & Salmah (2011).

A more detailed tabulation of mean scores for the two subsections of the English Language Learning Anxiety Scale is presented in Table 3.

Table 3
Learners' Perception on Their Level of English Language Learning Anxiety

Subsections on English Language Learning Anxiety Scale	*Mean*	*Std. Deviation*	*Level of Perception*
Fear of Negative Evaluation	2.357	0.425	Moderately Low
Apprehension of Speech Communication	2.498	0.450	Moderately Low
Fear of English Assessments	2.270	0.435	Moderately Low

Based on Table 3, all three subsections of the English Language Learning Anxiety achieved moderately low levels of perception, as perceived by the learners. Apprehension of Speech Communication ranked the highest mean score (,=2.498), followed by fear of negative evaluation (m=2.357) and fear of English assessments (m=2.270).

Next, for English Language Motivation level, the study findings in Table 4 reveal that learners' motivation level, as indicated by a mean score of 2.27 (S.D.=0.435) across 21 statements, also falls within the category of Moderately Low.

Table 4
Learners' Perception on Their English Language Motivation Level

Mean	Median	Std. Deviation
2.27	2.25	.435

This suggests that, on average, the participants displayed a moderate level of motivation in the context of their learning experiences. A more detailed illustration of mean scores for the six subsections of English Language Motivation is illustrated in Table 5.

Table 5
Learners' Perception on Their Level of Learning Motivation

Subsections on English Language Learning Motivation	*Mean*	*Std. Deviation*	*Level of Perception*
Intrinsic Motivation	2.82	.770	Moderately Low
Instrumental Orientation	2.77	.881	Moderately Low
Integrative Orientation	2.97	.849	Moderately Low
Interest in Foreign Lang. & Cultures	2.92	.876	Moderately Low
Task Value	2.85	.757	Moderately Low
Competitiveness	2.74	.837	Moderately Low

Based on Table 5, all six subsections of the Learning Motivation Level achieved moderately low level of perception, as perceived by the learners. Integrative orientation scored the highest mean score (M = 2.97, S.D. = 0.849) and the lowest is Competitiveness (M = 2.74, S.D. = 0.837).

Correlation between Learners' Language Learning Anxiety and Motivation

The Pearson Correlation analysis in Table 9 revealed a statistically significant positive correlation (r = 0.360, p = 0.02) between learners' language learning anxiety and their English language motivation.

Table 6
Correlation between Learners' Language Learning Anxiety Level and English Language Motivation

		Language Learning Anxiety
English Language Motivation	Pearson Correlation	.360
	Sig. (2-tailed)	.002
	N	74

**. Correlation is significant at the 0.05 level (2-tailed)

This result indicates that as language learning anxiety levels increase, English language motivation levels also tend to increase, albeit weakly. However, it is crucial to note that the correlation is characterised as weak (r = 0.360). This implies that while there is a statistical association between anxiety and motivation, this association is not particularly strong.

Another correlation analysis was done to examine the strength of relationship for each type of language learning anxiety with the English Language Motivation level. Table 10 illustrates the result of this analysis.

Table 7
Correlation between Learners' Language Learning Anxiety Level and English Language Motivation

		Fear of Negative Evaluation	**Apprehension of Speech Communication**	**Fear of English Assessments**
English Language Motivation	Pearson Correlation	.384	.345	.213
	Sig. (2-tailed)	.001	.003	.069
	N	74	74	74

**. Correlation is significant at the 0.05 level (2-tailed)

Based on Table 7, out of the three types of language learning anxiety, Fear of Negative Evaluation obtained a higher significant correlation value with the English Language Motivation ($r=0.384$, $p<0.05$). The second one is Apprehension of Speech Communication ($r=0.345$, $p<0.05$). The third type, Fear of English Assessments, posed no significant correlation with English language motivation ($r=0.213$, $p>0.05$).

To gain a more comprehensive understanding of this relationship, a multiple linear regression analysis was conducted. This model included three predictor variables: Fear of Negative Evaluation, Apprehension of Speech Communication, and Fear of Assessments. This explored the extent to which variation in English Language Motivation could be explained by three independent variables. The result is presented in Table 8(a), Table 8 (b) and Table 8(c).

The F-test in Table 8(a) reported a p-value of 0.003, which is less than the conventional significance level of 0.05. This indicates that the overall model (including the predictor variables: Fear of Negative Evaluation, Apprehension of Speech Communication, and Fear of Assessments) is statistically significant. In other words, there is evidence to suggest that these predictor variables collectively have an impact on explaining the variance in English Language Motivation. The statistical significance of the model, as indicated by the F-test ($p = 0.003$), suggests that the combination of these three predictor variables has a significant impact on explaining variations in English Language Motivation.

Table 8(a)
Multiple Linear Regression: ANOVA[a] (F-test)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	**Regression**	7.115	3	2.372	5.250	.003[b]
	Residual	31.620	70	.452		
	Total	38.734	73			

a. Dependent Variable: MotivationALL
b. Predictors: (Constant), AnxietyTest, AnxietyAppr, AnxietyFear

Table 8(b) reported the R-squared value (R2 = 0.149), which indicates that approximately 14.9% of the variance in English Language Motivation can be explained by the predictor variables included in the model. This means that while the model is statistically significant, it explains only a modest proportion of the total variance in English Language Motivation.

Table 8(b)
Multiple Linear Regression: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.429[a]	.184	.149	.67209

a. Predictors: (Constant), AnxietyTest, AnxietyAppr, AnxietyFear

In Table 8(c), the p-values for each of the predictor variables (Fear of Negative Evaluation, Apprehension of Speech Communication, and Fear of Assessments) are reported. Fear of Negative Evaluation has a p-value of 0.021 (<0.05), indicating that it is statistically significant. This suggests that Fear of Negative Evaluation has a significant impact on English Language Motivation.

Apprehension of Speech Communication has a p-value of 0.119, which is greater than 0.05 (but still relatively close), indicating that it is not statistically significant at the conventional significance level of 0.05. This shows that learners' fear of speech communication did not affect their motivation in language learning.

Fear of Assessment has a p-value of 0.232, which is greater than 0.05 and not statistically significant. This suggests that Fear of Assessment may not have a significant impact on English Language Motivation based on this analysis. In other words, the fear or anxiety related to assessments, such as tests or exams, does not seem to be a significant predictor of learners' motivation to learn English in the context of this research.

Table 8(c)
Multiple Linear Regression: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.497	.481		3.112	.003
	AnxietyFear	.486	.206	.381	2.356	.021
	AnxietyAppr	.367	.233	.227	1.579	.119
	AnxietyTest	-.323	.268	-.193	-1.206	.232

a. Dependent Variable: MotivationALL

The model is statistically significant, meaning that it collectively explains some of the variance in English Language Motivation. Fear of Negative Evaluation appears to be a significant predictor, while Apprehension of Speech Communication and Fear of Assessment may not have as strong an influence, although further investigation or a larger sample size could yield different results.

5. Discussion

Participants reported relatively low levels of anxiety in their English language learning pursuits. While some degree of anxiety may exist, it is not a prominent concern. This moderately low anxiety level indicates that participants generally feel comfortable and confident in their English language learning experiences. This finding is in line with the study done by Lau et al. (2019) who found that their respondents, ESL undergraduates also experience a moderate level of language learning anxiety, albeit more focused on speaking skills. They also revealed that the ESL learners experience the highest anxiety in regard to apprehension of communication as compared to fear of negative evaluation and fear of assessments, which echoes with the findings in this current study. This finding is also in accordance with the study done by Solangi et al. (2021) who also revealed the moderate level of anxiety among their 200 undergraduate ESL students. Cabansag (2020) whose research yielded comparable results, indicated that the moderate level of anxiety suggests that although ESL learners may display signs of anxiety, it remains at a moderate level, and their commitment to attending classes remains strong.

For motivation, the participants also displayed a moderately low level of motivation in the context of their learning experiences. While motivation is present, it may not be as robust as in situations where motivation levels are higher. This finding is in line with a study done by Gede et al. (2020) who also found their respondents to experience moderate levels of motivation in most of their motivation dimensions. However, while this present study revealed the highest moderate level of motivation for integrative orientation, the study by Gede et al. (2020) revealed it to be mainly instrumental motivation. This present study also contradicts the findings of a study by Subramaniam et al. (2021) where respondents demonstrated moderately high motivation levels. These discrepancies warrant further investigation to explore additional variables that may contribute to these differences in findings.

Next, this study identified a weak but positive correlation, suggesting that learners with higher levels of language learning anxiety may also display increased motivation in learning English. It's important to emphasise that this correlation, although statistically significant (r = 0.360), is relatively weak. In our sample, it appears that learners experiencing higher language learning anxiety tend to exhibit higher motivation levels, consistent with prior research, such as Shehzadi et al. (2021), and findings from (Zabidin et al., 2023), which also noted significant correlations between anxiety and learning motivation.

While the correlation is weak, it is noteworthy that the relationship is positive. This indicates that learners with higher language learning anxiety may also demonstrate elevated motivation levels in learning English. It's essential to clarify that correlation does not imply causation, but it suggests that learners with moderate levels of motivation tend to have similar levels of anxiety in language learning. This aligns with the research conducted by Berowa et al. (2018), which emphasizes the importance of maintaining an optimal level of anxiety, as it can benefit learners' motivation and commitment to acquiring the target language. Several factors may contribute to this relatively weak relationship. First, language learning motivation and anxiety are complex constructs influenced by various individual, situational, and cultural factors (King et al., 2019). The interplay of these multifaceted elements can lead to diverse outcomes in learners' motivation and anxiety levels. Additionally, other variables not examined in this study may play significant roles in shaping learners' motivation and anxiety. These could include the quality of language instruction, learners' self-efficacy beliefs, and their prior language learning experiences.

This study also revealed that while the model is statistically significant, it explains only a modest proportion of the total variance in English Language Motivation. While this proportion may appear modest, it is consistent with the previous study done by King and colleagues (2019) which has also found that motivation in language learning is influenced by multiple complex factors. These findings further emphasise the multifaceted nature of language learning motivation.

Among the three types of language learning anxiety, fear of negative evaluation has a significant impact on English Language Motivation. This finding aligns with the existing literature (Sabri et al., 2021) highlighting the substantial influence of learners' concerns about being negatively evaluated by others on their motivation to engage in language learning activities. This finding also coincides with other studies (Alharbi, 2017; Nkhi, 2023; Sun & Zhang, 2022) which revealed that students lack motivation to speak in the classroom because they fear of being negatively evaluated or laughed at by others when committing some grammatical errors.

Surprisingly, this study revealed that learners' fear of speech communication and fear of assessment did not serve as the significant predictor for their motivation in language learning. Fear of speech communication nevertheless scored a borderline significance ($p=0.12$, $p>0.05$) which suggests a potential influence. Speech-related apprehension may play a role in motivation, particularly in larger, more diverse samples. Further research with a larger sample size might elucidate a clearer relationship. This would then be supported by the study done by Genelza (2021) with bigger sample size ($n=120$) who found that learners are mostly demotivated when their level of anxiety is high, showing there is a relationship between speech apprehension and their motivation, thus calling for intervention program in the classroom. Further research with a larger sample size might elucidate a clearer relationship. Besides that, the fear or anxiety related to assessments, such as tests or exams, also does not seem to be a significant predictor at all of learners' motivation to learn English in the context of this research ($p=0.23$, $p>0.05$). This finding contradicts an earlier study (Sabri et al., 2021) that has highlighted the role of assessment-related anxiety in influencing motivation among learners.

6. Conclusion

In summary, there is a weak correlation between anxiety and motivation, which might appear counterintuitive, but it suggests that there are intricate relationships at play. Language instructors should consider the interplay of these factors in their teaching methods, recognizing that learners with anxiety might possess higher motivation. Next, while learners' fear of negative evaluation emerged as a significant predictor, the roles of apprehension of speech communication and fear of assessments warrant further investigation. These findings highlight the complexity of language learning motivation and emphasise the importance of considering multiple factors in educational contexts. These findings have implications for educators and researchers alike. This brings forth the importance of addressing anxiety constructively. It is important to acknowledge the limitations of this study, including its relatively small sample size and the potential influence of contextual factors. Larger-scale studies encompassing diverse populations could provide a more comprehensive understanding of the dynamics between anxiety and motivation.

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Authors Contributions

Nurshahirah Azman: The first author was responsible for developing the initial research idea, formulating research questions, and designing the study's framework, and conducted fieldwork, surveys, and experiments, gathering primary data for analysis. Also contributed to the design and selection of research methods, ensuring data validity and reliability.

Mirza Madihah Zainal: The second author conducted an extensive literature review, identifying relevant studies and theories to support the research. Also contributed to the methodology, results, and discussion sections, ensuring coherence and clarity

Noor Fazzrienee JZ Nun Ramlan: The third author collaborated on data analysis, conducting specific statistical tests and assisting with result interpretation. Played a key role in revising and proofreading the manuscript.

Amirah Athirah Amir Yazid: The fourth author assisted in collecting primary data, managing data sources, and ensuring data quality. Also assisted with manuscript revisions and proofreading, as well as managed the citation and referencing format, ensuring adherence to journal guidelines.

Conflict of Interest

There is no conflict of interest associated with this publication.

References

Alharbi, M. S. (2017). *Exploring English language teaching approaches in Saudi Higher Education in the West Province*. http://theses.gla.ac.uk/9014/1/2017AlHarbiPhD.pdf

Berowa, A. M. C., Devanadera, A., & David, S. O. (2018). Attitude toward English among Vietnamese students in the Philippines. *The Asian EFL Journal*, *20*(2), 6–19.

Cabansag, J. N. (2020). Speaking Anxiety, English Proficiency, Affective and Social Language Learning Strategies of ESL Engineering Students in a State University in Northern Luzon, Philippines. *International Journal of English Linguistics*, *10*(1), 372. https://doi.org/10.5539/ijel.v10n1p372

Chioukh, C., & Kaouache, S. (2021). EFL Learners' Attitudes towards the Use of the Cooperative Learning Method in Learning Speaking. *Revue Sciences Humaines*, *32*(2), 751–766. http://revue.umc.edu.dz/index.php/h/article/view/3697

Dansieh, S. A., Owusu, E., & Seidu, G. A. (2021). Glossophobia: The Fear of Public Speaking in ESL Students in Ghana. *Language Teaching*, *1*(1), p22. https://doi.org/10.30560/lt.v1n1p22

Gede, I., Adhitya Prayoga, P., & Suryasa, W. (2020). Investigating ESL Students' Attitude And Motivation Toward English Learning: The Case of National Schools In Bali. *Journal Of Archaeology Of Egypt/Egyptology*, *17*(7), 10631–10638.

Genelza, G. G. (2021). Speech apprehension of first year engineering students in the pandemic era: basis for an intervention program. *ACADEMICIA: An International Multidisciplinary Research Journal*, *11*(12), 353–371. https://doi.org/10.5958/2249-7137.2021.02694.x

Horwitz, E. K., Horwitz, M. B., & A., C. J. (1986). Foreign language classroom anxiety. *Modern Language Journal*, *70*, 125–132.

King, R. B., Yeung, S. S., & Cai, Y. (2019). *Personal investment theory : A multi-faceted framework to understand second and foreign language motivation Personal investment theory : A multi-faceted framework to understand second and foreign language motivation*. *April 2020*. https://doi.org/10.1016/j.system.2019.102123

Kowang, T. O., Long, C. S., & Rasli, A. (2015). *Innovation Management and Performance Framework for Research University in Malaysia*. *8*(6), 32–45. https://doi.org/10.5539/ies.v8n6p32

Lau, K., Long, Y., Yih, Y. J., Sim, S., & Lin, P. (2019). Undergraduates' Speaking Anxiety in English as Second Language (ESL) Classrooms. *International Journal of Service Management and Sustainability*, *4*(1), 25–40. https://doi.org/10.24191/ijsms.v4i1.8180

Malik, S. F., Pervaiz, A., & Lahore, T. (2023). Investigating the Effects of ESL Learners' Motivation and Anxiety on Task Based Language Teaching in Pakistan. *Linguistics and Literature Review*, 9(1), 65–87.

Mohd Ghazali, A. S., & Jahari, N. A. (2021). *SPSS Workshop Module (SPSS for Beginners)* (pp. 1–28).

Nkhi, S. E. (2023). An investigation of the impact of language anxiety on the tertiary ESL undergraduate stud ents' communicative competence in the three selected institutions in Lesotho. *International Journal of Curriculum and Instruction*, *15*(3), 1716–1737.

Norasmah, H. O., & Salmah, I. (2011). Kecenderungan terhadap pemilihan kerjaya keusahawanan mengikut persepsi peserta skim usahawan siswa. *Jurnal Teknologi*, *56*, 47 63.

Sabri, S., Khairuddin, Z., Fatinah, F., & Bahrn, S. (2021). *Causes of Language Anxiety in an ESL Classroom : Towards a Mentally Healthier Learning Environment*. *October*. https://doi.org/10.18488/journal.1.2021.119.452.460

Said, H. M. H., & Omar, A. S. (2022). Language Anxiety Towards English Among Esl Students: the Case of First Year Students At Mindanao State University. *The Online Journal of New Horizons in Education*, *12*(3), 178–196. www.tojned.net

Schmidt, R., & Watanabe, Y. (2001). Motivation, strategy use, and pedagogical preferences in foreign language learning. *Motivation and Second Language Acquisition (Technical Report)*, *23*, 313–359.

Shehzadi, K., Shoukat, B., & Ahmad, A. (2021). *Journal of Languages , Culture and Civilization Effect of English Writing Anxiety and Self-efficacy on English Writing Performance with Moderating Role of English Writing Achievement Motivation : Evidence from Pakistani ESL learners*. *3*(4), 293–309.

Solangi, A. A., Memon, S., & Ali Lohar, S. (2021). Figuring out the Levels, Types, and Sources of Writing Anxiety Among Undergrad ESL Students in Pakistan. *International Journal of Linguistics, Literature and Translation (IJLLT)*, *3*(11), 55–67. https://doi.org/10.32996/ijllt

Subramaniam, S., Shaharudin, R. H., Abdul Hamid, N. B., & Abdul Wahab, N. H. (2021). Motivation and Willingness to Communicate in English amongst ESL Engineering Pre-university Students in Malaysia. *Environment-Behaviour Proceedings Journal*, *6*(SI4), 87–93. https://doi.org/10.21834/ebpj.v6isi4.2906

Sun, P. P., & Zhang, L. J. (2022). Effects of Translanguaging in Online Peer Feedback on Chinese University English-as-a-Foreign-Language Students' Writing Performance. *A Journal of Language Teaching and Research*, *53*(2), 325–341.

Tandang, T. A. W., & Arif, M. M. (2019). Beliefs about language learning, role of gender and students' achievement in relation to second language anxiety. *Asian Journal of University Education*, *15*(3), 276–284.

Zabidin, N., Mohamad, N. A., Razali, N. A., Muhamad Ramlan, N., & Rahmat, N. H. (2023). How Does Motivation Affect Communication Apprehension , Fear of Negative Evaluation and Test Anxiety among ESL Learners. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *13*(2), 218–220. https://doi.org/10.6007/IJARAFMS

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THE IMPLEMENTATION OF TASK BASED LANGUAGE TEACHING (TBLT) TO IMPROVE ESL STUDENTS' FLUENCY

Daljeet Singh Sedhu[1], Jufiza A. Wahab[2*], Mohd Nasurudin Hasbullah[3], Thuraiya Mohd[4] & Azrul Bahaluddin[5]

[1]Academy of Language Studies, Universiti Teknologi MARA(UiTM), Perak Branch, Perak, MALAYSIA
[2]College of Computing, Informatics and Media, Universiti Teknologi MARA (UiTM), Perak Branch, Perak, MALAYSIA
[3,4,5] College of Built Environment, Universiti Teknologi MARA (UiTM), Perak Branch, Perak, MALAYSIA

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Corresponding Author:
jufiz279@uitm.edu.my

ABSTRACT

Of the speaking skills, fluency can be one of the most difficult to improve. However, it is often the main goal of almost every second language learner since the communicative approach is the primary focus of language learning. The Malaysian teaching context has witnessed a gradual shift from the traditional grammar-translation approach to a more communicative one, thereby making it necessary to discover new strategies to develop students' speaking skills. This action research was conducted to explore the usage of TBLT by Malaysian ESL students to increase speaking fluency. A quasi-experimental research method was applied in the study to monitor the students' progress in speaking fluency and accuracy. The choice of respondents for the study involves selection using the Simple Random Sampling technique which involved 50 students enrolled in the first semester of classes at the Higher Learning Institution in Perak, Malaysia. Pre-tests at the start of the semester and post-tests at the end of the semester were used to gather data on the students' speaking abilities. The data was analysed quantitatively using descriptive and inferential statistics involving, mean score analysis, t-value and presented in the form of tables for univariate analysis by using SPSS. The result of the study indicates that the self-conversation recording by the students can improve the fluency with grammatical accuracy; and the achievement in the fluency of the students from the experimental group was considerably higher than the control group. The average N-gain score from the experimental group students was better than the control group students (.0424>0.205). However, the mean score achieved in the pre-test in the experimental class and control class was (52.14 <59>67.40). The paired sample t-test indicates a significant improvement with t-value of -14.237 and p. value = .000<0.005. Therefore, it was concluded that the use of TBLT applications could generate good results in the development of speech fluency in students. In the future, lecturers can use the innovation project with students during class time to improve their students' speaking fluency.

1. **Introduction**

Higher education in Malaysia requires students to speak English in many areas, considering global education, career opportunities and international communication (Rahman & Singh, 2020), (Rahman & et. al., 2019). One of the main reasons for teaching English at university level in the first semester is to improve communication skills so that students are free to participate in classes and other aspects of life. Although English is taught as a compulsory subject in all grades, many students lack the basic speaking skills that are an important component of higher education. Many students suffer from shyness, anxiety and other fears associated with speaking English in college (Bush & et. al, 2023). The success of university students in English departments in Malaysia depends primarily on their fluency in English because they teach mainly in English. Therefore, universities include speaking courses in their first-year curriculum to teach English speaking skills (Kubota, 2023).

Speaking a foreign language is always considered a difficult task for learners. Adequate exposure to a speaking environment can help language learners overcome some difficulties. The coronavirus disease (COVID-19) has created a situation where universities are starting to implement teaching-learning processes using online tools (Islam, 2021), (Mondol & Mohiuddin, 2020). Current online teaching methods have some challenges in creating a good environment for newly admitted students to get a platform to improve their speaking skills in college campuses. The instructors focused on working with different aspects of English speaking, such as accuracy and fluency. Therefore, teachers have developed several activities to reduce the difficulties of online classes and to engage students in speaking tasks as much as possible. However, the "new normal" during the COVID-19 pandemic has forced teachers to assign more homework, requiring students to record conversations on their smartphones and send them to teachers through Google Classroom. This study is designed to find out how students develop their speaking skills to communicate fluently and accurately through practice and writing. Previous studies so far have denied the importance of conversational writing for fluency in foreign language situations, but many studies have been conducted in face-to-face classes (Colognesi, Coppe & Lucchini, 2023), (YanJu, Mei & Mohamed, 2017). These studies proposed new ways for students to engage in English conversation using modern technology. The activities are designed according to the task-based language learning (TBLT) approach, which allows students to prepare language topics under the guidance of a teacher, but with limited teacher participation throughout the process (Renandya, Nguyen & Jacobs, 2023), which provide a framework for understanding the success or failure of magnetic voice recording, the experimental group and the control group were compared in this study.

The purpose of this study is to investigate whether students' self-introduction writing is effective in improving their oral English skills. Another goal of this study was to determine how dialogue recordings benefit students and to compare two groups using dialogue recordings (experimental group) with another group participating in regular classroom activities (control groups). The researchers used two key research questions for this study. The research questions of this study are:
1) Are there significant differences in language fluency between the experimental group and the control group?
2) Does the use of self-talk recording in task-based language learning (TBLT) improve speaking skills for ESL students?

2. Literature Review

Several studies have been conducted to assess the improvement of instructional fluency and accuracy in ESL students. Numerous studies were conducted an important study on fluency (Dang & Nga, 2022), (Hardianti, Dollah & Sakkir, 2023), (Septiyana, 2019), (Robillos & Bustos, 2023), (Suzuki & Kormos, 2023). Many studies focused on improving the oral fluency of ESL students in a classroom using the TBLT method. In the study, we identified problems with oral fluency and accuracy in ESL students and considered possible solutions. For example, in an 8-week TBLT case study by (Robillos & Bustos, 2023), listeners recorded audio to improve fluency, such as speech speed, grammar accuracy, and the development of spoken and interactive languages. The results showed that it motivates students to communicate in their target language and to appreciate the TBLT method.

A. Fluency and Accuracy

Language fluency means that the speaker should automatically have a speaking speed (Ghasedi, Yazdani & Ahmadian, 2023). When we talk about fluency in a language, we are looking for both accuracy and fluency of the speaker. Expecting accuracy and fluency at the same time can sometimes be overwhelming for students. Previous studies have shown that it is difficult for students to adapt to the process of speaking in foreign language classes due to lack of experience in using languages in everyday conversation (Hardianti, Dollah & Sakkir, 2023). In the context of speech, many people do not make the correct distinction between the fluency and accuracy of the speech process. (Renandya, Nguyen & Jacobs, 2023) explains the difference between fluency and accuracy such as there is often a difference between accuracy and fluency which requires a clear distinction between 'non-pseudo' and 'communicative' activities. The first is generally aimed at achieving accuracy, while the second aims to improve language skills.

Although many studies have attempted to focus on accuracy and fluency as different components of the speech process, students need to gain fluency and accuracy at an appropriate pace because they complement each other (Renandya, Nguyen & Jacobs, 2023). Fluency depends on the speed of speech or the number of filled and unfilled pauses, the number of errors and the use of official language (Robillos & Bustos, 2023). A study by (Robillos & Bustos,

2023) found that "...while completing tasks, students tend to develop fluency by increasing speaking speed, increasing grammatical accuracy, further developing speaking, and developing interactive language" (p. 7). Speaking about the general concept of fluency, (Suzuki & Kormos, 2023) “In a broad definition, fluency can be considered as a general (conversational) ability, while in a narrow definition, fluency refers to the fluency and ease of oral language transmission” (p. 893). Regarding the role of speaking classes, (Hardianti, Dollah & Sakkir, 2023) “One of the goals of ESL speaking classes is to improve students' communication skills so that they can express themselves appropriately using the target language. social and cultural context" (p. 2). Their research suggests that students have full access to the target language when they observe the rules and learn how to use them using a variety of speaking styles.

Hardianti, Dollah & Sakkir (2023) studied the speaking skills of elementary school students using the retelling method. Six procedures were conducted to improve ESL students' speaking skills. The researchers analysed the oral transcripts and found that the technique improved the students' vocabulary and comprehension. (Dang & Nga, 2022) conducted a study examining student perceptions of using video to improve teacher accuracy and fluency. Research on this mixing method was conducted at Muhammadiyah University. Dr. Hamka Jakarta. Quantitative data from the pre-test and post-test were analysed using paired sample t-tests. Post-mortem studies have shown that video recording techniques improve students' speaking skills (fluency and accuracy). This method received a positive impression from the students.

B. Task Based language Teaching (TBLT)

Task-based language learning (TBLT) is the process by which students learn by actively doing what is important in the learning process (Renandya, Nguyen & Jacobs, 2023). TBLT promotes the idea that students learn best when doing homework, following the teacher's instructions, and receiving feedback that helps them correct mistakes later. The TBLT method is designed to help students improve their language learning by completing the tasks offered by the teacher. (Robillos & Bustos, 2023) shows how TBLT helps students learn languages in ESL classrooms. The TBLT method has been more successful in teaching foreign languages than other teaching methods (Sumarsono, Muliani & Bagis, 2020). There are three phases of TBLT: pre-task, task cycle and language focus (Renandya, Nguyen & Jacobs, 2023). Harmer defines a process as:

Pre-assignment: At the beginning of the activity, students are given information about the topic along with key words to help them understand and prepare for the assignment. Work cycle: Students go to work, and teachers monitor the students' activities from a distance so that they do not interfere with their work. During the activity cycle, students plan, design and investigate speaking tasks. Also at this stage, students write a report or record of their actions.

Language Focus: Students receive feedback from teachers on their work on word selection, sentence construction, expression, and other language features. Feedback from teachers and peers helps students evaluate their work and make necessary adjustments.

A study by (Lambert, Aubrey & Bui, 2023) provides evidence that teachers' attitudes and responses to ESL students' learning play an important role. This study shows that teachers should create meaningful task situations to improve students' speaking skills through the TBLT method, rather than forcing them to speak and making them very nervous. This study suggests that TBLT is a meaningful learning method that involves performing a series of activities as steps to successfully complete a task. A study investigated the effect of task-based language learning (TBLT) (Septiyana, 2019) on the oral performance of non-native English-speaking students in 65 Yangtze University students who participated in the study. Participants were divided into control and experimental groups for the study. The experimental group was treated according to TBLT guidelines, and the control group was trained using 3P. The pre-test of the study showed significant differences between the experimental and control groups. However, because of the post-test, the students who participated in the TBLT method were more free, specific, and complex in their word choices than the students who studied the 3P method.

A study by (Septiyana, 2019) investigated the steps for designing speaking materials and student acceptance of the materials using TBLT for IAIN metropolitan Islamic economics students. This five-month study showed that materials can be designed through the stages of potential and problem, data collection, product design, design validation, design modification, and testing. The study concluded that task-based language teaching for speaking was appropriate and effective for students. The efficacy of TBLT in the context of VSV has been successfully demonstrated in several previous studies. According to (Lambert, Aubrey & Bui, 2023), meaningful tasks can be a useful tool for developing students' speaking skills. The study also shows that students can communicate with each other through language when working with their peers in pairs or groups. In a similar study of the success of TBLT by (Tandipayuk & et. al., 2023), "Task-based language teaching (TBLT) has been shown to be useful and effective in establishing specific contexts of language use and meeting students' communicative needs" (p. 15). (Septiyana, 2019) states that students enthusiastically embrace works created using the TBLT method.

3. Methodology

This study was conducted as an experimental research method to analyse the effect of TBLT through story writing on students' speaking fluency. The researchers ran two speaking courses in one semester, with 82 students enrolled in two different sections. Among them, 50 students were selected using a Simple Random Sampling technique. The students selected as a sample were divided into an experimental group and a control group. The experimental group was instructed to record their stories along with other classroom activities, while the control group was not instructed and only participated in regular classroom activities. The data used in the study were collected through pretests at the beginning of the semester and post-tests at the end of the semester. Students were asked to submit audio recordings to Google Classroom and grade them using the standard grading system established by the university. However, lecturers documented the gradual development of learning about the effectiveness of TBLT via self-recording techniques. After the usual break, students were given topics to talk about with their classmates and send notes to Google Classroom. During the semester, a total of 11 pairs and groups of 3 students submitted 120 applications. It should be noted here that the homework was compulsory for the students in the experimental group.

Treatment and Instruments

Students were given homework on topics from everyday life. After that, the lecturers instruct the students on the TBLT method. A sample class discussion (TBLT processing) was conducted to ensure that students understood the topic and what was expected of students in the discussion. Each group was given a different topic by the lecturer and given a week to prepare the topic and record the conversation (TBLT homework cycle). Students were given strict guidelines for grammatical correctness and fluency. Students were also encouraged to rewrite their stories as

needed to maintain fluency. However, the aim was to improve students' speaking skills, so we got the topic from everyday life. Below is a list of 10 subjects offered to students. Coronavirus-19 infectious disease:
Corona
Dream
University Education
English Department
Traffic jam in Dhaka
Online Course
Social Network
The importance of Social Assistance
Changing The Weather
Read to Have Fun

Each pair was asked to prepare a minimum 10-minute conversation, and groups of three were asked to record a 15-minute conversation via Zoom video conference. Students submitted assignments to a dedicated Google Classroom system for feedback from peers and teachers (focused on TBLT language). Degrees of freedom and accuracy were measured according to university guidelines, but researchers were free to modify the design as needed. The following classifications were used to measure student data. The following rubric was used to assess students' oral performance.

1. The Importance of Social Assistance
2. Change of Weather
3. Read for Fun

Classification:

1. Excellent = The student always speaks fluently without hesitation and makes few/fewer grammatical errors.
2. Good = The student generally speaks fluently, with few hesitations and few grammatical errors. Average = The student hesitates, pauses, and makes some grammatical errors.
3. Below average = The student hesitates and makes many grammatical errors. Poor = Student understands English but is not fluent in correct grammar.
4. Fail = Student does not find the right words when speaking, stops in a hurry, uses poor grammar.

The result was collected from the pre- and post-test conducted in the experimental group and the control group. Then, the data was quantified to get an idea for improving the comparison between the control and experimental groups. Initially, pre-test data were compared to gain insight into the core competencies of the two groups. The descriptive analysis consists of mean scores of the experimental group and the control group were measured. Another analysis was performed to determine the mean improvement of the groups to better understand differences in post-test results. Besides, data was analysed using inferential analysis involving t-test to determine the significance and the effectiveness of TBLT in improving ESL students' speaking skills. Because this study used a quasi-experimental design, not all variables in the researcher-obtained data were investigated. The study was conducted based on two variables. First, the inclusion of ESL learners' self-talk was an independent variable (treatment). Second, improving oral communication as the dependent variable (outcome). A student's progress was determined by measuring the normalized N-gain score (mean). To obtain the benefit N, the following formula was used:

$$\begin{matrix}\text{Normalized gain} \\ (\text{N} - \text{gain})\end{matrix} = \frac{\text{Post} - \text{test score} - \text{Pretest score}}{\text{Maximum score} - \text{Pretest score}}$$

4. Results

This study answered the research questions by comparing the results of pre-test and post-test data to find out whether story writing is effective or ineffective in improving the speaking skills of ESL students. Then compared the descriptive data from the experimental group and the control group to determine progress. Table 1 presents statistical data for the pre-test and post-test performance of the control group. The table shows that the highest score of the students in the control group was 68 points, and the lowest score was 40, with an average of 59.16 points. In the case of the control group, the highest post-test score was 85 points, and the lowest score was 50 points. The mean post-test score of the control students was 67.40. Also, students in the control group had a normal score of 0.205 using the n-gain formula.

Table 1
Descriptive Statistics of The Control Group

Statistic	Pre-Test	Post-Test
Mode	65	70
Median	60	70
Mean	59.16	67.40
Max	68	85
Min	40	50
Range	28	35
Varian	58.557	75.250
St. Dev	7.652	8.675

The statistical data in the control group table indicates that the students' oral skills improved, but not significantly. The difference between the post-test means and the pretest mean is about 8%. Before the test, the highest score of the students in the experimental group was 67, the lowest was 30, and the average was 52.14. On the other hand, students in the experimental group had the highest score of 95 and the lowest score of 50. Also, the normality result for the n value of the experimental group was 0.424. Table 2 shows the statistical data of the experimental group.

Table 2
Descriptive Statistics of The Experimental Group

Statistic	Pre-Test	Post-Test
Mode	35	70
Median	55	75
Mean	52.14	72.33
Max	67	95
Min	30	50
Range	37	45
Varian	108.573	86.650
St. Dev	10.420	9.309

As a result, a significant improvement in oral speech was observed in the experimental group. The technique of recording spontaneous conversations helped students improve their fluency. The average score of the experimental group was 52.14 points in the pre-test and 72.33 points in the post-test. The average score of the students in the experimental group improved significantly. The results indicate the significance of the students' conversation recordings in the pre-test and post-test scores, where T=--14.237, p= 0.0, which means that the students' post-test scores are higher than the pre-test scores-test. The mean difference between pre-test and post-test was 20.19%, indicating a significant improvement in students' speaking skills.

Table 3
PAIRED SAMPLE T-TEST OF THE PRE-TEST AND POST-TEST SCORE OF THE EXPERIMENTAL GROUP

		Mean	SD	t-value	p-value
Pair 1	Score before treatment- Score after Treatment	20.19	7.091	14.23	0.000

5. Discussion

An original story writing technique in the TBLT was adopted to improve students' speaking ability. By introducing the technique of recording spontaneous conversations in one of their classes (an experiment), the findings indicate that it motivated students to submit near-perfect recordings of their conversations. The research has several positive results.

Effectiveness of Conversation Recording

To answer the first research question, "Is there a significant difference in oral performance between the experimental and control groups?" Descriptive data in Tables 1 and 2 demonstrate that the post-test performance of students in the experimental group was higher than that of the control group, where no prompts were included. In a pre-test, the researchers found that 16 students in the control group had mastered more than 60% of the standards set in the title. However, 11 students in the experimental group scored less than 50% on the pretest. We also found that 14 students in the experimental group scored "average" or "below average" on the pretest. Therefore, these 25 students needed additional support to become fluent in English. However, because of the evaluation of the scores after the end of the test, the experimental group showed very good results with 4 compared to the control group. 16 students in the experimental group scored more than 70% on the post-test. On the other hand, in the control group, 12 students scored 70% or higher on the post-test. As a result of the technical analysis in Tables 1 and 2, it was found that the mean post-test score of the experimental group was higher than the mean post-test score of the control group (72.33>67.40). Therefore, the effect of using call recording to improve ESL students' fluency is remarkable. The researchers wanted the students to communicate in English through assignments outside the classroom, which was a successful approach. By the end of the study, students made significant progress in communicating in English with lecturers and peers. Therefore, (Hardianti, Dollah & Sakkir, 2023) achieved the purpose of speaking classes because they found that ESL speaking classes ensure students' improved communication skills and thus express themselves using the target language.

Based on the study, it was found that the performance of the experimental group was more significant than that of the control group because the students in the experimental group had a higher average N-gain score than the students in the control group (.0424>0.205). The performance of the students in the experimental group demonstrates the importance of performing the task multiple times, or in this case, recording the conversation multiple times. The researchers realized that the students had access to digital devices that could easily record their conversations. Notes can be easily removed, and practice sessions make conversations natural and complete. In the original guidelines, researchers emphasized smooth and perfect speech and asked students to take notes as often as possible to submit "perfect" grades. Students were motivated by each task and were instructed to write several times to improve their speaking skills. However, students were required to submit final versions of their essays to Google Classroom, where they received feedback from lecturers and peers.

After the first few tasks, notable changes were observed in the fluency of students in the experimental group. In the beginning, there were several grammatical errors that prevented the students from speaking fluently. Over time, lectures identified them, and students received specific feedback. As a result, by the end of the third semester, students made fewer grammatical errors. (Suzuki & Kormos, 2023), fluency is considered general fluency (fluency, ease of oral language transfer), but this study also showed that students in the experimental group gradually developed all these qualities to become fluent in English. The researchers concluded that feedback from Google Classroom and online classrooms affected students' fluency and intelligibility. During the feedback session, many students shared the positive aspects of the call notes. Also, positive peer feedback in Google Classroom may have played a major role in motivating students to submit well-designed work. Students were encouraged to submit good assignments without teacher intervention during homework. Engage in meaningful work to improve your speaking skills. Based on personal discussions with students in the experimental group, the researchers found that specific instructions at the beginning of a task activate students because they feel it is appropriate to collect data on a topic. Students had full freedom to prepare their own content. According to (Islam, 2021), the effectiveness of online courses depends primarily on how enthusiastic students are about their homework. The enthusiasm of the students to prepare for their assignments helped them to succeed. Although this study followed audio recordings, the results confirm the findings of (Dang & Nga, 2022), who investigated students' use of video recordings and positively improved their accuracy and fluency.

B. Task-Based Language Teaching to Improve Oral Fluency of ESL Students

To answer the second research question: "Does the use of self-conversation recordings in task-based language learning (TBLT) improve speaking in ESL students?" The paired t-test (Table 3) demonstrates that the difference between pre-test and post-test scores is much greater due to the use of task-based language learning.

TBLT method was adopted in which students engage in a variety of speaking activities. The tasks were designed according to the pre-task, task cycle and language focus phases of the TBLT method (Renandya, Nguyen & Jacobs, 2023). As the pretest progressed, some students could not speak for several minutes, and fluency was the main problem of grammatical errors. Most of the students did not achieve the minimum score. The figure above (Tables 2 and 3) can be used as an example of how introducing self-talk recordings into a TBLT classroom can improve students' speaking skills. The COVID-19 pandemic has forced lecturers to conduct classes online, limiting faculty presence and halting campus conversations where students can interact with their peers due to the stay-at-home policy.

At the start of the event, students were given detailed instructions on the subject along with subject related study materials to help them understand and prepare for the subject. This step allowed the students to understand the content of the story. This section is primarily teacher-centered, so the researchers have ensured that the topic can be understood by students. For example, when discussing the topic of "COVID-19", the lecturers asked the students to prepare about the spread mechanisms of the virus, Malaysia COVID-19 scenarios, prevention methods and the role of young people. Educate the next generation about this deadly disease. Another example of giving job requirements to students would be the topic "Online Classroom", where a lecturer wants to tell students about the need for online courses, platforms for online courses, advantages of online courses, and challenges of online courses. The lecturers intentionally assigned tasks on certain topics because the main purpose of the course is to improve students' fluency.

During the homework cycle, students were given a few days to prepare what they would discuss during the interview. As online courses became inevitable due to the COVID-19 pandemic (a global pandemic), researchers used Google Classroom as a CMS (course management system) to share learning materials and students used it as an interactive platform. Although Google Classroom provided resources on each topic, students gathered ideas from the Internet and other sources. Using the online platform Zoom, students were able to record conversations with their peers, even though face-to-face meetings were not possible due to COVID-19. The great thing about recording online conversations is that you can do it anytime, but at home because you don't need a common place for students to meet and record. This helped the students to incorporate the story into their cycle of work many times. Students planned, designed, and researched to complete the phases of the work cycle. According to (Robillos & Bustos, 2023), student participation in tasks maximizes speaking speed, grammatical accuracy, and pronunciation, and helps develop fluency as they begin to form complex sentences. Based on the results, the same results were obtained in the performance of the students in this study. This course helped to internalize the speaking process through a variety of exercises, allowing students to prepare for homework without too much teacher intervention.

Another advantage of using the TBLT method over the communication model is that students are enabled to achieve their speaking goals. This is because in the TBLT approach, the role of the lecturer is specific and limited to some extent during the execution of the task. The lecturer introduced the topic and then had the students complete the task without the teacher's assistance. However, while communicative methods, the most widely used language teaching systems, often promote the idea of logical and coherent discourses in virtual situations (Adem & Berkessa, 2022), communicative methods require significant lecturer involvement. Certain situations that were difficult in online classrooms during the COVID-19 pandemic. As observed in this study, ESL students can overcome speaking anxiety with the TBLT method. Students may be nervous about speaking a foreign language at first, but they can improve their fluency when they could study with their peers and talk about their plans. Writing a story will boost the confidence of students who won't be faced with a situation where they must speak English in a few minutes. Through writing, students gradually become familiar with the mechanics of the speaking process. Since the topic of discussion was known to all students, they were able to spontaneously contribute to the conversation. The reluctance to speak a foreign language will disappear after practice. These results support the conclusions of (Ha, Pham & Tran, 2023), (Muntrikaeo & Poonpon, 2022) that language learning is better when students are motivated. The final step in the TBLT (Language Focus) method specifically began with Google Classroom. Here, students have posted grades in the "Stream" area, visible to both the lecturer and all students enrolled in the class/unit. The lecturers invited students to provide feedback on their peers' work in the comments. In addition, improvised conversation recording techniques can be applied to ESL classes at all levels in Malaysia and other parts of the world. The positive results of TBLT in this study suggest that this method may be useful for improving students' speaking skills in ESL classrooms. As the world becomes more acclimated to technology-based classrooms, it can be a useful tool to start recording calls. Google Classroom section. The researchers also had the opportunity to listen to the recording several times to identify language issues in the interview. Feedback was provided based on word selection, sentence structure, pronunciation, flow, and other language features. Positive evaluations from peers and constructive language feedback can be a useful experience for improving students' English fluency. As (Rodriguez & Mosquera, 2020) observed, combined therapy and feedback help students perform better in ESL classrooms.

In this study, the TBLT method to improve ESL students' fluency received positive responses from students because it emphasizes students' communication skills through life topics. Students had the opportunity to pay attention not only to the language, but also to the mechanism of use in real-world situations. The TBLT method helps students understand subjects, enhance their learning experience, and connect language learning with language use outside the classroom (Bygate, 2020), (Yundayani & Ardiasih, 2020). This study also confirms the results of previous studies by (Septiyana, 2019), (Sumarsono, Muliani & Bagis, 2020), (Tandipayuk & et. al., 2023), that the use of task-oriented language learning is effective.

C. Implications

1. This study has significant implications for students, lecturers, policy makers, or curriculum developers. Furthermore, this study has important implications for future research. First, ESL students may find the benefit of recording spontaneous conversations to improve their speaking fluency, especially during online learning courses.

2. Second, the study findings encourage lecturers to use personal speaking skills to improve students' speaking skills. Third, for policy makers or curriculum designers in an ESL-using audience, this strategy can be incorporated into the course syllabus so that students can practice their foreign language outside the classroom when face-to-face interaction is interrupted. in the COVID-19 pandemic.

3. Thirdly, this study contributes to lecturers' motivation to develop new methodologies for the teaching of ESL, which makes students more involved in their learning. By using this technique, teachers provide all the tools students need to be able to deliver a speech for several minutes without being interrupted.

4. The findings in this study support previous research that suggests the use of the TBLT method improves students' speaking fluency. The results obtained during this investigation can be useful for lecturers who would like to investigate the same topic in their own contexts. Based on the researcher's personal experience, carrying out this study was an enriching experience

5. Finally, for further study, this study adds to the existing literature on the use of TBLT to improve speaking skills in ESL students.

6. Conclusion

In conclusion, the addition of self-talk to improve fluency had a significant effect on the fluency of students in the experimental group. Students' ability to speak fluently in their notes made them great presenters in other situations as well. This study found that the mean improvement in fluency in the experimental group was greater than the mean improvement in the control group. After the test, the mean score of the experimental group was higher than that of the control group (72.33 > 67.40). Therefore, it can be said that the magnetic recording had a clear effect on the fluency of the experimental group. The average margin of improvement is also an important finding of this study. The average N-win score of students in the experimental group was higher than that of the control group (.0424>0.205). Students also had the opportunity to record the story several times before delivering the final version, allowing them to learn new vocabulary and complex words. ESL lecturers can use spontaneous conversation recordings to improve student fluency in the classroom. In addition, the TBLT method can be a useful tool to improve students' fluency not only at the higher education level, but also at other levels of education.

There are several research gaps that future researchers need to fill. First, this study was conducted with a small sample. As a result, the conclusion can only be applied to classes with the same number of students. Future researchers can work with larger samples to determine the effectiveness of call recordings in task-oriented language learning. Second, this study was conducted in the sense that the courses were conducted on an online platform during the COVID-19 pandemic. Studies on the effectiveness of this method in face-to-face training can be explored in future studies. Finally, future researchers need to determine how long it will take students to overcome certain grammatical errors in their speeches.

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Daljeet Singh Sedhu: Introduction, Methodology, Findings
Jufiza A. Wahab: Literature review, Findings, Discussions
Mohd Nasurudin Hasbullah: Findings, Discussions
Thuraiya Mohd: Literature Review, Methodology, Discussions
Azrul Bahaluddin: Literature Review, Discussion

Conflict of Interest

There is no conflict of interest associated with this publication.

References

Adem, H., & Berkessa, M. (2022). A case study of EFL teachers' practice of teaching speaking skills vis-à-vis the principles of Communicative Language Teaching (CLT). *Cogent Education*, 9(1), 2087458.

Bush, T., Ng, A. Y. M., Too, W. K., Glover, D., & Chay, J. (2023). Ensuring acceptability and feasibility: The challenges of educational policy reform in Malaysia. *Leadership and Policy in Schools*, *22*(2), 314-329.

Bygate, M. (2020). Some directions for the possible survival of TBLT as a real-world project. Language Teaching, 53 (3), 275-288. https://doi.org/10.1017/S0261444820000014

Colognesi, S., Coppe, T., & Lucchini, S. (2023). Improving the oral language skills of elementary school students through video-recorded performances. *Teaching and Teacher Education*, *128*, 104141.

Dang, T. N. A., & Nga, P. T. (2022). Utilizing Video Recording to Develop EFL Student's Speaking Skills. *International Journal of Linguistics, Literature and Translation*, *5*(5), 63-71.

Ghasedi, P., Yazdani, H., & Ahmadian, M. (2023). Virtual Languaculture Task Implementation as a Mediator between EFL Teachers' Digital Literacy and EFL Learners' Speaking Fluency and Accuracy. *Teaching English as a Second Language Quarterly (Formerly Journal of Teaching Language Skills)*, *42*(2), 149-171.

Ha, T. Y. N., Pham, H. H., & Tran, T. N. (2023). The Impacts of Task-Based Activities on Learners' Grammatical Acquisition and Motivation at Dong Nai Technology University. *International Journal of Asian Education*, *4*(2), 74-87.

Hardianti, H., Dollah, S., & Sakkir, G. (2023). Retelling Story through Picture Series to Improve Speaking Skill the Eleventh Grade Students of SMAN 6 Pangkep. *Journal of Excellence in English Language Education*, *2*(1), 109-115.

Islam, M. Z. (2021). Shift of English Literature learning from classroom to online: preferences and attitude of Malaysian undergraduate students. Elsya: Journal of English Language Studies, 3(1), 1-7. https://doi.org/10.31849/elsya.v3i1.5869

Kubota, R. (2023). Racialised teaching of English in Asian contexts: Introduction. *Language, Culture and Curriculum*, *36*(1), 1-6.

Lambert, C., Aubrey, S., & Bui, G. (Eds.). (2023). *The Role of the Learner in Task-based Language O muc Teaching: Theory and Research Methods*. Taylor & Francis.

Mondol, M. S., & Mohiuddin, M. G. (2020). Confronting Covid-19 with a paradigm shift in teaching and learning: a study on online classes. International Journal of Social, Political and Economic Research, 7(2), 231-247. https://doi.org/10.46291/IJOSPERvol7iss2pp231-247

Muntrikaeo, K., & Poonpon, K. (2022). The Effects of Task-Based Instruction Using Online Language Games in a Flipped Learning Environment (TGF) on English Oral Communication Ability of Thai Secondary Students. *English Language Teaching*, *15*(3), 9-21.

Rahman, M. M., & Singh, M. K. M. (2020). Language ideology of English-medium instruction in higher education: A case study from Malaysia. English Today, 36(4), 40-46. https://doi.org/10.1017/S0266078419000294

Rahman, M. M., Islam, M. S., Karim, A., Chowdhury, T. A., Rahman, M. M., Seraj, P. M. I., & Singh, M. K. M. (2019). English language teaching in Malaysia today: Issues, outcomes and implications. Language Testing in Asia, 9(1), 1-14. https://doi.org/10.1186/s40468-019-0085-8

Renandya, W. A., Nguyen, T. T. M., & Jacobs, G. M. (2023). Learning to unlearn faulty beliefs and practices in English language teaching. *Studies in English Language and Education*.

Robillos, R. J., & Bustos, I. G. (2023). Unfolding the potential of technology-enhanced task-based language teaching for improving EFL students' descriptive writing skill. *International Journal of Instruction*, *16*(3), 951-970.

Robillos, R. J., & Bustos, I. G. (2023). Unfolding the potential of technology-enhanced task-based language teaching for improving EFL students' descriptive writing skill. *International Journal of Instruction*, *16*(3), 951-970.

Rodriguez, L. M. G & Mosquera, P. A. (2020). The impact of feedback and explicit rhetorical instruction of ESL student's writing proficiency in higher education. Journal of the Spanish Association of Anglo-American Studies. 42(1), 120-142. http://doi.org/10.28914/Atlantis-2020-42.1.07

Septiyana, L. (2019). Designing English speaking materials using Task Based Language Teaching (TBLT) For Islamic economics students. IDEAS: Journal on English Language Teaching and Learning, Linguistics and Literature, 7(2). https://doi.org/10.24256/ideas.v7i2.1031

Sumarsono, D., Muliani, M., & Bagis, A. K. (2020). The forcasting power of task-based language teaching and self-efficacy on students'speaking performance. Journal of Languages and Language Teaching, 8(4), 412-421. https://doi.org/10.33394/jollt.v8i4.2848

Suzuki, S., & Kormos, J. (2023). The multidimensionality of second language oral fluency: Interfacing cognitive fluency and utterance fluency. *Studies in Second Language Acquisition*, *45*(1), 38-64.

Tandipayuk, Y. T., Amin, F. H., Abd Al-Lateef, G. T., & Vargheese, K. J. (2023). Exploring the fluency and comprehensibility of a role-play-based speaking in a tourism are university. *International Journal of Humanities and Innovation (IJHI)*, *6*(2), 42-48.

YanJu, S., Mei, S. Y., & Mohamed, Y. (2017). Implementation of voice recording activities in improving Mandarin oral fluency. European Journal of Interdisciplinary Studies, 3(4), 56-61. https://doi.org/10.26417/ejis.v3i4.p56-61

Yundayani, A., & Ardiasih, L. S. (2020). Task-based materials design for academic purposes: Learners' English writing skill improvement. Studies in English Language and Education, 8(1), 258-275. https://doi.org/10.24815/siele.v8i1.18169

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ENHANCING GRAMMAR LEARNING MOTIVATION: A PRELIMINARY STUDY ON A MOBILE-ASSISTED INSTRUCTION TOOL

Aisyah Nazamud-din[1]* & Nur Aziela Aidit[2]

[1&2] Academy of Language Studies, Universiti Teknologi MARA(UiTM), Sarawak Branch, Samarahan, MALAYSIA

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Corresponding Author:
aisyahnazamuddin@uitm.edu.my,

ABSTRACT

In the emerging field of language learning research, technology has played a significant role. However, recent empirical studies have highlighted a lack of attention to grammar learning, particularly in designing instructional materials and motivational frameworks for efficient mobile-assisted grammar learning tools. This paper presents the results of a preliminary study that aimed to investigate learner motivation when using a mobile-assisted tool for learning the Subject-Verb Agreement (SVA) rule in English language grammar and to examine the differences between male and female students in terms of their motivation when experiencing the tool. The study applied the Attention-Relevance-Confidence-Satisfaction (ARCS) model in the instructional design under the name, SVATHLON 2.0. It was a mobile-friendly Google site page that was developed to teach students SVA in a more engaged and gamified environment. The research employed a descriptive quantitative design, involving a questionnaire that was distributed to 111 undergraduate students who enrolled in a compulsory English language course for the semester 1 programme at a public university. The findings demonstrated that most students showed positive motivation after using SVATHLON 2.0 while learning SVA. The results of this preliminary study suggest that SVATHLON 2.0 could be an effective tool to enhance learner motivation, with positive responses from both male and female students. This study underscores the potential of gamified instructional materials to address the need for innovative and engaging approaches to grammar learning, particularly in the context of technology-assisted language education.

1. Introduction

Student motivation is critical in the learning process, particularly when it comes to complex or intricate subjects like grammar. Motivation drives engagement, effort, and persistence, which are key elements for successful learning. When motivated, students tend to pay more attention, process information more efficiently and are more likely to apply strategic efforts and better comprehend the learning material. Furthermore, grammar is an essential component of any language, and building a strong foundation in grammar is key to effective communication. To ensure meaningful communication, it is important to be able to construct proper sentences by using basic grammatical rules. However, traditional ways of teaching grammar can often be viewed as mundane and challenging, causing students to lose interest and motivation (Kumayas & Lengkoan, 2023). By finding measures to improve student motivation while learning grammar, students would likely find the process more enjoyable and rewarding, leading to a better grasp of the language and improved communication skills.

Despite the proliferation of mobile-assisted language learning tools and educational websites that provide grammar instruction materials, empirical research examining their impact on student motivation in grammar instruction remains scarce (Brown et al., 2020; Lee et al., 2022). Consequently, educators and researchers are left with unanswered questions regarding the effectiveness of these tools in enhancing the learning experience and inspiring learners to grapple with intricate grammatical structures, specifically on the Subject-Verb Agreement (SVA) rule. SVA involves the use of relevant grammatical structures that are needed by language learners to master for them to be able to perform language tasks effectively (Febriyanti, 2019). The learners need to comprehend the rules of SVA so that they will be able to construct the sentences for the message to be delivered successfully to the recipients. Despite the apparent simplicity, SVA continues to pose difficulties for ESL learners in Malaysia due to the absence of SVA rules in most native languages in Malaysia.

Therefore, the present study is to fill this void by conducting a preliminary investigation into the motivational dynamics of a mobile-assisted instruction tool, referred to as SVATHLON 2.0. in learning SVA. Drawing inspiration from the Attention-Relevance-Confidence-Satisfaction (ARCS) model of motivation (Keller, 2016), SVATHLON 2.0 introduces an engaging and gamified approach to SVA rule instruction. The purpose of this study is to investigate the students' level of motivation in ESL classroom by referring to the aspect of ARCS in Kellers' instructional design model by answering these research questions:

RQ1: What are the students' levels of motivation in the aspect of ARCS while using SVATHLON 2.0 to learn the SVA rule?

RQ2: Is there any gender difference on the students' motivation in the aspect of ARCS while using SVATHLON 2.0 to learn the SVA rule?

2. Literature Review

2.1 The Correlation between the Teaching of Grammar in ESL and Motivation

Grammar serves as the backbone of language proficiency and communication as its role is essential for all four language skills: listening, speaking, reading, and writing. Learning grammar may enable the learners the ability to fundamentally use the language efficiently based on the knowledge (Al Abri, Al Seyabi, Al Humaidi & Hasan, 2017). A strong grasp of grammar is essential for ESL learners to express themselves accurately and comprehensively in both spoken and written English (Bardovi-Harlig et. al, 2005). However, grammar is a complex element in a language which often makes the learners struggle to grasp the concept successfully. Due to this, lower proficiency learners are often confronted with frustration if they are unable to produce the language as how they perceive they should. This could negatively affect their motivation to achieve the language tasks.

1. The concept of learners' motivation is used to describe the level of attention and effort the learners invest in a range of activities, some of which may not align with their teachers' preferences. This motivation is rooted in the learners past experiences with subjects, especially those experiences that influence their willingness to participate in language learning activities and the reasons influencing their engagement in the classroom. Winne and Marx (1989) offer a definition of motivation that encompasses both a condition necessary for effective instruction and an outcome arising from it. Gardner (2010) provides additional support for the importance of motivation crediting it as a key factor in achieving proficiency in second language acquisition. Considering this view, it becomes clear that the motivation of learners plays a critical role in the realm of successful language acquisition. This is supported by (Dörnyei, 2009) who emphasized that student motivation is widely recognized as a critical factor influencing language learning outcomes. Motivated learners are more likely to persist in their studies, invest effort in learning tasks, and achieve higher levels of proficiency as compared to those who possess lower motivation.

2. In the context of grammar instruction, motivated students are more inclined to actively engage with grammar rules, practice exercises, and seek opportunities for improvement (Deci & Ryan, 2000). In the teaching of grammar, students across levels of education are found to be lacking in motivation as the topic is perceived to be dry (Thornburry, 1999). Previous research has suggested that learners' low motivation in learning grammar often stems from unengaging and uninteresting lessons in ESL classrooms (Wang, 2010). Most ESL classrooms in the tertiary institutions employed traditional approaches where the teaching of grammar is still carried out very traditionally making the students lose motivation when the lecturers used traditional methods such as the 'chalk-and-talk' approach which can be dull and predominantly teacher-centred. Most of the time, the students are busy copying the notes given without concern for whether they understood what has been taught by the lecturer (Chen & Li, 2010).

3. To boost the learners' motivation, Kumayas and Lengkoan (2023) emphasize the need for teachers to create interesting grammar lessons to evoke enthusiasm among learners. There are several ways for teachers to encourage motivation in grammar instruction class. Firstly, making grammar instruction relevant to learners' needs and interests can enhance motivation. Teachers

should connect grammar lessons to real-life communication scenarios, highlighting how mastering specific grammar rules can improve their language skills and overall communication (Dörnyei & Ushioda, 2011). Besides, allowing students to have some control over their learning process, such as selecting topics or activities, leads to improvement in motivation. Autonomy encourages a sense of ownership and responsibility for their progress (Deci & Ryan, 2000). More mature students like university students prefer to learn according to their current interest and convenience (Ganapathy, et. al, 2015). Feedback and praise are effective strategies the teachers can employ to boost motivation among learners. By providing timely and constructive feedback, along with praise for effort and improvement, can boost students' self-esteem and motivation (Hattie & Timperley, 2007). Other than that, the teachers need to set a clear and achievable goal, including specific grammar targets, which can provide students with a sense of direction and motivation to work toward those objectives (Locke & Latham, 2002). Teachers can also initiate task variety by incorporating a variety of engaging grammar exercises and activities, such as games, multimedia, and real-world tasks, which can make grammar learning more enjoyable and motivating (Ur, 2012). In this vein, particular emphasis is placed on enhancing learners' learning experience by leveraging on technology-enabled models to enable more personalised learning in the higher-level learning classrooms as teaching digital age 21st century students require adaptive and technological induced methods by educators (Ganapathy 2015) such as, mobile-assisted instructional tools.

2.2 Keller's Instructional Design of Motivation (ARCS)

Keller's ARCS Model of Instructional Design is a theoretical framework developed by John M. Keller in the 1980s, which is designed to enhance and sustain learner motivation in educational settings. Previous research indicates that the ARCS model has significantly improved learning outcomes where numerous studies have explored the implementation of this model across diverse educational contexts (Refat et al., 2020). This model has been particularly influential in the training and design of instructional materials (Mills & Sorensen, 2004) as it serves as a template for developing and delivering a unit of instruction that motivates learning (Keller, 2016). The model focuses on four key components, each represented by an acronym within the ARCS framework:

1. Attention (A): This component involves capturing the learner's attention and interest in the learning material. To do this effectively, instructors should use techniques that stimulate curiosity, novelty, or surprise. Strategies may include intriguing questions, multimedia elements, or real-world examples (Suzuki et. al, 2004).

2. Relevance (R): Learners are more motivated when they see the direct applicability and relevance of the content to their own lives or goals. Instructors can enhance relevance by linking the learning material to the learners' personal experiences, career aspirations, or interests (Suzuki et. al, 2004).

3. Confidence (C): Learners need to feel that they have the capability to succeed in the learning task. This component involves boosting learners' self-confidence by providing clear instructions, breaking complex tasks into manageable steps, and offering constructive feedback (Suzuki et. al, 2004).

4. Satisfaction (S): Learners should experience a sense of satisfaction or accomplishment from the learning process. This can be achieved by recognizing and rewarding learners for their achievements, ensuring that they see the value of what they've learned, and fostering a sense of accomplishment (Suzuki et. al, 2004).

4. In one study, the model was employed to design learning materials and create a motivating classroom environment in an ESL classroom in a traditional Japanese classroom setting where the learners were using mobile-assisted learning tools as part of the learning activities. The instructional design aimed to boost the confidence and reduce anxiety among the learners when communicating in English. Results confirmed the model's effectiveness in cultivating motivation among learners. Additionally, the use of mobile devices played a significant role in raising the learners' awareness of language acquisition, further fuelling motivation within the classroom setti g (Refat et al., 2020).

2.3 Gender Influence on Motivation in ESL Classroom

Recent studies continue to explore how gender affects achievement motivation in grammar instruction. Firstly, some research suggests that girls may exhibit higher intrinsic motivation and engagement in tasks that require attention to detail, such as grammar exercises (Sakiz, 2019). Girls often excel in language-related subjects due to their conscientiousness and attention to accuracy (Else-Quest et. al, 2010). On the other hand, boys may be more motivated in competitive and challenge-oriented tasks (Eccles & Wang, 2016). Incorporating elements of competition, gamification, or problem-solving in grammar instruction may enhance motivation for male learners. Research also has suggested that girls often exhibit higher levels of intrinsic motivation in language learning (Doğruöz & Yıldırım, 2020). They may be motivated by the desire to connect and communicate, emphasizing interpersonal aspects of language use. However, boys may be more intrinsically motivated when language tasks are presented as challenges or puzzles (Skehan, 2017). Incorporating problem-solving and gamification elements in ESL instruction may enhance motivation for male learners. In the aspect of task preference, some studies have found that girls tend to prefer language tasks that involve communication and interpersonal interactions, while boys may be more motivated by tasks that involve competition and performance (Dörnyei, 2005).

3. Methodology

This study employed a descriptive quantitative research design to investigate the learner motivation based on Kellers' ARCS model of motivation in the context of grammar education, specifically the Subject-Verb Agreement (SVA) rule while using the mobile-assisted instruction tool, SVATHLON 2.0. The participants in this preliminary study consisted of 111 undergraduate students enrolled in a compulsory English language course for the semester 1 program at a public university. The selection of participants was based on convenience sampling, as the course was mandatory for the target student population. The participants encompassed a diverse demographic, representing both male and female students, which allowed for the examination of potential gender-based variations in motivation.

The goal of SVATHLON 2.0 (https://bit.ly/455wRYA) was to increase students' motivation as they study the subject-verb agreement (SVA) rule of the English language. It was simple to access via a laptop, tablet, or smartphone. The instructional design paradigm known as Attention-Relevance-Confidence-Satisfaction (ARCS) served as the model for creating the Google site. With a focus on SVA rules, SVATHLON 2.0 included notes, videos, activities, and references to aid ESL learners in honing their language abilities. There were three levels of tasks to finish, and they were integrated from several programmes like the free Hot Potatoes software, Genially quizzes, and Gamilab games. Song lyrics and close passages were developed for the first level, while a series of quizzes were designed for the second level. The final level was an interactive game where students must compete while digitally responding to questions regarding SVA. After explaining about the SVA rule at the beginning of the instruction, the lecturer introduced SVATHLON 2.0 as a reinforcement activity. Then, a questionnaire was distributed to the students to determine their motivation level.

The questionnaire was adapted from the Instructional Material Motivational Survey (Refat et. al, 2020) that was designed following the ARCS model by Keller (2004). The questionnaire comprised a series of Likert-scale items, asking participants to rate their motivation levels after using SVATHLON 2.0 for SVA rule instruction. The 10 questionnaire items were divided into 4 sections: Attention (A), Relevance (R), Confidence (C), and Satisfaction (S). Respondents answered by choosing the Likert scale that ranged from strongly disagree (1) to strongly agree (5) for each item.

To analyse the data, quantitative analysis procedures were executed using appropriate statistical techniques. Descriptive means and independent-sample t-tests were run, to assess the levels of each component in ARCS and the mean differences between male and female respondents in their levels of motivation.

4. Results

RQ1: What are the students' levels of motivation in the aspect of ARCS while using SVATHLON 2.0 to learn the SVA rule?

Table 1
Students' level of motivation based on ARCS

ARCS	Items	Mean	Std. Deviation
A	There was something interesting at the beginning of the tool that got my attention	4.117	.759
A	The variety of exercises, illustrations, in the tool, helped keep my attention	4.288	.718
R	There were videos, games and examples in the tool that showed me how subject-verb agreement could be beneficial to people.	4.315	.786
R	The content of this learning material is relevant to my interests	4.225	.794
R	I could relate subject-verb agreement to things I have seen, done, or thought about my own life	4.225	.722
C	Completing the exercises successfully was important to me	4.225	.816
C	As I worked on this lesson, I was confident that I could learn subject-verb agreement.	4.162	.757
S	Completing the exercises in this lesson gave me a satisfying feeling of accomplishment.	4.279	.740
S	I really enjoyed studying subject-verb agreement using this learning tool.	4.351	.746

S	It was a pleasure to work on such a well-designed learning tool	4.414	.731

Table 1 displays the students' level of motivation based on Keller's ARCS model of motivation while experiencing a gamification approach via the use of SVATHLON 2.0 while learning SVA. Generally, students showed a high level of motivation in every aspect of ARCS. Students agreed to feel satisfaction the highest when they were satisfied after completing the exercises and had a sense of accomplishment in SVATHLON 2.0 (M=4.279, SD=.740), they enjoyed studying SVA using SVATHLON (M=4.351, SD=.746) and they felt pleased that SVATHLON 2.0 was a well-designed learning tool (M=4.414, SD=.731). Furthermore, students felt confident as they completed the exercise that was important to them (M= 4.225, SD=.816) and they gained confidence to learn SVA as they experienced the lessons in SVATHLON 2.0 (M=4.162, SD=.757).

As for the Relevance (R) component, students found relevance in the videos posted in SVATHLON 2.0 to teach SVA (M=4.315, SD=.786). Students also found the content of the learning material in the learning tool to be relevant to their interests (M=4.225, SD=.794). Lastly, students felt there was something interesting at the beginning of the site that attracted their attention (M=4.228, SD=.788) and they found the introduction of the SVATHLON 2.0 was attractive (M=4.117, SD=.759).

Conclusively, all students were discovered to be generally in high motivation to learn whilst adapting SVATHLON 2.0 in their SVA learning. Among all four components of the motivation model, the students were mostly satisfied with the learning tool, but they found the most difficult to sustain attention on SVATHLON 2.0. As satisfaction is obtained through the feeling of accomplishment when learners realise their value they have learnt (Suzuki et. al, 2004), SVATHLON 2.0 expresses the component by developing a scoring system that is embedded in every task, prepared for the students to keep track of their progress. This feature encourages intrinsic motivation every time they earn points for the correct answers and eventually ensures satisfaction is achieved by its user. Parallel to the findings, Refat et al. (2020) claim the learners' awareness is increased while activities are on-going on their mobile devices thus, boosting learner motivation. Other than that, SVATHLON 2.0 is vastly equipped with engaging activities such as listening to songs, quizzes, and virtual races to elicit interest that relate the learners to authentic situations (Ur, 2012). Based on the ARCS model (Keller, 2004), these captivating activities represent the attention (A) component because of their capability to attract and retain learner attention. However, the students failed to score as excellently as the other ARCS components; Relevance (R), Confidence (C), and Satisfaction (S) which means they were paying less attention to these features in SVATHLON 2.0. Thus, further improvements to implement more attractive elements such as engaging grammar exercises, games and multimedia widgets on the Google site should be considered to upgrade the learning tool, particularly the Attention (A) component.

RQ2: Is there any gender difference on the students' motivation in the aspect of ARCS while usingSVATHLON 2.0 to learn the SVA rule?

Table 2.
Levene's Test for Equality of Variances

ARCS		Levene's Test for Equality of Variances			
		F	Sig.	t	df
Male-Female	Equal variances assumed	.995	.321	-2.922	109
	Equal variances not assumed			-2.875	94.548

Table 2 portrays the Levene's Test for Equality of Variances between male and female students in terms of their motivation based on ARCS to ensure that the variances of different groups (male and female) in a dataset are similar. The result shows the p value was .321 (p>0.05) which means the null hypothesis was accepted. From the result of the analysis, it is deduced that equal variance in homogeneity was present between male and female student samples who participated in the present study.

Table 3.
Independent Sample T-test

ARCS		Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					Lower	Upper
GENDER MALE-FEMALE	Equal variances assumed	.004	-.34494	.11805	-.57892	-.11096
	Equal variances not assumed	.005	-.34494	.11998	-.58314	-.10674

Furthermore, to examine whether there was a difference between both genders in their motivation based on the ARCS model, an independent sample t-test was conducted via SPSS. The result in Table 3 shows significant result where p value was .004 (p<0.05). Therefore, null hypothesis was rejected. This statistically proved that there was a significant difference between male and female students in their response towards SVATHLON 2.0.

In line with the result, Dornyei (2005) mentioned the presence of gender difference in motivation. Evidently, girls prefer communicative tasks while the boys would choose competition or performance-based tasks instead (Dornyei, 2005). To add further, girls are more fascinated about the interpersonal aspects of language learning because of their innate characteristics that are drawn towards the need to establish connection with the people around them. Thus, it is important to note that this characteristic is paramount in distinguishing between the girls' and boys' learning attitude while engaging in a classroom setting (Skehan, 2017).

Table 4
The Levels of ARCS between Male and Female Students

ARCS	Gender	Mean	Std. Deviation
Attention	Male	4.0521	.67823
	Female	4.3175	.69155
Relevance	Male	4.0486	.70120
	Female	4.4127	.63278
Confidence	Male	3.9896	.77521
	Female	4.3492	.62627
Satisfaction	Male	4.1389	.70739
	Female	4.5079	.60718

Table 4 explains the differences of ARCS motivation levels between male and female students. It is proven that male students exhibited lower ARCS when compared to the female students. The male students' motivation was the lowest for Confidence (C) (M=3.989, SD=.775) and the highest for Satisfaction (S) (M=4.139, SD=.707) components. Contrastingly, the female students scored the highest for Satisfaction (S) (M=4.508, SD=.607) and the lowest for Attention (A) (M=4.318, SD=.692).

Doğruöz and Yıldırım (2020) construe similar perspective where their findings showed female students possess high satisfaction while learning languages because they appeal to the attention to the details required to learn a language, for example, to understand the miniscule components of the structure in a language. Other studies portray parallel findings which highlighted female students' inclination towards tasks engagement in grammar exercises due to their attention to accuracy (Sakiz, 2019; Else-Quest et. al, 2010). Nevertheless, the male students express higher motivation in competitive tasks such as competition, gamification, puzzles and problem-solving (Eccles & Wang, 2016; Skehan, 2017). The discrepancy in ARCS between both genders directs the teachers and researchers to consider gender as an essential factor to be reviewed when planning for a lesson, or the materials in a language classroom. Effective ESL instruction often involves a balanced approach that includes both communicative and competitive tasks, ensuring that students of all genders are motivated and engaged (Huang & Nunan, 2018).

5. Discussion

In summary, the study reveals SVATHLON 2.0 was successful in instilling motivation among the students during a grammar learning instruction. Students were observed to generally show high motivation as they scored high points in all aspects of the ARCS model. The findings also promise a potential in SVATHLON 2.0 as one of a mobile-assisted learning tool to warrant improvement in the students' accuracy of language if their motivation is sustained throughout the instruction. However, there is room for improvement in capturing the learners' attention as they paid less attention to certain features of the learning tool.

6. Conclusion

This study has indicated that different genders exhibit different motivation levels for distinctive ESL activities in the classroom. It is proven that female learners showed higher motivation in interpersonal language aspects while male learners were more motivated by competitive tasks. The disparity of the motivation levels between genders in the present study has brought forward an area worth studying in the context of language learning in higher education.

The major limitations were the sample and the design of the study. The researcher conducted convenience sampling instead of random sampling due to the time constraint while collecting the data. Hence, students who were assigned to the researcher by the administration of the university were selected conveniently as the respondents to the questionnaire. Other than that, as this was a preliminary study, the outcome of other variables such as the students' improvement in SVA rule knowledge after using the tool or the teachers' experience while utilizing the tool in their instruction were not considered. The differences between the students' motivation before and after using SVATHLON 2.0 was also not investigated due to the time constraint.

For future research, the ARCS instructional design model can contribute to enhancing motivation through many aspects of ESL instruction, especially grammar lessons. Researchers who are interested in studying the ARCS model can explore the impact of the model on learners' attention, relevance, confidence, and satisfaction in relation to their improvement in the grasp of the language. On the other hand, it is pertinent for future studies to also explore other variables influencing the learners while incorporating mobile assisted learning tools. Lastly, curriculum designers who are considering motivation as one of the pivotal factors to an effective syllabus could implement the ARCS model to capture students' interest to ensure a more inclusive ESL lesson.

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Authors Contributions

The authors contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

Conflict of Interest

There is no conflict of interest associated with this publication.

References

Al Abri, A., Al Seyabi, F., Al Humaidi, S., & Hasan, A. H. (2017). Grammar Learning Strategies in Omani EFL Classes: Type and Relation to Student Proficiency. Journal of Studies in Education, 7(2), 151-166.

Bardovi-Harlig, K., & Hartford, B. S. (2005). Interlanguage pragmatics: Exploring the marking of epistemic modality in the English of second language learners. Language Learning, 55(3), 383-422.

Brown, A., Johnson, R., & Davis, M. (2020). Integrating Mobile Technology into Language Education: A Comprehensive Review. Journal of Language Learning and Technology, 24(2), 45-63.

Chen, C-M. & Li, Y-L. (2010). Personalised context-aware ubiquitous learning system for supporting effective English vocabulary learning. Interactive Learning Environments. Vol. 18(4), 341 364.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self determination of behavior. Psychological Inquiry, 11(4), 227-268.

Doğruöz, A. S., & Yıldırım, S. (2020). An exploration of gender-based motivation among Turkish university students in an EFL context. Gender and Language, 14(2), 226-250.

Dörnyei, Z., & Ushioda, E. (2011). Teaching and researching motivation. Routledge.

Eccles, J. S., & Wang, M. T. (2016). What motivates females and males to pursue careers in mathematics and science? International Journal of Behavioral Development, 40(2), 100 106.

Else-Quest, N. M., Hyde, J. S., & Linn, M. C. (2010). Cross-national patterns of gender differences in mathematics: A meta-analysis. Psychological Bulletin, 136(1), 103-127.

Febriyanti, R. H. (2019). Students' ability and factors in using subject-verb agreement: A case study of Indonesian EFL learners in university level. Journal of Linguistics and Language Teaching, 5(2), 28-85.

Ganapathy, M. Vighnarah & Kaur, S. (2015). Using Beetham and Sharpe's (2015) Model in analysing the digital literacy practices of ESL students in an institution of higher learning. Malaysian Journal of Languages and Linguistics, 4(1), pp. 1-12.

Gardner, R. C. (2010) Motivation and second language acquisition: The Socio-Educational Model. Peter Long Publishing, Inc., New York.

Hattie, J., & Timperley, H. (2007). The power of feedback. Review of Educational Research, 77(1), 81-112.

Huang, L., & Nunan, D. (2018). Motivating EFL learners through task-based language teaching. TESOL Quarterly, 52(1), 84-109.

Keller, J. M. (2016). Motivation, learning, and technology: Applying the ARCS-V motivation model. Participatory Educational Research, 3(2), 1-15.

Kumayas, T., & Fergina Lengkoan. (2023). The Challenges of Teaching Grammar at the University Level: Learning From the Experience of English Lecturer. Journal of English Culture, Language, Literature and Education, 11(1), 98-105. https://doi.org/10.53682/eclue.v11i1.6058

Lee, S., Kim, H., & Park, J. (2022). Mobile Applications and Gamified Language Learning: A Systematic Review. Computer-Assisted Language Learning, 35(1), 58-78.

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. American Psychologist, 57(9), 705-717.

Mills, R. J. & Sorensen, N. (2004). Kid's College TM 2004: An implementation of the ARCS model of motivational design. Retrieved March 10, 2015 from http://www.contentedits.com/img.asp?id=1706

Refat N., Kassim H., Rahman M.A. & Razali, R.B. (2020) Measuring student motivation on the use of a mobile assisted grammar learning tool. PLoS ONE 15(8): e0236862. https://doi.org/ 10.1371/journal.pone.0236862

Sakiz, G. (2019). Student engagement and its relationship with individual and classroom factors in science among U.S. students. International Journal of Educational Research, 97, 41-53.

Skehan, P. (2017). Tasks and language learning: Integrating theory and practice. In The Routledge Handbook of Task-Based Language Teaching (pp. 10-24). Routledge.

Suzuki, K., Nishibuchi, A., Yamamoto, M., & Keller, J. M. (2004). Development and evaluation of a website to check instructional design based on the ARCS motivation model. Information and Systems in Education, 2(1), 63-69.

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IN-SERVICE ENGLISH TEACHERS' BELIEFS OF GRAMMAR TEACHING AT PRIMARY SCHOOLS IN SELANGOR, MALAYSIA.

Azrina binti Abu Bakar[1]*

[1] *Academy of Language Studies, Universiti Teknologi MARA (UiTM) Melaka Branch, Melaka, MALAYSIA*

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Corresponding Author:
azrinaabubakar@uitm.edu.my

ABSTRACT

The study of English teachers' beliefs about grammar teaching has been subjected to many discussions and empirical research in second language education. The issue of whether grammar should be taught or otherwise is not the only concern, but also some teachers encounter the issue of the best way to teach grammar, either teaching grammar explicitly or implicitly. This paper reports on a study which investigated the beliefs of in-service English teachers at primary schools in Selangor, Malaysia about the importance of the grammar component in learning English and its roles in teaching English as a Second Language (ESL) as well as the approaches to grammar teaching either explicit or implicit. For this study, the researcher employed a quantitative approach and randomly selected 50 in-service English teachers to obtain information regarding teachers' views of grammar teaching and classroom. The findings revealed that most of the in-service English teachers believed that the grammar component is significant in learning the English language and it should be taught at primary schools. In addition, the study found that most of them preferred to employ the implicit approach compared to the explicit approach in grammar teaching. Hence, it can be concluded that the teachers in the study had their own set of beliefs about grammar teaching. The involvement of various stakeholders such as ESL teachers, curriculum designers in ESL, and the Malaysia Ministry of Education plays essential roles to enhance the English education system and support pupils' achievement, especially at the primary school level.

1. Introduction

The emergence of different language teaching approaches and methods over the years have placed different emphasis on grammar language teaching. Numerous previous studies have shown that teachers have different views about English grammar teaching. Teachers' beliefs appear to influence teaching practices and teachers' instructional decisions (Johnson, 1994 as cited in Farrell & Lim, 2005). It means that the teachers' views can shape their beliefs about English grammar teaching, which will subsequently influence their grammar instructional decisions. They may have different reasons in choosing contents, emphasizing, and selecting different ways of teaching grammar and different modes of learning (Rohani, 2007). On top of that, there is a need to understand the underlying beliefs of English teachers about the importance of the grammar component in learning English and its role in teaching English as a Second Language (ESL) as well as the approaches used in grammar teaching to enhance the English language teaching practices and teacher education programs.

Although a great number of studies have been carried out in relation to English teachers' beliefs of grammar and classroom practices in the field of second language (L2) teaching, little research studies are currently known about in-service English teachers' beliefs of grammar teaching and approaches to English grammar teaching. Therefore, the current study seeks to fill an important gap in the existing research literature by investigating in-service English teachers' belief of grammar teaching and approaches to grammar teaching at primary schools in the state of Selangor, Malaysia.

1.1 Research Objectives

The research objectives are:

1. To identify the Malaysia primary school in Selangor, English teachers' beliefs about the importance of grammar in learning English and its role in teaching English as a Second Language (ESL).

2. To identify the Malaysia primary school in Selangor English teachers' beliefs about the approaches to grammar teaching (explicit or implicit).

2. Literature Review

The teaching of grammar can be defined as guiding students to understand grammar concepts by teaching how English works (e.g: the organizing principles of a linguistic communication system) as well as particulars" (Azar, 2007). Some researchers and academicians considered the teaching of grammar unnecessary. A few researchers acknowledged that some English teachers do not focus much on grammar teaching in the English classrooms since the advent of communicative language teaching (Nemah, 2012; Wang, 2010). Moreover, Nemah (2012) claimed that there was no correlation between the teaching of grammar and acquiring grammar among students because students could develop their grammatical competence and acquire grammar naturally in a fluency-oriented environment by interacting in the classroom without focus on language forms.

On the other hand, other researchers stated that grammar is vital in language learning, and they stressed the significance of teaching English grammar formally and its role in the ESL and EFL countries (Nemah, 2012; Wang, 2010; Phipps & Borg, 2009; Lim, 2005). Grammar teaching is essential to show how language works and guide students how to use the language correctly. When students acquire grammar knowledge and skills, they could be aware of a particular grammatical structure such as verbs and nouns, hence they can better understand and use the grammatical concept to combine words to form sentences competently (Mart, 2013).

The use of an explicit approach in grammar teaching features teacher's rules explanations, examples of how the new structure is used followed by practice exercises (Adair-Hauck, Donato, Q Cumo-Johanssen, 2005 as cited in Haight, Herron & Cole, 2007). Some teachers expressed that a more explicit approach to grammar teaching is effective in promoting language learning (Hulstijn & Graff, 1994; Ellis, 1997; Chastain, 1988 cited in Zhong, 2005). They believed that giving explanations to students about grammar rules overtly can help students to understand what they are practicing and enhance the accuracy of the language. According to Hudson and Walmsley (2005), "explicit instruction is an important part of grammar-teaching and is easier if the pupils already have some understanding of how their first language works". Also, in the explicit instruction, students consciously learn the targeted form which enables a student to describe a rule of grammar (Tutunis, 2012).

Meanwhile, an implicit instruction requires learners to infer how a form works without awareness (Ellis,2005). The teachers provide the rules and meanings in examples, but the teachers do not explain grammar rules, they only guide the students in a process of discovering the language (Woods, 1995 as cited in Graham, 2011). Numerous researchers revealed that students perform better in implicit induction than explicit induction. In a "New Perspectives on Grammar Teaching in Second Language Classroom" article published in 2002, Fotos (2002) explained that the use of implicit approach in grammar instruction is good, but it depends on students' sufficient opportunities to interact in class and much exposure outside of class. Krashen (1985) suggests the most effective method to improve grammatical accuracy without conscious learning is through sufficient meaningful communicative activities such as role-play, problem-solving and others (cited in Zhong, 2005).

3. Methodology

This study is a quantitative-method research design. The questionnaires consisted of 21 questions that were handed out to 50 in-service English teachers from eight randomly selected primary schools in Selangor to obtain data about teachers' beliefs of grammar teaching and classroom practices. The researcher developed a detailed description of each English teacher's beliefs on the importance of grammar in English learning and its role in teaching ESL, how grammar should be taught, teaching approaches and strategies that English teachers use and then make a comparison on teachers' similarities and differences.

During the administration, the researcher met the survey respondents and answered any questions regarding the questionnaire if they had any to avoid misunderstandings. The survey respondents completed the questionnaires at home and returned them back to the researcher during the next visit. Responses from questionnaires were recorded and analysed using the Statistical Package for the Social Sciences (SPSS) Version 20.0. The calculation of the frequencies, percentages and mean scores were listed in tables respectively.

4. Results

4.1 Teachers' Beliefs about the Importance of Grammar Component in Learning English and its Role in Teaching ESL

With respect to Table 1, most of the survey respondents stated that the grammar component is truly important in learning English language, and it should be taught at primary school English class with the mean score 4.48 and standard deviation of .677 (47 of them, i.e. 94%). Meanwhile, 41 (82%) survey respondents agree that grammar should be the main component of an English language course (M=4.00, SD=.969). The statement on it is important to focus on grammar in all English lessons causes a bit of discord (M=3.74, SD=.965), although many survey respondents agree with this statement.

Table 1.
Statements on the Importance of Grammar Component in English Language Learning and Its Role in Teaching ESL

Statements	Agree (%)	Neutral (%)	Disagree (%)	Mean (M)	Std. Deviation (SD)
Grammar is important in learning the English language and it should be taught in primary school English class.	94	4	2	4.48	.677
Grammar should be the main component of an English language teaching course.	82	10	8	4.00	.969
It is important to focus on grammar in all English lessons.	72	14	14	3.74	.965

*Scale: (0-2.99 = Disagree; 3.0-3.49 = Neutral; 3.5-5.0 = Agree) Total=*4.07

4.2 Teachers' Beliefs about the Approaches to Grammar Teaching (Explicit or Implicit).

The data in Table 2 indicates that most of the survey respondents agree on the statements of explicit approach. 34 (68%) of the survey respondents agree on the statement that teachers should begin a grammar lesson by explaining how separate structures work (M=3.72, SD=.882). The statement of the main role of the teacher in a grammar lesson is to explain the new grammar rule, with the high proportion of survey respondents (M=3.98, SD=.769) expressing an agreed opinion. Also, most of the survey respondents agreed that drills and memorization are very useful to learn and teach grammar (M=4.20, SD=.728). Generally, the high mean values between 3.72 and 4.20 present that survey respondents believe the explicit approach is to be applied in the classroom. But, the mean value 3.04 for the statement of grammar should be taught separately, not integrated with other English skills such as speaking and writing show that the survey respondents find the separate grammar teaching without integrating with other skills of less desirability in the classrooms, there is a high standard deviation for this statement (SD=1.245), this can say that survey respondents are not on the same page when it comes to applying separate grammar teaching. Overall, the total mean score of the statements on the explicit approach is 3.75, this should indicate high agreement of the survey respondents on the explicit approach.

Table 2.
Statements on the Explicit Approach

Statement	**Agree (%)**	**Neutral (%)**	**Disagree (%)**	**Mean (M)**	**Std. Deviation (SD)**
Teachers should begin a grammar lesson by explaining how separate structures work.	68	20	12	3.72	.882
The main role of the teacher in a grammar lesson is to explain the new grammar rule.	86	6	8	3.98	.769
Drills and memorization are very useful exercises to learn and teach grammar.	90	6	4	4.20	.728
Grammar should be taught separately, not integrated with other English skills such as reading and writing.	50	8	42	3.04	1.245

Scale: (0-2.99 = Disagree; 3.0-3.49 = Neutral; 3.5-5.0 = Agree) Total: 3.75

The data in Table 3 indicates that most of the survey respondents agree on all statements except for one statement which is grammar is best taught incidentally. The mean value 3.18 for the statement on grammar is best taught incidentally shows that the survey respondents surveyed find the teaching grammar incidentally of mediocre desirability in the classroom. There is a high standard deviation of the statement on grammar is best taught incidentally which means that survey respondents are not on the same page when it comes to applying the implicit approach. However, the survey results indicate that more than half of the survey respondents (46 of them, i.e. 92%) with the mean score 4.16 with standard deviation of .548 agreed that a major part of a grammar lesson should involve students in practicing structures and forty seven (94%) agreed that pupils can improve their grammatical accuracy through regular practice of structures (M=4.36, SD=.598). Additionally, a very big percentage of the survey respondents (46 of them, i.e. 92%) agree that statement grammar can be taught along with communication-oriented activities in primary school English teaching with the mean score 4.24 and standard deviation of .657.

Table 3.
Statements on the Implicit Approach

Statement	**Agree (%)**	**Neutral (%)**	**Disagree (%)**	**Mean (M)**	**Std. Deviation (SD)**
Grammar is best taught incidentally (i.e. there is no need to pre-plan grammar lessons).	48	20	32	3.18	1.10
The major part of a grammar lesson should involve students in practicing structures.	92	8	0	4.16	.548
Pupils can improve their grammatical accuracy through regular practice of structures.	94	6	0	4.36	.598
Grammar can be taught along with communication-oriented activities in primary school English teaching.	92	6	2	4.24	.657

Scale: (0-2.99 = Disagree; 3.0-3.49 = Neutral; 3.5-5.0 = Agree) Total: 3.99

In general, the high mean values between 3.74 and 4.48 in Table 1 shows that survey respondents believe grammar is essential in learning the English language thus it should be taught in teaching English as a Second Language (ESL), particularly in Malaysia primary schools. The total mean score of the statements is 4.07, this should indicate high agreement of the survey respondents on the importance of the grammar component in English language learning and its role in teaching ESL. It is likely that the finding can be explained with reference to the benefits of grammar teaching in improving accuracy and fluency of the spoken and written language (Zhong, 2005; Nasaaji& Fotos, 2004). Nassaji and Fotos (2004) also pointed out that grammar teaching helps language learners to explore the nature of language, thereby enhancing their accuracy in using the language. Thus, the teachers in this study may believe that grammar teaching can help pupils in improving their language proficiency and accuracy, therefore pupils can use the language accurately.

Even though grammar is seen as one of the building blocks of language learning, there is a high standard of deviation (M=3.74, SD=.965) for the statement of focusing on grammar in all English lessons. The survey respondents are not on the same page when it comes to the idea of focusing on grammar in all English lessons. This finding is in harmony with the previous finding (eg: Nemah, 2012). It is possible that survey respondents have varied opinions relating to the idea of focusing on grammar in all English lessons due to some factors such as the prescribed English curriculum syllabus, time constraints and high stakes examination.

Meanwhile, based on the findings, the total mean score for statements on the implicit approach is 3.99 (see Table 3), which is higher than the total mean score for statements on the explicit approach, 3.75 (see Table 2). This indicates that the survey respondents were in high agreement with the implicit approach compared to the explicit approach. Thus, the survey respondents seemed to prefer the implicit approach in grammar teaching, which contradicts the result found by Voolen, Cateleyn and Mottart (2012).

Although the above discussion revealed that survey respondents show high agreement with the implicit approach to grammar teaching, the majority of the survey respondents (M=3.98, SD=.769) agreed that teachers play the main role in a grammar lesson by explaining the grammar rules to pupils. This finding reinforces the explanation offered by Ghabanchi (2010), "explicit knowledge can teach learners how to acquire implicit knowledge", which means that if learners have background knowledge of grammatical rules and understand them in a separate lesson, they will be more likely to notice the grammatical rules when they are listening or reading in such communication-oriented activities.

The result from the questionnaire also illustrates that half survey respondents found the separate grammar teaching without integrating with other skills of less desirability in the classrooms (M=3.04, SD=1.245), they prefer to integrate grammar teaching in a meaningful communicative context. This finding is in harmony with previous research (eg: Zhong, 2005). The researcher investigated the teachers' beliefs of integrating grammar instruction in a meaningful communicative context. The finding illustrated that methods for integrating grammar instruction with communicative language learning enable students to recognize target grammar features in context and develop students' accuracy, thus improving their communicative abilities. This finding also in line with the result in the present study (see Table 3), as discussed before which revealed that survey respondents show high agreement in implicit approach to grammar teaching.

6. Conclusion

It can be concluded that most of the teachers in the present study have their own set of beliefs about grammar teaching. Learning grammar is important especially for ESL pupils in Malaysia and it should be taught at primary level which enables pupils to learn basic grammar so that pupils can communicate in English correctly and accurately. Besides, teachers also have different views about approaches that can be applied in grammar teaching. Therefore, understanding teachers' beliefs of grammar teaching is vital because this can shed light for teachers to reflect upon themselves to enhance their grammar teaching practices.

The involvement of various stakeholders such as ESL teachers, curriculum designers in ESL and the Malaysia Ministry of Education play crucial roles to enhance the English education system and support pupils' achievement. The Ministry of Education should provide in-service English teachers with more teachers' training through teacher development programmes to expose them to approaches to grammar teaching or other teaching techniques, thus they will realize and perhaps practice the current approaches or grammar teaching strategies in their grammar lessons.

Besides, course designers need to consider a vast array of beliefs that teachers expressed regarding the importance of grammar components in language learning, its role in teaching ESL and the approaches preferences to grammar teaching. The findings will give guidance for them to design materials that meet teachers' preferences concerning grammar teaching.

There are numerous recommendations for future research. Firstly, other studies like the present study could be carried out at other primary schools in other states in Malaysia to look for similarities and differences of teachers' beliefs about the importance of grammar component in learning English and its role in teaching English as a Second Language (ESL) as well as the approaches to grammar teaching (implicit or explicit). This opportunity will help the other researchers to compare the findings with other primary schools to have wider views among English teachers and search for approaches to best suit pupils' needs and interests.

Moreover, other studies can be expanded at other different levels of education institutions such as secondary school and university. The findings can be used by other researchers to look for another view of beliefs from different levels of institutions and how participants respond to the importance of grammar teaching and approaches for grammar teaching and learning.

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There is no conflict of interest associated with this publication.

References

Azar, B. (2007). Grammar-Based Teaching: A Practitioner's Perspective. TESL-EJ, 22 (11), 1-12.

Ellis, R. (2005). Instructed language learning and task-based teaching. In Hinkel, E. (Ed.), Handbook of research in second language teaching and learning (pp.713-728). Mahwah, NJ.LawrenceErlbaum Associates.

Farrell, T.S.C., & Lim, P.C.P. (2005). Conceptions of grammar teaching: A case study of teachers' beliefs and classroom practices. TESL-E, 9 (2), 1-12.

Fotos, S. (2002). Structure-based interactive tasks for the EFL grammar learner. In E. Hinkel & S. Fotos (Eds.), New perspectives on grammar teaching in second language classrooms (pp. 135-154). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Graham, M. G. (2011). Teachers' and Students' Beliefs about the Role of Grammar and Grammar Instruction in the Foreign Language Classroom. (Doctoral Thesis, Capella University, 2011).

Haight, C. E., Herron, C., & Cole, S.P.(2007). The Effects of Deductive and Guided Inductive Instructional Approaches on the Learning of Grammar in the Elementary Foreign Language College Classroom. Foreign Language Annals, 40 (2), 288-309.

Hudson, R., & Walmsley, J. (2005). The English Patient: English grammar and teaching in the twentieth century. Journal of Linguistics 41, 593-622.

Lim, P. C. (2005). Conceptions of Grammar Teaching: A case study of Teachers' Beliefs and Classroom Practices. Teaching English as a Second or Foreign Language, 9(2), 1-13. http://www.teslej.org/wordpress/issues/volume9/ej34/ej34a9/.

Mart, C.T. (2013). Teaching Grammar in Context: Why and How? Theory and Practice in Language Studies, 3 (1), 124-129.

Nassaji, H. & Fotos, S. Teaching Grammar in Second Language Classroom: Integrating Form-Focused Instruction in Communicative Context. New York: Routledge. 2011.

Nemah, A.A. (2012). Yemeni Teachers' Beliefs of Grammar Teaching and Classroom Practices. English Language Teaching, 5(8), 170-184. Retrieved 20 January 2013 from ProQuest Online.

Phipps, S. & Borg, S. (2009). Exploring tensions between teachers' grammar teaching beliefs and practices. Retrieved 15 October 2012 from Science Direct

Rohani, M. (2007). Teaching of Grammar : Teachers' Beliefs, Instructional Contexts and Practices. Unpublished doctoral dissertation, Universiti Sains, Malaysia.

Tutunis, B. (2012). Grammar in EFL Pedagogy: To be or not to be: Explicit or implicit grammar instruction in EFL. International Journal of Humanities and Social Science 2 (5), 120-122.

Voolen, V.V, Casteleyn, J. & Mottart,A. (2012). The impact of teachers' beliefs on Grammar instruction and students' grammar competences. Procedia - Social and Behavioral Sciences,(69),641 – 648. Retrieved 23 January 2013 from Science Direct.

Wang, F. (2010). The Necessity of Grammar Teaching. Retrieved 15 October 2012 from ProQuest Online.

Zhong, L. (2005). English as a second language (ESL) teachers' perceptions of grammar instruction. (Masters dissertation, Lakehead University,2005).

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COMPETITION-BASED LEARNING AND PROJECT-BASED LEARNING TO PROMOTE UNDERGRADUATE STUDENTS' MOTIVATION AND PERFORMANCE IN MATHEMATICS

Tammie Christy Saibin[1]*, Ung Ling Ling[2], Janvin Janteng[3] & Norfazillah Matmali[4]

[1,2,3&4] *College of Computing, Informatics and Mathematics Universiti Teknologi MARA (UiTM), Sabah Branch, Kota Kinabalu Campus, MALAYSIA*

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Corresponding Author:
tammi023@uitm.edu.my

ABSTRACT

A combination of two well-known learning models, project-based learning (PBL) and competition-based learning (CBL) maximises the advantages while avoiding the disadvantages of competition in Mathematics instruction. Thus, this study aims to improve the teaching and learning quality and enhance the learning outcomes of Mathematics instruction. To that end, the research hypotheses investigate the influence of the CBL-PBL approach on students' learning based on their engagement and educators' perspectives of the approach. A questionnaire was employed and distributed to 36 students and 2 lecturers who were using and implementing the CBL-PBL approach to achieve the research objectives. Non-parametric statistics tests were used to analyse the results. A significant relationship was found between the CBL-PBL approach and students' learning outcome based on their learning engagement, collaboration, authentic learning, disciplinary subject learning, and interactiveness. The results suggest that the CBL-PBL approach can maximise the students' learning outcomes by bridging academic theories and real-world practices through competition. Thus, the CBL-PBL approach is recommended for educational use with proper planning.

1. Introduction

As an emergency response to contain the Covid-19 pandemic, the governments of many countries have issued closures of national borders. Many sectors and people were affected irrespective of nationality, income, or gender. Education was no exception. The education systems of many countries were forced to make a sudden transition – from conventional face-to-face learning to online learning, which was highly dependent on broadband access and computers.

The Covid-19 pandemic also has an inevitable impact on higher education. Although higher education institutions quickly replaced face-to-face lectures with online learning, their students were still affected, particularly in accessing the internet and computers. In addition, the shutdown of international borders in response to the lockdown affected international students, particularly with regards to their safety and legal status.

The closures of universities and conversion to digital learning raise the question about the value offered by university education. According to Schleicher (2020), for universities to remain relevant, they need to reinvent their learning environment. Utilising digitalization and building an environment that suits student-teacher and student-student relationships can maximise the quality of online education.

The COVID-19 pandemic had an impact on three constructs of student learning: learning behavioural (students' frequency of participating in class discussions, meeting with instructors, and studying with peers outside the classroom); cognitive (students' sense of belonging and self-efficacy); and emotional (students' attitudes toward science, perceived value of the course, and stress) (Mseleku, 2020; Wester et al., 2021). To overcome these issues, scholars have developed a variety of learning techniques and learning models. Project-based learning (PBL) and competitions are two well-known models among others. Issa et al. (2014) proposed a new learning model that combines PBL and competitions. This model incorporates the advantages of competitions and PBL while avoiding the disadvantages of competitions by administering a set of constraints to prevent the model from being violated. This model has been used and proven by Saibin et al. (2021) as a successful learning technique based on students' perceptions.

Panwar et al. (2020) incorporated project-based learning within a competitive framework. The objective of the project was to create an online pedagogy for the Robotics and Embedded Systems subject using the Problem-Based Learning (PBL) approach. This objective was successfully accomplished, and as a result, the students demonstrated improved performance in the subject. Based on the feedback provided by the students, they gained the ability to function effectively within a cooperative and collaborative environment, so enhancing their aptitude for cooperation and subsequently enhancing their intra-personal and inter-personal proficiencies.

Based on past literature, the CBL-PBL approach may help promote students' motivation and produce more meaning in learning (Saad & Zainudin, 2022). In addition, this approach makes long-lasting connections with real-world applications. It supports the lecturers in delivering the subject contents more effectively. Therefore, our framework focuses on educational goals. The proposed intervention aims to improve the teaching and learning process and enhance learning outcomes. The present study has been undertaken to achieve the following objectives:

a) To study lecturers' perceptions about the implementation of the CBL-PBL approach in Mathematics instruction.

b) To investigate the determinants of CBL-PBL on students' Mathematics instruction

To guide the research, the following research questions were constructed:

1. What are lecturers' perceptions of the CBL- PBL approach in Mathematics instruction?
2. What are the determinants of CBL-PBL on students' Mathematics learning?

This study is essential for mathematics educators and learners who are having difficulties with ODL learning. It is expected that educators, faculty, and students are likely to benefit from its implementation, analysis, and conclusions. This study serves as a practical guide for future Mathematics learning to learners and the faculty, by presenting the determinants in promoting Mathematics instruction within the ODL environment. Nevertheless, this exposure allows the faculty to determine whether this approach improves the quality of mathematics-based education or whether changes should be made to address the difficulties associated with learning the subject. In any case, the findings of this study can help to enhance the methodology of teaching Mathematics in schools.

2. Literature Review

2.1 Project-Based Learning (PBL)

Project-based learning (PBL) has grown in popularity and has been investigated in a variety of situations at different educational levels, from elementary education to higher education. The purpose of problem-based learning is to engage students in the investigation of real-world issues whose solutions have the potential to be implemented and used in the real world (Hussein, 2021). Chen and Yang (2019) demonstrated that PBL has a few advantages, compared to traditional teaching methods. PBL provides students with three unique experiences: (1) a sense of freedom to express opinions, ask questions, and engage in discussion with colleagues; (2) the feeling of being able to influence the course of the learning process; and (3) the feeling of doing something that can be applied in the real world (along with contributing to the team's work).

Furthermore, according to common opinion, PBL stems from John Dewey's educational philosophy of "learning by doing" (Alam, 2021). Educators meticulously arrange activities that mimic real-world conditions so that students may engage in extended open learning and inquiry to facilitate meaningful learning. Facilitators, educators provide students with the required guidance and assistance. When students engage in a project, they use real-world resources and abilities to solve a series of interconnected challenges within a predetermined time range (Ummah et al., 2019; Viro et al., 2020). This style of inquiry-based learning emphasises ideas and principles from a variety of fields and encourages students to produce and promote their work results. With this definition, it is evident that PBL encourages students to use inquiry-based learning in real-world contexts and motivates the creation of final products based on student knowledge. In addition, Chen, and Yang (2019) reported that PBL learning increases student engagement in defining tasks/problems, exchanging ideas, making queries, obtaining and analysing data, and sharing outcomes with peers. While collaborating to address the driving issue, students get a deeper understanding of the pertinent concepts.

Besides, PBL improves mathematics communication skills, critical-thinking abilities, learning outcomes, process skills, problem-solving, creative thinking, and concept knowledge, according to previous studies on its usage as a learning paradigm (Ratnasari et al., 2018). According to Helle et al. (2006), autonomy improves students' capacity to generate new information by allowing them to use their prior knowledge and experience, which accelerate the generation of new knowledge. The final need is authenticity, which requires that the endeavour to be practical and not academic. Therefore, PBL should contain real-world issues where the emphasis is on realistic problems and where solutions may be applied. Meanwhile, Almulla (2020) recognised that the PBL technique has a substantial relationship with collaborative learning, disciplinary subject learning, iterative learning, and authentic learning, which in turn lead to student engagement. In addition, PBL also increases student involvement by facilitating the sharing and discussion of knowledge and information.

Collaborative learning is between the teachers-students and students-students interaction. In teachers-students interaction, teachers do not provide knowledge; they negotiate it in cooperation with students (Almulla, 2020). Students-student interaction develops essential skills for teamwork and communication. Disciplinary subject learning refers to the process of embedding academic content within context of a project in a certain subject area. According to Almulla (2000), this approach has been proven to improve students' performance in terms of IT skills, integration of technology into science and cooperative skills. Iterative learning involves students going through multiple rounds of planning, implementation, feedback, reflection to enhance the quality of their work. In the PBL approach, the teachers not only assess the students' perception of content but their ability to use the feedback for reflection (Grossman et al., 2019). Authentic learning involves students to generate new ideas, develop one another's thinking, and assess their own and their peers' thoughts (Moje, 2015). Students become active participants in their learning journey, developing skills and knowledge that they can carry forward into their personal and professional lives. Student engagement in learning believe that students are competent simulators (Lampert et al., 2013) that participate actively in the learning process and offers the best learning opportunities compared to the direct learning method (Bilbao et al., 2018).

2.2 Competition-based Learning (CBL)

The competition-based learning (CBL) contributes significantly to the learning processes. In this regard, teams should be established such that its members may embrace the potential of team-based learning's mutual effort. Specifically, competitions in games may be used to sustain students' desire to study over an extended length of time. Students might be engaged in the learning process to improve the efficiency of learning. Students play active roles in the learning process. Active learning now comes into view. Competition-based learning is supported by active learning. To achieve success in contests, students take proactive steps to acquire knowledge before their peers (Çulha, 2021).

According to Sung (2022), competition may help students improve their learning performance via interaction throughout the learning process. A competitive learning strategy entails that students attain learning goals via competition and its outcomes. Competitions amongst student groups both encourage and assist them in achieving the competition's objectives. In addition, participation in the competition encourages students to engage in group discussions and seek solutions from the literature, therefore enhancing their problem-solving and critical thinking skills. Past research has shown that competition makes students feel more energised and optimistic while addressing difficult tasks in real-world settings (Burguillo, 2010). Admiraal et al. (2011) discovered that students were influenced by the scoring and reward system of a game and subsequently competed with their classmates throughout the gaming process. The more pupils participated in the competition, the more information they gained.

More competition-based systems have arisen recently, usually coupled with motivation and active learning (Chen, 2018; Diep & Hieu, 2021). Frequently, competitions bring out the best in individuals and motivate students to do better in the classroom. They promote enhanced motivation (Vasilica et al., 2022), self-esteem (Hong et al., 2018), and academic performance (Radzi et al., 2020). When cooperation is used, students assume more responsibility in competitions than in conventional learning (Pang et al., 2019). However, the implementation of competitive-based learning should be undertaken with care (Chen, 2018). For instance, lecturers need to ensure that curriculum-based teaching and learning objectives are met.

2.3 Online and Distance Learning

The conventional face-to-face learning has been replaced by online (distance) learning, resulting in diverse effects on the academic performance, physical and mental health of students. Higher education plays a vital role in technological innovation and societal growth, which are crucial to study and enhance online learning in the 21st century. The learning environment may be one of the most important determinants of academic achievement in online education. Academic performance reduction is more plainly associated with studying at home or in a dorm. Several coping mechanisms, which are crucial for higher education and the promotion of a civilised and sustainable society, are proposed to enhance online learning in the post-pandemic period (Li & Che, 2022).

In addition, educational challenges in the present crisis include the need to rapidly transition to digital learning and instruction, to aid with students and instructors who study or instruct from home, and to ensure that students gain practical skills (Daniel, 2020). Access disparities to digital and other resources tend to exacerbate these difficulties. Therefore, instructors have been required to quickly locate or learn how to create remote, digital tools and resources (Hughes et al., 2020). Finding an appropriate and attractive interactive setting or incorporating teaching tactics into the course is a more advanced approach than a regular class or lecture.

Intrinsically, the system should include an appropriate learning model to enhance the learning result. Through interactive, adaptable, diverse, and stimulating activities, the ODL learning approach encourages students to discover and investigate things independently (Mamun et al., 2020). According to Hugus (n.d), features of effective online course design include a deliberate design of course components, authentic learning, engagement, and collaboration. An engaging online course is authentic and relevant when it connects student experiences to real-world application.

3. Methodology

This empirical investigation aims to analyse the effectiveness of employing the CBL-PBL learning model in studying mathematics, from the perspectives of lecturers and students. To achieve the aim, the researchers adapted a proposed model by Almulla (2020). The model highlights five major features that lead to student learning: learning engagement, collaborative learning, disciplinary subject learning, interactive learning, and authentic learning. This study has proposed 11 hypotheses to gauge students' perceptions of how CBL-PBL can affect students in Mathematics instruction.

The intervention is termed as Calculus Project Online Presentation Competition (CAPOPCOM), which was employed in August 2020. To assess the intervention, five significant elements of the CBL-PBL that promote students' Mathematics learning are highlighted: collaborative learning (COL), disciplinary subject learning (DL), interactive learning (IR), engagement in learning (EG) and authentic learning (AL).

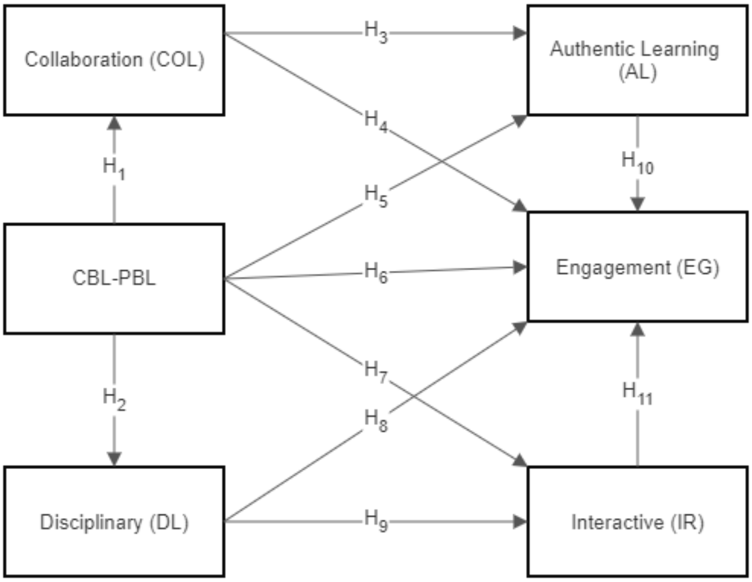

Figure 1: Research model and hypotheses by Almulla (2020)

Many learning environments include collaboration features that permit students to work together to learn and grow. Interaction between learners and between educators is critical to ensure meaningful learning. Collaboration encourages pupils to learn, engage as a group, and reinforce knowledge of the subject matter (Ling-Ling et al., 2021). The collaboration features comprise feedback, discussion, sharing and revision processes. These activities are crucial in establishing learners' knowledge repositories (materials, technologies, and contents), especially in the ODL environment (Sharma & Saini, 2022; Wihlborg et al., 2018). Utilising these features, the researchers opine that the projects can be conducted in students' own space and then shared during the virtual time. Therefore, the current research hypotheses include:

H1: There is a significant relationship between CBL-PBL and COL.
H3: There is a significant relationship between COL and EG.
H4: There is a significant relationship between COL and IR.

The theory of PBL is learning by doing, whereby learners are exposed to real-world challenges via a project (Hawamdeh & Adamu, 2021). To address a real-world issue, an individual cannot merely

rely on one area of skills but needs to apply different skill sets such as critical thinking, creativity, teamwork, communication, and technology skills. PBL via CBL is a learning model that can cultivate learners' lifelong development, as highlighted in Alt and Raichel (2022) and Aufa et al. (2021). Hence, the following hypotheses are formulated:

H2: There is a significant relationship between CBL-PBL and DL.
H8: There is a significant relationship between DL and EG.
H9: There is a significant relationship between DL and IR.

CBL-PBL substitutes assistive learning, faculty mentoring, discussion, and on-site experience for traditional classrooms. It supports in-depth learning for individual students within an ODL environment (Almulla, 2020). Hence, students' knowledge grows as more sharing/discussions are made. The questions in the competition are project-based and designed to inspire critical thinking. Students attempt to think about the various parts of the project rather than simply following what is taught in lectures. Students investigate the how, where, and why aspects of the challenges presented. It encourages learners to think creatively for real-world problem-solving. Accordingly, the hypotheses are put forward as follows:

H5: There is a significant relationship between CBL-PBL and AL.
H10: There is a significant relationship between AL and EG.

CBL-PBL is a strategy that bridges academic theories and real-world practice. Hence, it requires students to present their project problems, processes, methods, and results; defend their solutions when faced with peer review and constructive criticism. Accordingly, this empowers students' engagement. The engagement experience is directly related to the learning objectives (Almulla, 2020). Credit is given not only for completing hours of instruction but also for learning. Students, for example, reflect on what they learnt from the engaging experience and how it relates to the subject of the course. The CBL-PBL strategy also helps to instil civic development and responsibility in students (Ensmann et al., 2021), through discussion and sharing sessions. Hence, the hypothesis is formulated as:

H6: There is a significant relationship between CBL-PBL and EG.

CBL-PBL provides a platform for learners to interact by encouraging students to offer constructive comments to one another. The activities can be broadcast on a video-based social learning platform to engage students in weekly reflections. Students can use a basic video recording to communicate their problems and answers, ask course members questions, and discuss the next steps while they work on their assignments. Using CBL-PBL in remote learning allows teachers to create meaningful content. It also allows students to collaborate and connect with one another even when they are not in the same space. Hence, the hypothesis is formulated as:

H11: There is a significant relationship between IR and EG.

Table 1 presents a description of the construct items.

Table 1
Description of study constructs and items

Construct	Item	Description	Source
Collaboration	Col1	CAPOPCOM supported me as a student in collaborating with other students.	(Grossman et al., 2019; Ung et al., 2022)
	Col2	CAPOPCOM supported me in deciding and making choices on the project.	
	Col3	The CBL-PBL learning approach also emphasises 21st-century skills such as collaboration & interaction skills.	
CBL-PBL	CBL-PBL1	CAPOPCOM enabled me to share resources with other students.	(Grossman et al., 2019)
	CBL-PBL2	CAPOPCOM enabled me to share experiences in handling the project with other students.	
	CBL-PBL3	I find it easier to understand MAT183 (Calculus) with the CAPOPCOM learning approach.	
	CBL-PBL4	I like to learn MAT183 (Calculus) via CAPOPCOM.	
	CBL-PBL5	I think CAPOPCOM was an extremely effective way to learn MAT183 (Calculus).	
Authentic Learning (AL)	AL1	CAPOPCOM provided a meaningful and valuable learning environment for understanding MAT183 (Calculus).	(Grossman et al., 2019; Moje, 2015)
	AL2	CAPOPCOM compelled me to generate new ideas, share those ideas, develop one another's thinking, and assess my and other students' academic thoughts.	
	AL3	In CAPOPCOM, I integrated and applied knowledge from different lesson units to address the project questions.	
Disciplinary (DL)	DL1	I integrated technology (e.g., ICT tools) and applied MAT183 knowledge to my study area.	(Grossman et al., 2019)
	DL2	CAPOPCOM provided me with a platform to apply MAT183 (Calculus) knowledge to solve "real-world" issues in the project.	
	DL3	CAPOPCOM developed various abilities, including critical thinking, collaboration and problem-solving.	
Engagement	EG1	CAPOPCOM has increased my motivation to learn about new subjects or topics.	(Al-Rahmi et al., 2019; Grossman et al., 2019)
	EG2	I have participated actively in idea sharing and discussion.	
	EG3	CAPOPCOM has increased my desire to seek out new knowledge on my own that is relevant to my studies.	
	EG4	CAPOPCOM has increased my resourcefulness in finding helpful information to solve mathematics problems.	

Interactive (IR)	IR1	In CAPOPCOM, my friends and I actively engaged in giving, receiving, and using peer feedback to share information on the project.	(Grossman et al., 2019)
	IR2	In CAPOPCOM, the process of sharing, feedback and discussion is a continuous cycle throughout the semester.	
	IR3	Discussing and sharing in CAPOPCOM is crucial in generating ideas and reflection.	

Sampling Setting and Analysis

The CBL-PBL approach has been implemented in Calculus Project Online Presentation Competition (CAPOPCOM) since August 2020 in the Calculus course. Calculus is a course for undergraduate students in Applied Sciences at the Faculty of Applied Sciences in UiTM Sabah Branch. Therefore, the population of this study is all students who registered for the Calculus course in the current semester. They were taken as participants for CAPOPCOM. There were 36 students and two lecturers involved in CAPOPCOM for the March 2021 – August 2021 semester. The Calculus course syllabus is divided into three parts with five topics:

1. The first part introduces Functions and discusses Limits and Continuity.

2. The second part starts with Differentiation and techniques to solve Differentiation. This part is extended to include the application of Differentiation in four areas: related rates, sketching graphs, maximisation and minimisation problems, and the Mean Value Theorem.

3. The last part is devoted to Integration, the reverse differentiation process. Same as the second part, where it introduces Integration and techniques to solve Integration. Then, this part is extended to include the application of integration, where it focuses on the area under the graph and the volume of solid revolution.

This course is fully online, and the assessment is divided into quizzes 10%, assignment 10%, project 10%, tests 20%, and the final assessment 50%. The rules and regulations of the competition are explained in Saibin et al. (2021). The CBL-PBL approach has been implemented in project assessment and focused only on the second part of the syllabus which is Application of Differentiation. This is mainly because it is a compulsory topic in the course syllabus. The following is the administration of the CBL-PBL intervention:

1. Participants were Diploma in Science students who took the Calculus course in their fourth semester

2. Project requirements and specifications are defined by the course syllabus, in which participants were required to solve a real-world problem related to the topics they learned in the Calculus course

3. The participants strictly adhered to the competition rules set by the organiser

4. The winners received cash prizes and e-certificates as rewards

5. The competition judges were made up of lecturers

After the competition had ended, a survey form was distributed to the participants. The survey comprised closed-ended questions, with five-point Likert-type items (1-strongly disagree, 2-disagree, 3-not sure, 4-agree, 5-strongly agree) was administered to the participating lecturers and students at the end of the semester. The survey items themselves were adapted from various sources, and these sources are detailed in Table 1. The survey aims to gauge lecturers' and students' perceptions of the intervention. Cronbach's Alpha coefficients were used to ensure the construct items' reliability. The collected data were analysed using the SPSS 27.0 software and relative frequency relative means, standard deviations and non-parametric correlations were tabulated.

4. Results

A total of two lecturers and 36 students participated in the survey. All the students were doing a Diploma in Applied Science. The respondents comprised 28 female students (78%) and 8 male students (22%).

Table 2
Descriptive statistics of student respondents

Demographics	Value	Percentage
Gender	Female	78%
	Male	22%

RQ1: How do lecturers perceive CBL-PBL?

In addressing RQ1, Table 3 presents lecturers' perspectives of the intervention. There were two lecturers involved in the teaching and learning of Calculus. The table shows that both lecturers were optimistic about the implementation of the CBL-PBL approach in Mathematics instruction.

Table 3
Lecturers' perceptions towards CAPOPCOM

Statement	Mean
I feel that CAPOPCOM was mostly successful in improving students' engagement.	5
I find the implementation of CAPOPCOM very challenging but accomplishable.	5
I feel that CAPOPCOM successfully improved students' understanding of Calculus.	5
I feel that CAPOPCOM has succeeded in improving students' interest in Calculus.	4.5
I think that CAPOPCOM was an extremely effective way to teach Calculus.	4.5
And overall, I immensely liked implementing CAPOPCOM in teaching Calculus.	5

Open-ended questions were asked to gauge in-depth perceptions of the lecturers towards the intervention. When asked, "What do you like the most about CAPOPCOM?" Both lecturers highlighted the significance of using videos in presenting the project's outcomes. One lecturer stated that CAPOPOCOM had engaged the students in utilising technological tools to deliver the solutions more creatively. While the other lecturer said, "CAPOPCOM has improved teamwork among peers." RQ2: What are the significant influences of CBL-PBL on students' learning engagement?

The overall means and the standard deviations are presented in Table 4. The findings showed that the mean values for all the dimensions were high, indicating a positive response to the constructs that were measured in this research. Reliability tests were executed. The results revealed that the Cronbach's Alpha coefficients for construct items were relatively high: Collaboration (0.885), CBL-PBL (0.787), Authentic Learning (0.952), Disciplinary Learning (0.952), Engagement (0.888) and Interactive (0.779). The Cronbach's a values which were higher than 0.70 indicate high internal consistency reliability for the scales.

Table 4
The descriptive statistics of the constructs

Question	Mean	Standard Deviation	Minimum	Maximum
COL1	4.14	0.351	4	5
COL2	4.19	0.401	4	5
COL3	4.25	0.439	4	5
CBL-PBL1	4.08	0.280	4	5
CBL-PBL2	4.03	0.167	4	5
CBL-PBL3	4.06	0.232	4	5
CBL-PBL4	4.08	0.280	4	5
CBL-PBL5	4.08	0.280	4	5
AL1	4.14	0.351	4	5
AL2	4.11	0.398	3	5
AL3	4.08	0.368	3	5
DL1	4.14	0.351	4	5
DL2	4.11	0.398	3	5
DL3	4.08	0.368	3	5
EG1	4.11	0.319	4	5
EG2	4.08	0.280	4	5
EG3	4.14	0.351	4	5
IR1	4.19	0.401	4	5
IR2	4.14	0.351	4	5
IR3	4.25	0.439	4	5

Table 5 indicates that there was a significant, positive, and moderately strong correlation on H1 (Kendall $|\tau b|$ = 0.434, p=.006; Spearman r(df) =0.454, p=.005), H2 (Kendall $|\tau b|$ = 0.423, p=.009; Spearman r(df) = 0.432, p=.009) and H5. (Kendall $|\tau b|$ = 0.439, p=.009; Spearman r(df) = 0.445, p=.007). It is shown in the table that there was a significant, positive and strong correlation on H4 (Kendall $|\tau b|$ = 0.569, p=.000; Spearman r(df) = 0.598, p=.000), H6, (Kendall $|\tau b|$ = 0.517, p=.001; Spearman r(df) = 0.532, p=.001) H7 (Kendall $|\tau b|$ = 0.529, p=.001; Spearman r(df) = 0.559, p=.000) and H11 (Kendall $|\tau b|$ = 0.559, p=.000; Spearman r(df) = 0.579, p=.000). There was a negative correlation on H3 (Kendall |τb|= 0.112, p=.486; Spearman r(df) = 0.114, p=.558), H8 (Kendall |τb|= 0.259, p=.110; Spearman r(df) = 0.2688, p=.114), H9 (Kendall |τb|= 0.270, p=.089; Spearman r(df) = 0.297, p=.079) and H10 (Kendall |τb|= 0.260, p=.113; Spearman r(df) = 0.266, p=.116) hypothesis, hence not supported.

Table 5
Kendall and Spearman coefficients for hypotheses

Hypothesis	Description	Kendall's tau_b Sig. (2-tailed)	Spearman's rho Sig. (2-tailed)	Result
H_1	CBL-PBL→COL	.434** .006	.454** .005	Supported
H_2	CBL-PBL→DL	.423** .009	.432** .009	Supported
H_3	COL→AL	.112 .486	.114 .558	Not supported
H_4	COL→EG	.569** .000	.598** .000	Supported
H_5	CBL-PBL→AL	.439** .009	.445** .007	Supported
H_6	CBL-PBL→EG	.517** .001	.532** .001	Supported
H_7	CBL-PBL→IR	.529** .001	.559** .000	Supported
H_8	DL→EG	.259 .110	.268 .114	Not supported
H_9	DL→IR	.270 .089	.297 .079	Not supported
H_{10}	AL→EG	.260 .113	.266 .116	Not supported
H_{11}	IR→EG	.559** .000	.579** .000	Supported

5. Discussion

The study's results present strong evidence to support the claim that the intervention of Competition-Based Learning (CBL) and Project-Based Learning (PBL) has a beneficial impact on several facets of students' educational journey. The analysis provides evidence that this intervention has a considerable positive impact on various aspects of students' educational experience, including collaboration, disciplinary learning, authentic learning, engagement, and interactiveness.

The research findings support the hypothesis proposed by other researchers, confirming that CBL-PBL interventions significantly enhance learning effectiveness. The agreement between CBL-PBL techniques and established theories and findings highlights the potential of these approaches in fostering a learning environment that promotes multidimensional growth.

A significant finding pertains to the favourable association between interactive learning and student involvement. The utilization of CBL-PBL techniques inherently fosters active involvement and increased levels of engagement among students. By engaging in practical exercises and fostering group cooperation, students are encouraged to actively participate in the educational journey, enhancing the learning experience's overall immersive nature.

The study elucidates a good correlation between collaboration and engagement while simultaneously emphasizing that cooperation does not substantially influence authentic learning. As supported by prior studies (Chen et al., 2018), this result could be ascribed to difficulties associated with the infrastructure. Additionally, comprehensive studies are necessary to comprehensively understand the intricacies related to this component. These investigations will provide insights into potential obstacles and provide strategies to enhance the genuine learning experience.

The study reveals no significant impact of disciplinary subject learning on engagement and interactive learning. This observation is consistent with previous research, such as the study by Issa et al. (2014), which argues that the various elements of CBL may unintentionally shift students' attention away from the actual learning process. There is a suggestion that the competitiveness among students for achieving success in projects may overshadow the primary learning objectives. The significance of careful preparation and diligent supervision by educators during the execution of CBL-PBL initiatives is emphasized in the works of Gutiérrez-Braojos et al. (2019) and Zhongming et al. (2020).

In summary, the study offers a comprehensive viewpoint on the effects of Competition-Based Learning and Project-Based Learning on the motivation and academic achievement of undergraduate students in mathematics. The results highlight the beneficial impact of various instructional methods on fostering cooperation, enhancing student engagement, and facilitating interactive learning. Nevertheless, going deeper into the complex relationship between real learning, disciplinary subject learning, and the approaches employed to fully understand their interplay is crucial. This research contributes to the current literature and highlights the importance of careful planning and support when incorporating CBL-PBL tactics into educational settings.

6. Conclusion

This study examined lecturers' perspectives and the impact of implementing the CBL-PBL learning model on improving university education standards in Mathematics. The lecturers expressed their positive responses to the intervention. CBL-PBL had been identified as the main driver in influencing students' learning engagement, collaboration, authentic learning, disciplinary subject learning and interactiveness. The deployment of the CBL-PBL learning model must be planned meticulously as the negative impact may side-track the students' learning goals. A proper guideline should be in place to ensure that the right motivation is nurtured in employing the same intervention.

Although the current study provided useful insights on CBL-PBL integration for undergraduate Mathematics instruction, some limitations should be addressed. The respondents' sample of the intervention experiment was limited to students from Diploma in Applied Sciences. Thus, the sampling of the study could be extended if a more comprehensive selection of students was included, by recruiting participants from other Mathematics courses and other undergraduate programs. This can help to raise the external validity of the study.

Second, the study did not employ any control group as a basis of comparison to the experimental group. This was decided because there was enough evidence in the literature that the intervention employed is associated with the same outcomes. However, for strong internal validity, it is recommended to include a control group in future.

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Authors Contributions

All authors contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

Conflict of Interest

None

References

Admiraal, W., Huizenga, J., Akkerman, S., & Dam, G. T. (2011, May). The concept of flow in collaborative game-based learning. Computers in Human Behavior, 27(3), 1185–1194. https://doi.org/10.1016/j.chb.2010.12.013

Alam, A. (2021). What is the "Philosophy of Chemistry Education"? Viewing Philosophy behind Educational Ideas in Chemistry from John Dewey's Lens: The Curriculum and the Entitlement to Knowledge. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.377137

Almulla, M. A. (2020, July). The Effectiveness of the Project-Based Learning (PBL) Approach as a Way to Engage Students in Learning. SAGE Open, 10(3), 215824402093870. https://doi.org/10.1177/2158244020938702

Al-Rahmi, W. M., Yahaya, N., Aldraiweesh, A. A., Alamri, M. M., Aljarboa, N. A., Alturki, U., & Aljeraiwi, A. A. (2019). Integrating Technology Acceptance Model with Innovation Diffusion Theory: An Empirical Investigation on Students' Intention to Use E-Learning Systems. IEEE Access, 7, 26797–26809. https://doi.org/10.1109/access.2019.2899368

Alt, D., & Raichel, N. (2020, December 6). Problem-based learning, self- and peer assessment in higher education: towards advancing lifelong learning skills. Research Papers in Education, 37(3), 370–394. https://doi.org/10.1080/02671522.2020.1849371

Aufa, M. N., Rusmansyah, R., Hasbie, M., Jaidie, A., & Yunita, A. (2021, July 7). The Effect of Using e module Model Problem Based Learning (PBL) Based on Wetland Environment on Critical Thinking Skills and Environmental Care Attitudes. Jurnal Penelitian Pendidikan IPA, 7(3), 401 407. https://doi.org/10.29303/jppipa.v7i3.732

Bilbao, J., Varela, C., Rebollar, C., Bravo, E., García, O. (2018) Selecting Assessments for Problem Based Learning. International Journal of Education and Learning Systems, 3, 129-133

Burguillo, J. C. (2010, September). Using game theory and Competition-based Learning to stimulate student motivation and performance. Computers &Amp; Education, 55(2), 566–575. https://doi.org/10.1016/j.compedu.2010.02.018

Chen, C. H. (2018, November 1). The impacts of peer competition-based science gameplay on conceptual knowledge, intrinsic motivation, and learning behavioral patterns. Educational Technology Research and Development, 67(1), 179–198. https://doi.org/10.1007/s11423-018-9635-5

Chen, C. H., & Yang, Y. C. (2019, February). Revisiting the effects of project-based learning on students' academic achievement: A meta-analysis investigating moderators. Educational Research Review, 26, 71–81. https://doi.org/10.1016/j.edurev.2018.11.001

Chen, J., Wang, M., Kirschner, P. A., & Tsai, C. C. (2018, July 30). The Role of Collaboration, Computer Use, Learning Environments, and Supporting Strategies in CSCL: A Meta-Analysis. Review of Educational Research, 88(6), 799–843. https://doi.org/10.3102/0034654318791584

Culha, D. (2021). Competition-based learning of blockchain programming. Journal of Educational Technology & Online Learning, 4(1), 46–55.

Daniel, S. J. (2020, April 20). Education and the COVID-19 pandemic. PROSPECTS, 49(1–2), 91–96. https://doi.org/10.1007/s11125-020-09464-3

Diep, L. T. N., & Hiew, V. M. (2021, September 30). Examining Quality of English Language Learning of University Students in Vietnam: The Moderating Role of Competition Factor. Eurasian Journal of Educational Research, 2021(95). https://doi.org/10.14689/ejer.2021.95.4

Ensmann, S. Y., Eggers, P., Bing, B., & Li, L. (2021). Design of Learning Experience to Engage Learning in Instructional Design and Technology Graduate-Level Classes: Digital Game-Based Learning (DGBL) Cases. Learning: Design, Engagement and Definition, 147–166. https://doi.org/10.1007/978-3-030-85078-4_12

Grossman, P., Dean, C. G. P., Kavanagh, S. S., & Herrmann, Z. (2019). Preparing teachers for project based teaching. Phi Delta Kappan, 100(7), 43–48. https://doi.org/10.1177/0031721719841338

Gutiérrez-Braojos, C., Montejo-Gamez, J., Marin-Jimenez, A., & Campaña, J. (2019). Hybrid learning environment: Collaborative or competitive learning? Virtual Reality, 23(4), 411-423

Hawamdeh, M., & Adamu, I. (2021). Problem-Based Learning (PBL). Improving Scientific Communication for Lifelong Learners, 38–56. https://doi.org/10.4018/978-1-7998-4534-8.ch003

Helle, L., Tynjälä, P., & Olkinuora, E. (2006, March). Project-Based Learning in Post-Secondary Education – Theory, Practice and Rubber Sling Shots. Higher Education, 51(2), 287–314. https://doi.org/10.1007/s10734-004-6386-5

Hong, J., Tai, K., & Ye, J. (2018, December 17). Playing a Chinese remote-associated game: The correlation among flow, self-efficacy, collective self-esteem and competitive anxiety. British Journal of Educational Technology, 50(5), 2720–2735. https://doi.org/10.1111/bjet.12721

Hughes, M. C., Henry, B. W., & Kushnick, M. R. (2020, August 6). Teaching During the Pandemic? An Opportunity to Enhance Curriculum. Pedagogy in Health Promotion, 6(4), 235–238. https://doi.org/10.1177/2373379920950179

Hugus, E. (n.d.). Designing Learning Experiences for Developing Soft Skills in Online Education: A Basic Qualitative Study [PhD Dissertation]. Northern Arizona University.

Hussein, B. (2021, August 16). Addressing Collaboration Challenges in Project-Based Learning: The Student's Perspective. Education Sciences, 11(8), 434. https://doi.org/10.3390/educsci11080434

Issa, G., Hussain, S. M., & Al-Bahadili, H. (2014). Competition-Based Learning. International Journal of Information and Communication Technology Education, 10(1), 1–13. https://doi.org/10.4018/ijicte.2014010101

Lampert, M., Franke, M. L., Kazemi, E., Ghousseini, H., Turrou, A. C., Beasley, H., Cunard, A., & Crowe, K. (2013). Keeping It Complex: Using Rehearsals to Support Novice Teacher Learning of Ambitious Teaching. Journal of Teacher Education, 64(3), 226–243. https://doi.org/10.1177/0022487112473837

Li, J., & Che, W. (2022, August). Challenges and coping strategies of online learning for college students in the context of COVID-19: A survey of Chinese universities. Sustainable Cities and Society, 83, 103958. https://doi.org/10.1016/j.scs.2022.103958

Ling-Ling, U., Labadin, J., & Suraya Mohamad, F. (2021, September 21). Information System Framework for Training Teachers on Computational Thinking. SAR Journal - Science and Research, 119–127. https://doi.org/10.18421/sar43-04

Mamun, M. A. A., Lawrie, G., & Wright, T. (2020, January). Instructional design of scaffolded online learning modules for self-directed and inquiry-based learning environments. Computers & Education, 144, 103695. https://doi.org/10.1016/j.compedu.2019.103695

Moje, E. B. (2015, June 1). Doing and Teaching Disciplinary Literacy with Adolescent Learners: A Social and Cultural Enterprise. Harvard Educational Review, 85(2), 254–278. https://doi.org/10.17763/0017-8055.85.2.254

Mseleku, Z. (2020). A literature review of E-learning and E-teaching in the era of Covid-19 pandemic. SAGE, 57(52), 588-597.

Pang, Y. J., Hussin, H., Tay, C. C., & Syed Ahmad, S. S. (2019). Robotics Competition-Based Learning for 21st century STEM education. Journal of Human Capital Development, 12(1), 83–100.

Panwar, A., Chauhan, A., & Arya, K. Analyzing Learning Outcomes for a Massive Online Competition through a Project-Based Learning Engagement. (2020). 2020 IEEE Global Engineering Education Conference (EDUCON), Porto, Portugal, pp. 1246-1251. https://doi.org/10.1109/EDUCON45650.2020.9125379

Radzi, A. I. N., Awang Drahman, D. N., Joseph, C., Rahmat, M., & Suria, K. (2020, May 29). Competition-based Learning Strategy of the Online Introductory Accounting Quiz for Non accounting Majors. International Business Education Journal, 13(1), 83–94. https://doi.org/10.37134/ibej.vol13.1.7.2020

Ratnasari, N., Tadjudin, N., Syazali, M., Mujib, M., & Andriani, S. (2018, June 29). Project Based Learning (PjBL) Model on the Mathematical Representation Ability. Tadris: Jurnal Keguruan Dan Ilmu Tarbiyah, 3(1), 47. https://doi.org/10.24042/tadris.v3i1.2535

Saad, A., & Zainudin, S. (2022). A review of Project-Based Learning (PBL) and Computational Thinking (CT) in teaching and learning. Learning and Motivation, 78, 101802

Saibin, T.C., Janteng, J., & Norfazillah, Matmali. (2021). Competition-based Learning Model: A Case Study in UiTM Sabah Branch. Presentation at Universiti Teknologi MARA, Sabah Branch, November 25, 2021.

Schleicher, A. (2020). The Impact of COVID-19 on Education: Insights from" Education at a Glance 2020". OECD Publishing

Sharma, S., & Saini, J. R. (2022, February 8). On the Role of Teachers' Acceptance, Continuance Intention and Self-Efficacy in the Use of Digital Technologies in Teaching Practices. Journal of Further and Higher Education, 46(6), 721–736. https://doi.org/10.1080/0309877x.2021.1998395

Sung, H. Y. (2022, June 17). A Competition-Based Problem-Posing Approach for Nursing Training. Healthcare, 10(6), 1132. https://doi.org/10.3390/healthcare10061132

Tibingana-Ahimbisibwe, B., Willis, S., Catherall, S., Butler, F., & Harrison, R. (2020, May 13). A systematic review of peer-assisted learning in fully online higher education distance learning programmes. Open Learning: The Journal of Open, Distance and e-Learning, 37(3), 251–272. https://doi.org/10.1080/02680513.2020.1758651

Ummah, S. K., In'am, A., & Azmi, R. D. (2019). Creating manipulatives: Improving students' creativity through Project-Based learning. Journal on Mathematics Education, 10(1), 93–102.

Ung, L. L., Labadin, J., & Mohamad, F. S. (2022, February). Computational thinking for teachers: Development of a localised E-learning system. Computers &Amp; Education, 177, 104379. https://doi.org/10.1016/j.compedu.2021.104379

Vasilica, I., Silva, R., Costa, P., Figueira, B., & Vaz, L. (2022, February 1). Games Based Learning Influence in Portuguese Referees Motivation to study Laws of the Game and Competition Rules: A Longitudinal Study. Sport Mont, 20(1), 51–57. https://doi.org/10.26773/smj.220209

Wester, E. R., Walsh, L. L., Arango-Caro, S., & Callis-Duehl, K. L. (2021). Student engagement declines in STEM undergraduates during COVID-19–driven remote learning. Journal of microbiology & biology education, 22(1), ev22i21. 2385.

Wihlborg, M., Friberg, E. E., Rose, K. M., & Eastham, L. (2018, February). Facilitating learning through an international virtual collaborative practice: A case study. Nurse Education Today, 61, 3–8. https://doi.org/10.1016/j.nedt.2017.10.007

Zhongming, Z., Linong, L., Xiaona, Y., Wangqiang, Z., & Wei, L. (2020). Bad Idea: Overly Focusing on Development and Acquisition Speed

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ENHANCING LITERACY ENGAGEMENT WITH CULTURALLY RELEVANT READING MATERIALS FOR FOREIGN LANGUAGE LEARNERS

Auni Batrisyia Suharto[1]*, Puteri Rohani Megat Abdul Rahim[2], Nuramira Anuar[3] & Nor Najihah Norafand[4]

[1,2,3&4] *Academy of Language Studies, Universiti Teknologi MARA (UiTM) Perak Branch, Seri Iskandar Campus, Perak, MALAYSIA*

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Corresponding Author:
2022214962@student.uitm.edu.my

ABSTRACT

This concept paper delves into the critical realm of literacy engagement among foreign language English learners and its transformative potential when coupled with culturally relevant reading materials. As the global landscape continues to diversify, educational systems are witnessing an increasing presence of linguistically and culturally diverse student populations. Addressing the unique needs of these learners is paramount, particularly in the realm of literacy development. This paper proposes an innovative approach to enhancing literacy engagement by leveraging culturally relevant reading materials that resonate with the lived experiences and backgrounds of second language English learners. Drawing on a multidisciplinary foundation that integrates theories of language acquisition, cultural psychology, and educational pedagogy, this concept paper seeks to underscore the intrinsic connection between cultural identity and literacy engagement. By intertwining culturally resonant narratives, themes, and characters within reading materials, educators can bridge linguistic and cultural gaps, cultivating an enriched learning environment that empowers learners to engage more deeply with the English Language and its literary expressions. Additionally, the concept paper addresses practical considerations for educators, curriculum designers, and policymakers. It delves into the process of selecting and integrating culturally relevant reading materials, suggesting strategies to ensure authenticity, sensitivity, and alignment with educational objectives. Through an exploration of existing research, this paper highlights the positive impact of culturally relevant reading materials on third language learners' motivation, comprehension, and overall language proficiency. It also delves into the socioemotional dimensions of such engagement, elucidating how culturally imbued content can provide a sense of belonging, thereby fostering a positive attitude towards language learning.

1. Introduction

Having excellent proficiency in multiple literacy skills is an asset and a necessity, especially with today's globally interconnectedness. The development of literacy skills specifically for foreign individuals may encounter complex linguistic nuances, cognitive challenges, as well as different cultural semantics. To be able to create effective English language acquisition for foreigners, there is a need integrate relevant reading materials based on the local culture (Ferdiansyah et al., 2023), as it emerges as a powerful pedagogical tool to ignite and enhance literacy engagement for foreign language learners. Providing learners with meaningful contexts and authentic materials that are relevant to their culture, creates a window of opportunity for them into the socio-cultural scene of the target language (Sabilaha et al., 2018).

The relevance of integrating cultural reading materials to literacy enhancement refers to the alignment of cultural background, interest of the learners, as well as their experiences. This is to show that language is intricately woven into the tapestry of culture and resonates with their identities, rather than being an isolated entity. Allowing the learners to make connections between their existing knowledge and the foreign language learnt, creates a motivating and engaging environment (Haerazi et al., 2018) for the enhancement of literacy skills to take place. Incorporating local based materials is an act of mirroring the learners to see themselves being reflected in the learning content.

Acquiring a new language, especially the English language, is not purely memorising the vocabularies or understanding the grammar rules. They are about being able to steer through the structures and semantic meanings, as well as the sounds and symbols of the language. By embedding a familiar context to language learning, learners will be better equipped to decode and analyse the nuances of the target language (Seyyedrezaie & Barani, 2013). Using and applying cultural values into language learning will broaden the learners' linguistic proficiency holistically. This simultaneously enhances the literacy acquisition amongst the learners by enveloping, not limited to reading, writing, listening, speaking, and cultural comprehension (Yuan, 2017).

Furthermore, relevant reading materials to the language learners foster critical thinking and awareness of the intercultural values. Being able to develop a deeper understanding of the complexities of the English language heightens the skill of cultural sensitivity in today's multicultural and interconnected world. In the following sections, there will be in depth details on strategies in implementing cultural materials to enhance literacy acquisition among foreign language learners.

2. What is Literacy

The UNESCO Institute for Statistics (2023), defines literacy as the ability to identify, understand, interpret, create, communicate, and compute, using printed and written materials associated with varying contexts. Literacy is an elemental skill that enables the learners to participate actively within the society and to successfully communicate in any situation. Literacy also embraces the skill to be able to critically engage, interpret texts, and apply the context in a meaningful and productive manner as it is a crucial skill for learners to navigate through professional and social situations today that is information-driven.

3. Ecological Systems Theory

The Ecological Systems Theory was proposed by Bronfenbrenner, a psychologist in 1977. The theory consists of five layers, and they are interconnected to each other. In layman's words, this says that a person's growth is influenced by their close family and neighbourhood, which are influenced by wider elements like the community and culture they are a part of. Layers of influence shape a person's development.

Using this theory, it is preferred for educators to be fully aware that surroundings play a vital role in the growth of language learning. Hence, the integration of the foreign learners' cultural values into the reading materials, to create a satisfactory engagement of English literacy.

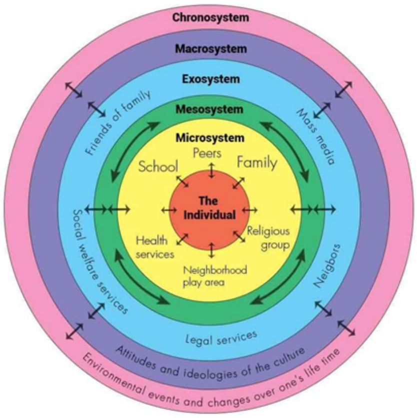

Figure 1. Ecological Systems Theory

4. Selecting and Integrating Culturally Relevant Reading Materials

To be able to enhance literacy engagement with materials that are culturally relevant entails a thoughtful and informed process in selecting them. It is also paired with strategic assimilation into the curriculum. To effectively engage and ensure the foreign language learners can connect with the content, it is compulsory to choose reading materials that reflect the authenticity of their cultural backgrounds and experiences. This will also facilitate the learners to a deeper understanding of the language and its nuances (Nambiar & Anawar, 2017). The selection of reading materials includes authentic representation (Blasina Cantizano, 2020), relevance to learners' lives (Ebe, 2012), diversity of perspectives (Heineke, 2014), and alignment with educational objectives (Yuan, 2017).

5. Reading Materials for Literacy Learning Engagement

The use of English as a second language is being recognised as an important tool for better employability and improving social mobility in today's society. However, the lack of appropriate learning materials is seen as a major drawback for the ESL learners from achieving proper English language comprehension and literacy skills. In this section, there will be discussion on different reading materials that have been proposed to promote the engagement of English literacy learning among the foreign learners.

Letchamanan et al., (2021) pointed out that language learning should be situated within their own environment, which relates to the fact that it is important to incorporate the learners' cultural elements into the learning materials. This would help to increase the engagement between the learners and teachers, as well as among themselves (Englund et al., 2022). This in a way, would promote a sense of pride towards their culture and their identity. The study also mentions the appropriate materials would be those that incorporate stories, traditions, and cultural practices. Promoting bilingualism or trilingualism is important when facing the need to improve the ESL learners' English literacy level. With this, the process of meaning-making can be achieved by them.

a) Cultural Folklores and Short Stories

One approach that can be used to facilitate literacy engagement is using materials of local folklores or short stories. Folklores are stories that have been done for centuries to pass down information and knowledge to younger generations and stand as a foundation for pedagogical tools (Barton and Barton, 2017). By incorporating the learners' culture into story reading, it can bridge the gap between their native language and English. The stories are inclusive of representation of personal experience, traditions, and literature (Isbell et al., 2004). For instance, Satriani (2021) conducted a qualitative study towards six eighth grader students in an Indonesian school using storytelling. Satriani (2021) tested the participants in three different activities; before, during, and after storytelling, and approved of the outcome that incorporating storytelling with native culture can support better English literacy acquisitions.

b) Poetries

Poetry encourages learners to analyse and interpret meaning. Allowing learners to be exposed to a variety of poetry styles, promotes appreciation to linguistic values that are important components for language proficiency (Kramsch, 2014). Using poetry with contexts of local cultures will engage a deep understanding between the learners and English as their target language. According to Creely (2018), poetry instruction is critical for deep personal engagement and the development of varied literacy competencies. Thompson (2013) discovered that incorporating poetry into the classroom on a regular basis can boost student confidence, reading fluency, word recognition, engagement, connection, and understanding. Educators should assimilate poetries into one of the language learning strategies to heighten the level of literacy engagement of the learners.

c) Graphic Novels and Comics

Learning a second language is undoubtedly challenging for foreign learners. In this case, the learners would need motivation to allow the urge of learning a new language to consistently flow through their mindset. According to Lane and Coyne (2017), graphic novels can help struggling and hesitant readers by encouraging engagement and motivation. This type of reading material, combined with local context and cultural values, is targeted specifically for foreign learners who have a hard time acquiring and engaging with English literacy. Salehi (2019) highlights the pedagogical potential of adopting graphic novels in the English classroom to increase multimodal literacy engagement. This would create a supportive environment for the learners to be familiar with their background cultures. Derbel (2019) investigates the use of comics in the classroom and demonstrates how graphic novels can increase student involvement in the learning process by creating a motivating learning environment.

6. Enhancing Literacy Engagement: Concept Map

A framework is designed to promote engagement in literacy, targeting the foreign learners. Integrated with culturally relevant content, this framework is aimed to create a meaningful engagement using culturally relevant materials based on the diversity of the learners' backgrounds. The said materials include folklores/short stories, poetries, and graphic novels/comics, and they serve as conduits for cultural relevance (Peck, 2020), allowing the learners to connect with the learning content on a personal level.

The language skills such as reading, writing, listening, and speaking must be evaluated by the educators to recognise the language acquisition level of the foreign learners. The evaluation is done with relations to the diversity of the learners' population which requires the educators to identify the learners' cultural background, language proficiency level, and the learners' learning style. With the collected information, a thorough and proper research on suitable reading materials that are related to their cultures used to enhance literacy engagement with the learners. To ease the educators, it is suggested for them to find context based on their learners' cultural folklores, poetries, and their graphic novels. This will create a sense of connection and a sense of familiarity (Titone et al., 2012) between the learners and the educators. Assessments and feedback must be conducted by the educators to ensure the enhancement of literacy acquisition, and identifying teaching gaps, misconceptions, and confusions to be covered afterwards (Piper, 2016).

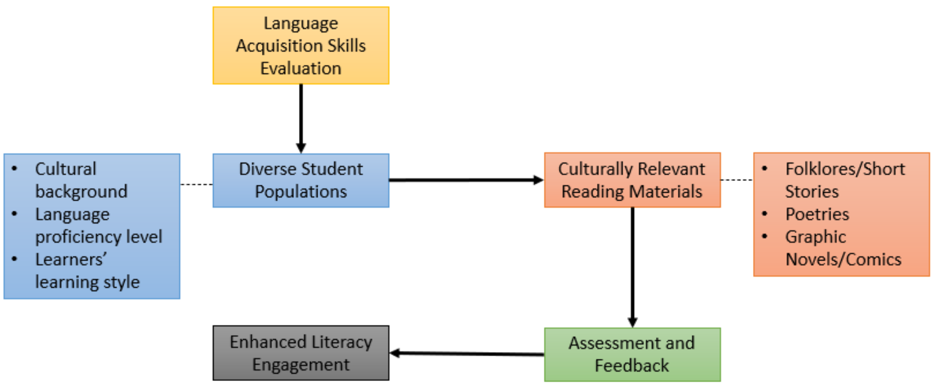

Figure 2. Concept Map on Enhancing Literacy Engagement

7. Conclusion

Culturally appropriate reading materials such as folklores, short stories, poetries, and graphic novels with local contexts of the learners are potential approaches that can be used to promote engagement on English literacy learning among the ESL learners. It is important for educators to consider the needs of foreign learners as well as their perspectives towards the learning experience. The materials used must fit the criteria to ensure the learning experience will be functional and effective. Cultural relevance materials can assist students improve their English language skills and encourage language transfer from their first language. Students can improve their language comprehension, vocabulary acquisition, and communication skills by recognising and leveraging the similarities and differences between their local context and English.

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Authors Contributions

All authors contributed to the design and implementation of the research, to the analysis of the results and to the writing of the manuscript.

Conflict of Interest

There is no conflict of interest.

References

Barton, G., & Barton, R. (2017). The importance of storytelling as a pedagogical tool for indigenous children. *Narratives in Early Childhood Education*, 45–58. https://doi.org/10.4324/9781315640549-4

Cantizano, B. (2020). Fostering Language Acquisition and Intercultural Competence Through Authentic Literary Texts. *Advances in Educational Technologies and Instructional Design Book Series*, 34–51. https://doi.org/10.4018/978-1-7998-4670-3.ch002

Creely, E. (2018). What's Poetry Got to Do with It? the Importance of Poetry for Enhancing Literacy and Fostering Student Engagement. Retrieved from Semantic Scholar website: https://www.semanticscholar.org/paper/What's-Poetry-Got-to-Do-with-It-the-Importance-of-Creely/1fa8514a13bee09c6caeaa75b57105a091e09597

Derbel, E. (2019, January 31). Teaching Literature through Comics: An Innovative Pedagogical Tool. Semantic Scholar website: https://www.semanticscholar.org/paper/Teaching-Literature through-Comics%3A-An-Innovative-Derbel/9126b6df3e77a06136f22d6df4f01c7f3d9061e7

Ebe, A. E. (2012). Supporting the Reading Development of Middle School English Language earners Through Culturally Relevant Texts. *Reading & Writing Quarterly*, *28*(2), 179–198. https://doi.org/10.1080/10573569.2012.651078

Englund, H., Stockhult, H., Du Rietz, S., Nilsson, A., & Wennblom, G. (2022). Learning-Environment Uncertainty and Students' Approaches to Learning: A Self-Determination Theory Perspective. *Scandinavian Journal of Educational Research*, 1–15. https://doi.org/10.1080/00313831.2022.2042734

Ferdiansyah, S., Humairoh, M. F. N., Royani, A., & Marsitoh, R. S. (2023). Incorporating cultural content into English language learning through collaborative podcast series project. *On the Horizon*, *31*(2), 123–130. https://doi.org/10.1108/oth-06-2022-0030

Haerazi, H., Irwansyah, D., Juanda, J., & Azis, Y. A. (2018). Incorporating Intercultural Competences in Developing English Materials for Writing Classes. *Journal of Language Teaching and Research*, *9*(3), 540. https://doi.org/10.17507/jltr.0903.13

Heineke, A. J. (2014). Dialoging About English Learners: Preparing Teachers Through Culturally Relevant Literature Circles. *Action in Teacher Education*, *36*(2), 117–140. https://doi.org/10.1080/01626620.2014.898600

Isbell, R., Sobol, J., Lindauer, L., & Lowrance, A. (2004). The Effects of Storytelling and Story Reading on the Oral Language Complexity and Story Comprehension of Young Children. *Early Childhood Education Journal*, *32*(3), 157–163. https://doi.org/10.1023/b:ecej.0000048967.94189.a3

Kramsch, C. (2014). Teaching Foreign Languages in an Era of Globalization: Introduction. *The Modern Language Journal*, *98*(1), 296–311. https://doi.org/10.1111/j.1540 4781.2014.12057.x

Lane, M., & Coyne, J. (2017, October 18). An Online Book Club with Graphic Novels. Retrieved from Semantic Scholar website: https://www.semanticscholar.org/paper/An-Online-Book Club-with-Graphic-Novels-Lane-Coyne/ef5d181d54343ad6f64ee78e92fb858c85a58767

Letchamanan, H., Abdullah, N. S. M., & Fadzil, K. S. (2021). Language Education for Orang Asli Children in Malaysia. *Pertanika Journal of Social Sciences and Humanities*, *29*(S3). https://doi.org/10.47836/pjssh.29.s3.23

Nambiar, R., & Anawar, N. (2017). Integrating Local Knowledge into Language Learning: A Study on the Your Language My Culture (YLMC) Project. *Arab World English Journal*, *8*(4), 167 182. https://doi.org/10.24093/awej/vol8no4.11

Peck, J. (2020, September 18). Reading to promote intercultural understanding. Retrieved from Semantic Scholar website: https://www.semanticscholar.org/paper/Reading-to-promote intercultural-understanding-Peck/fb2f0f3eb3baa44ff85440eba176799867b9913c

Piper, M. E. (2016, June 1). Assessment - an integral part of early years literacy teaching a learning. Semantic Scholar website: https://www.semanticscholar.org/paper/Assessment an-integral-part-of-early-years-literacy Piper/33cee5dd6ce51e34c3e4adf72c560a581f145362

Sabilaha, F., Beratha, N. L. S., Budiarsa, I. M., & Yadnya, I. B. P. (2018). CULTURAL MEANINGFULNESS ON INTERCULTURAL PERSPECTIVE OF ENGLISH LEARNING MATERIALS FOR ELEMENTARY SCHOOL. *Aksara*, *30*(1), 149. https://doi.org/10.29255/aksara.v30i1.209.149-164

Salehi, M., & Farhang, A. (2019, July 1). BOOK REVIEW: Teaching Graphic Novels in the English Classroom: Pedagogical Possibilities of Multimodal Literacy Engagement.Semantic Scholar website: https://www.semanticscholar.org/paper/BOOK-REVIEW%3A-Teaching-Graphic Novels-in-the-English-Salehi-Farhang/43f0aa16de6b163c1a5ff543073e4a441cc43b70

Satriani, I. (2021). Storytelling to teach literacy: The implementation in an EFL classroom. *EnJourMe (English Journal of Merdeka) : Culture, Language, and Teaching of English*, *6*(2), 87–99. https://doi.org/10.26905/enjourme.v6i2.6433

Seyyedrezaie, S. H., & Barani, G. (2013). Different Approaches to Contextualization. Semantic Scholar website: https://www.semanticscholar.org/paper/Different-Approaches-to Contextualization-Seyyedrezaie-Barani/0c7cdf0ce539f31858bdd2af69f67cdd1c1d84f8

Thompson, K. P. (2013). Poetry: a powerful reading intervention for accuracy and fluency. Semantic Scholar website: https://www.semanticscholar.org/paper/Poetry%3A-a-powerful-reading intervention-for-and-Thompson/45f571b38a9bc5ff046cf15c209aa2b3ff2b7c50

Titone, C., Plummer, E. C., & Kielar, M. A. (2012, October 1). Creating Culturally Relevant Instructional Materials: A Swaziland Case Study. Retrieved from https://www.semanticscholar.org/paper/Creating-Culturally-Relevant-Instructional-A Case-Titone-Plummer/2bcbcc35424e15b2d130273ddd437cae9291c6f3

UNESCO UIS. (2023, June 22). Literacy. Retrieved from uis.unesco.org website: https://uis.unesco.org/en/glossary-term/literacy

Yuan, H. (2017). Empowering Effective Literacy Instructions for Multi-Cultural English Language Learners. *US-China Education Review*, *7*(7). https://doi.org/10.17265/2161 623x/2017.07.004

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LEARNING STYLES OF DIPLOMA STUDENTS AT A PUBLIC UNIVERSITY IN MALAYSIA POST COVID-19 PANDEMIC

Noraziah Azizan[1]*, Nor Ashikin Ab Manan[2], Johana Yusof [3] & Iza Faradiba Mohammad Patel[4]

[1,2,3,4] Academy of Language Studies, Universiti Teknologi MARA(UiTM), Perak Branch, Seri Iskandar Campus, Perak, MALAYSIA

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Corresponding Author:
noraz270@uitm.edu.my

ABSTRACT

The education system worldwide underwent a drastic change during the Covid-19 pandemic. Online distance learning or ODL was adopted to limit face-to-face interactions and minimize the spread of the contagious diseases. Educators and students had to adapt their teaching methods and learning styles respectively, during the pandemic. However, now that the world is already in the endemic phase and online classes have been replaced by face-to-face classes, the question has been raised on whether the situation has changed the way the students are learning. This study aims to investigate the learning styles of diploma students at a public university in Malaysia to determine whether their learning styles are different during and after the COVID-19 pandemic. The participants in the study are 100 diploma students at UiTM Perak. The data were collected through the distribution of questionnaire adapted from VAK (Chislett & Chapman, 2005). It was found that most of the participants are visual learners and preferred VISUAL learning style. In addition, most of the students (76%) felt that they have adapted to the changes of the learning environment during and after the Covid-19 pandemic and have changed their learning styles accordingly. To the question whether they prefer Online Distance Learning (ODL) or face-to-face learning environment, only ten (10%) of the students stated that they prefer ODL while the rest prefer face-to-face learning environment. The findings of the research will contribute valuable insights for educators, policy makers and the learning institutions to enhance learning and teaching quality and to support the diverse learning needs of diploma students.

1. Introduction

The COVID-19 pandemic has had a profound impact on education worldwide, making schools and universities shift to remote learning and adopt new strategies to ensure continuity of education. It has significantly affected the way students learn and leaves an impact on their learning styles. In many countries, education systems have undergone a big shift from face-to-face learning to blended learning (BL) or online learning options. Due to unexpected scenarios, most higher learning institutions including those in Malaysia were not prepared to face the changes. We are left with no option but to opt for online distance learning (ODL). Not only the lecturers but also the students faced difficulties in the era.

However, being in a difficult situation for quite some time has made teachers and lecturers as well as students gain new momentum, learn new technology and survive. As the pandemic subsides and the university has gone back to its normal function, it is expected that students' learning styles may have undergone several changes.

Individual learning styles are shaped by several factors including personal experiences, different forms of intelligence, and personality traits like a preference for solitary or group learning. Our learning style affects how we handle everyday tasks such as reading a map or cooking a meal. The VAK theory suggests that individuals have a dominant learning style, meaning they prefer one of the three modes (visual, auditory, or kinaesthetic) when it comes to processing and retaining information. Learning styles can vary from one person to another, they are typically categorised into three main types (Sreenidhi & Tay, 2017) as summarised in Table 1.

Table 1
Types of Learning Styles

Visual learners	They prefer to learn through visual aids such as charts, graphs, diagrams, and images. They benefit from seeing information presented in a clear and organised manner
Auditory learners	They learn best through listening and verbal communication. They prefer spoken instructions, discussions, and lectures. They may benefit from reading aloud or participating in group discussions.
Kinaesthetic learners	These learners learn by engaging in physical activities and hands-on experiences. They prefer to learn through touch, movement, and practical activities. They often benefit from activities that involve manipulating objects or actively participating in experiments

Chislett and Chapman (2005) futher explained these categories as follows:

A. Visual learning style

It involves a preference for processing information through visual means such as images, diagrams, demonstrations, displays, handouts, films, etc. People who prefer this style often use expressions like 'show me' and 'let's take a look'. They excel at comprehending new tasks after reading instructions or observing another's actions, and they tend to follow lists and written directives.

B. Auditory learning style

It focuses on acquiring knowledge through listening, whether it is spoken words, conversations with others, or various sounds and noises. Individuals with this style frequently use phrases like 'tell me' and 'let's discuss it,' and they perform best when given verbal instructions from experts. They feel comfortable receiving spoken guidance over the phone and can easily recall song lyrics they've heard.

C. Kinaesthetic learning style

It emphasises learning through physical experiences, involving activities like touching, feeling, handling, and practical, hands-on learning. Those with this preference often express themselves with phrases such as 'let me try' and 'how do you feel?' They excel at tackling new tasks by diving in and learning as they go, often preferring to experiment hands-on rather than consulting instructions.

1.1 Problem Statement

The outbreak of the COVID-19 pandemic has significantly disrupted traditional educational systems worldwide, leading to abrupt shifts in the delivery methods of instruction, mainly towards online or blended learning. After the pandemic, when universities reopen, it is expected that the system will go back to normal like before. This sudden transition may not cater to the diverse learning styles of students, potentially compromising their academic performance and engagement. This paper aims to investigate the challenges faced by students to adapt to new modes of instruction in the context of their preferred learning styles. By understanding how the pandemic has impacted students relative to their learning styles, educators can develop more effective strategies to accommodate and support diverse learners in today’s environment by considering the adjustments they have made during the pandemic until now.

The research objectives of the study are:

- RO1: To identify the learning styles/preferences of diploma students at UiTM Perak university in Malaysia during and post-pandemic.
- RO2: To examine the impact of the post-pandemic COVID-19 era on students' learning styles.

Therefore, we propose two research questions to be analysed in this study:

- RQ1: What are the predominant learning styles of diploma students at UiTM Perak during and after the COVID-19 pandemic?
- RQ2: How has the post-pandemic COVID-19 era influenced or changed the learning styles of diploma students at UiTM Perak compared to their learning styles during the pandemic?

2. Literature Review

According to Sirin and Guzel (2006) as cited in Jaberi (2015), during the learning process students tend to favour various ways of handling, assimilating, and engaging with information. These favoured approaches are known as Learning Styles. In addition, there is a need for educators to identify the learning styles of his or her students to find the best way to deliver their knowledge to the students and help them improve their learning process (Swailes& Senior,1999; Montgomery & Groat,1998; Jaberi, 2015).

Besides, understanding learning styles can enhance educators' comprehension of individual differences. As Pajares (1992) claimed, a teacher's beliefs shape his or her pedagogical methods. When teachers are aware of student's learning styles, they tend to be careful in lesson planning, during teaching, and in student evaluation. Moreover, according to Othman and Amiruddin (2010), embracing learning styles can potentially boost student's motivation. Additionally, another researcher, Kirby (1988) has proposed strategies to enhance the application of learning styles with flexibility and encourage a blend of various learning styles.

Mohd Jelas (2011) in his study examines the learning style of students at Universiti Kebangsaan Malaysia (UKM) and discovered that UKM students mainly prefer competitive and participative learning approaches. Students with a competitive learning preference thrive when instructors focus on tasks and are highly driven by incentives and acknowledgments. To motivate these students, universities might consider offering more grants, scholarships, or awards for accomplishments. On the other hand, those with a participative learning inclination benefit more from teamwork and joint learning environments.

Ghazivakili et al. (2014) in their study intended to find the relationship between learning styles and critical thinking of students and their academic performance. For effective learning, Kolb believed a learner requires four different abilities, which are influenced by variables like academic performance, higher education enhancement, critical thinking, and problem-solving. Furthermore, the results show there is a significant connection between learning styles, critical thinking, and academic achievement. Given the vital role of critical thinking to improve professional skills, it is suggested to use teaching performance, higher education enhancement, critical thinking, and problem-solving.

Another reference of learning style is Kolb's Learning Model. This framework classifies learners into four different groups: Activist, Theorist, Pragmatist, and Reflector. These learning styles highlight the different methods students prefer when acquiring knowledge. For instance, Activists are hands-on learners who often act before thinking about the results. Theorists, on the other hand, need to grasp and understand the underlying theory before taking action. Reflectors are those who gain knowledge through observation, listening, and self-analysis and often showing a reflective nature. Pragmatists, however, focus on testing out theories, concepts, and methods, determining how best to implement them in real-life scenarios. To gain optimal learning, Kolb and various psychologists propose incorporating all these styles into the learning process. Using Kolb's Learning style model, Wan Mardyatul Miza et al. (2019) found from their research that students who preferred the Pragmatist and Theorist learning styles outperformed their peers, while those leaning towards the Activist style left behind.

While Sreenidhi and Tay (2017), explore different learning styles based on the research of several prominent educators and researchers, including Fernald, Keller, Orton, Gillingham, Stillman, Montessori, and Neil D. Fleming and found that the most preferred VAK mode among participants was kinaesthetic, and the preferred teaching method was more on practical or activities. There was a positive correlation between the preferences of VAK modes and teaching methods.

As for Sharma and Alvi (2021), their research aims to understand the students' views on the changes in learning methods at higher education institutions due to COVID-19. This insight will direct essential changes in education both during and post-pandemic, highlighting the importance of active adaptation instead of simply hoping for a return to the usual teaching and learning scenario like before the pandemic. Their findings showed a notable difference in students' perceptions of learning before and after the pandemic. Students had a more positive view of blended learning before the pandemic. However, their perception was not as favourable towards the web-based learning adopted after the pandemic. The short duration might not have given students adequate time to adjust to the new teaching methods. Thus, this knowledge will steer vital educational changes throughout and following the pandemic, underscoring the urgency for forward-thinking adjustments to suit the current teaching and learning.

Cobo-Rendon et al. (2022) suggested that to successfully implement blended learning, some key elements such as developing an institutional definition, adjusting the curriculum and infrastructure, training faculty, conducting continuous assessments, and ensuring that students have access to educational resources and technologies should be implemented. They also emphasise the need for a holistic approach and adaptation to institutional orientation, teaching methods and student needs. Furthermore, for them, hybrid or blended learning is an approach that integrates new tools, approaches, and learning environments into the pedagogical and learning process. They believe that online learning is expected to play an increasingly important role in the post-covid world.

However, Oliver and Trigwell (2005) questioned the idea of BL, and they claimed that the definition of BL is vague and argued that its delivery methods led educators to focus more on teaching rather than learning. Although this critique might be somewhat stringent, it emphasises the potential pitfalls of using technology without assessing its impact on learning (Oliver and Trigwell, 2005). As such, it is essential to make sure that method should also emphasise the strategic and beneficial use of technology to aid both teaching and learning processes (Allan et al., 2019).

Norazlan et al. (2017) refer to Kolb (1976) who further classifies learning style into four types, they are "accommodator, diverge, assimilator and converger". Their study showed that there was a relationship between students' learning styles with their academic performance. This research also suggests that knowing different students' learning styles could help educators figure out the best ways to teach different groups of students.

Based on VAK learning style theory which suggests that individuals have a dominant learning style, meaning they prefer one of the three modes (visual, auditory, or kinaesthetic), a few researchers such as Yuniarti et al. (2021) who used VAK model with the combination of multimedia, Apipah et al. (2018) who applied VAK model in their mathematics classroom, Ramadian et al. (2019) who used VAK model in their writing class. Yuniarti et al. (2021) concluded that VAK learning model could improve learning outcomes while Apipah et al. (2018) concluded that students with visual learning style perform the highest mathematical connection ability and Ramadian et al. (2019) concluded that VAK model can be used as an alternative to improve students' writing ability.

3. Methodology

This study employed purposeful sampling, and 100 diploma students were selected from different programmes at UiTM Seri Iskandar campus. All the participants were native speakers of Malay, with ages ranging between 18 and 20 years. The study included 42 male and 58 female participants. These students had enrolled in a proficiency English course at the university, which is a requirement for their diploma programme. Out of all the participants, 71 are from the Department of Built Environment Studies and Technology, while the remaining 29 are from the College of Creative Arts.

3.1 The Research Instrument

The VAK Learning Styles Self-Assessment Questionnaire, developed by Chislett and Chapman (2005) was adapted and translated into Malay for this study. This instrument is a self-reporting questionnaire created based on existing learning style instruments. Section A comprised a demographic information of the participants while Section B consists of 30 questions of the three learning style preferences to be measured: auditory, visual, and kinaesthetic. The frequency of options 'A', 'B' or 'C' chosen by the participants determines whether the students' learning styles are visual, auditory, kinaesthetic or a combination of two or three learning styles. In Section C some open-ended questions were added by the researchers to identify the participants' preferences, attitude, and their learning styles during and after the Covid-19 pandemic.

3.2 Data Collection and Analysis

The study was conducted during the March 2023 semester. The researchers had converted VAK questionnaire into a Google Form and the participants responded to the questionnaire which was distributed online by the researchers in the classrooms. The answers were analysed by adding up how many A's, B's and C's the participants had selected. Consequently, participants who predominantly choose A's were identified as having a VISUAL learning style, while those favouring B's possess an AUDITORY learning style, and those favouring C's exhibit a KINAESTHETIC learning style. Participants who chose equal number of A's, B's and C's are considered as possessing a combination of learning styles and labelled as 'AK' for Auditory and Kinaesthetic, 'VK' for Visual and 'Kinaesthetic', 'VA' for Visual and Auditory and 'VAK' for Visual, Auditory and Kinaesthetic.

4. Results

Table 2 presents the participants' demographic. A total of one hundred (100) students from two faculties at UiTM Perak, Seri Iskandar campus participated in the survey of which seventy-one (71) of them were from the Department of Built Environment Studies and Technology while the remaining twenty-nine (29) were from the College of Creative Arts. Out of the total number of participants, forty-two (42) were males while the remaining fifty-eight (58) were females.

Table 2
Participants' Demographic

Department		***Gender***	
Built Environment	***Creative Arts***	***Male***	***Female***
71	29	42	58

4.1 Result from Section B

As explained in the methodology section, the frequency of options 'A', 'B' or 'C' chosen by the participants determines whether the students' learning styles are visual, auditory, kinaesthetic or a combination of two or three learning styles. Thus, the data from the questionnaire were sorted and the students were assigned to different categories as shown in Table 3.

Table 3
Summary of Participants' Learning Style

Learning Style	***Label***	***Number Of Participants***
Visual	*V*	*41*
Auditory	*A*	*13*
C	*K*	*33*
Auditory & Kinaesthetic	*AK*	*3*
Visual & Kinaesthetic	*VK*	*5*
Visual & Auditory	*VA*	*3*
Visual, Auditory & Kinaesthetic	*VAK*	*2*

Based on Table 3, the majority of the participants or 41% fall under the category of visual learning style while 33% fall under the category of kinaesthetic learning style and 13% have auditory learning style. The remaining 13% of them fall under a combination of two or three learning styles which are Auditory and Kinaesthetic (AK), Visual and Kinaesthetic (VK), Visual and Auditory (VA) and Visual, Auditory and Kinaesthetic (VAK).

4.2 Results from section C: Post Pandemic Learning Style

Out of the one hundred participants, 24% (24) felt that their learning style has not changed post-pandemic. However, most students (76%) felt that they had adapted to the changes of the learning environment and adjusted their learning styles accordingly. Most of the students who claimed that their learning styles have not changed were those who prefer to study alone. Thus, it did not make any difference to them whether the classes are conducted face-to- face or online. Table 3 provides some examples of their explanations.

Table 4
Sample excerpt for questions 1 in section C

Question 1: *Adakah anda merasakan cara/gaya belajar anda berubah semasa dan selepas pandemik Covid19?* *Translation: Do you feel that your learning style has changed during and after the pandemic?*	
Excerpt 1	*Answer: Ya. …pembelajaran secara online membuatkan saya pasif kerana saya tidak dapat bayangkan apa yang lecture ingin sampaikan … secara bersemuka ini sangat efektif kerana kita dapat melihat persekitaran … demonstrasi menyebabkan saya sendiri akan lebih aktif.* ***Translation:*** *…learning online makes me passive because I cannot imagine what the lecturers want to convey …face-to-face is very effective because we can observe the surrounding… demonstration makes me more active*
Excerpt 2	*Answer: Ya. Sekarang saya guna pelbagai sumber dan cara belajar bukan sahaja di kelas tetapi online juga* ***Translation:*** *Yes. Now I use various sources and learning method not only in class but also online*
Excerpt 3	*Answer: Tidak. Kerana saya memang sentiasa belajar bersendirian* ***Translation****: No, because I always study alone*
Excerpt 4	*Answer: Tidak. Kerana sebelum dan selepas pandemik gaya belajar tetap secara berseorangan dan cara pun masih sama* ***Translation****: No. Because before and after pandemic my learning style is to study alone and the way I study is still the same*

To the question whether they were more motivated during (ODL) or after the pandemic (face-to face), only ten (10%) students stated that they prefer ODL while the rest prefer face-to-face. Interestingly, the reasons given by the participants who prefer ODL vary as seen from the excerpts in Table 4.

Table 5
Sample excerpt for questions 2 in section C

Question 2: *Bilakah anda rasa lebih bersemangat untuk belajar ?* **Translation**: When do you feel more motivated to study?	
Excerpt 1	Answer : *Semasa pandemic,* kerana saya seorang yang lebih faham jika buat nota sendiri dan merujuk video. **Translation**: During the pandemic, because I understand the lesson better if I make my own notes and refer to the video by lecturer.
Excerpt 2	Answer: *Semasa pandemic, kerana suasana rumah yang lebih selesa dan mudah serta kurang pergerakan.* **Translation**: During the pandemic, because the environment at home is more comfortable and easier and requires minimal movement.
Excerpt 3	Answer: *Selepas Pandemik, kerana kelas bersemuka lebih mudah untuk difahami dan senang untuk bertanya soalan kepada pengajar.* **Translation:** After the pandemic, because during face-to-face classes it is easier to understand and to ask questions to the lecturer.
Excerpt 4	Answer: *Selepas Pandemik, bersemangat kerana mudah untuk berkomunikasi dengan pensyarah dan kawan kawan.* **Translation:** After the pandemic, motivated because it is easier to communicate with lecturers and friends.

Excerpts 1 and 2 are examples of participants who feel more motivated to study during the pandemic. In excerpt 1 the respondents stated that he or she understood the lesson better by taking down notes and referring to the lecturer's video. In Excerpt 2, the participants felt that studying online at home was more comfortable and conducive. However, in Excerpt 3 and 4 the participants stated that they were more motivated during face-to-face classes because they can directly communicate with their lecturers and classmates, making learning easier.

5. Conclusion

Since the most preferred learning styles were 'visual' followed by 'kinaesthetic', it is not surprising that most of the students claimed that they prefer 'face-to-face' learning environment. They prefer seeing and interacting with the lecturers and the classmates in real life rather than in virtual environment. Participants with 'kinaesthetic' learning style prefer something that they can touch and feel rather than just hearing. Knowing the students' learning style can encourage the teachers to act on this information by adjusting their teaching styles in accordance with students' need and guide them in achieving their academic goals. Additionally, it can be concluded that many of the participants have changed or adjusted their learning styles after the pandemic. Based on their answers to the open-ended questions, although the majority stated that they prefer face-to-face learning environment, many have adopted the use of technology in their learning thanks to the exposure they received during the Covid-19 Pandemic. However, the researchers also feel that further research on Hybrid Learning Models can be carried to explore its potential since the results portray that many students still prefer face-to-face learning despite the advances made in virtual classroom technology. Further research can explore the efficacy of hybrid learning models, combining both in-person and online methods.

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Authors Contributions

Nor Ashikin Ab Manan was primarily responsible for the conceptualization and design of the study, while Noraziah Azizan was actively engaged in the comprehensive literature review. Johana Yusof and Iza Faradiba Patel led the data collection efforts. Nor Ashikin Ab Manan and Noraziah Azizan is responsible in drafting the initial manuscript, conducted statistical analyses, and provided critical input throughout the manuscript revision process.

Conflict of Interest

There is no conflict of interest associated with this publication.

References

Apipah, Kartono & Isnarto. (2018). An analysis of mathematical connection ability based on student learning style on visualization auditory kinesthetic (VAK) learning model with self assessment. IOP Conf. Series: Journal of Physics: Conf. Series, 983. doi :10.1088/1742 6596/983/1/012138

Chislett, V., & Chapman, A (2005). VAK Learning Style Self-Assessment Questionnaire retrieved from http://www.businessballs.com

Cobo-Rendon, R., Bruna Jofre, C., Lobos, K., Cisternas San Martin, N., & Guzman, E. (2022, July). Return to university classrooms with Blended Learning: a possible post-pandemic COVID-19 scenario. In Frontiers in Education (Vol. 7). Frontiers Media SA.

Ghazivakili, Z., Nia, R. N., Panahi, F., Karimi, M., Gholsorkhi, H., & Ahmadi, Z. (2014). The role of critical thinking skills and learning styles of university students in their academic performance. Journal of advances in medical education & professionalism, 2(3), 95.

Aljaberi, N. M. (2015). University students' learning styles and their ability to solve mathematical problems. International Journal of Business and Social Science, 6(4).

Kirby, J. R. (1988). Style, strategy, and skill in reading. In Learning strategies and learning styles (pp. 229-274). Boston, MA: Springer US

Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. Academy of management learning & education, 4(2), 193 212

Montgomery, S. M., & Groat, L. N. (1998). Students' learning styles and their implications for teaching (CRLT occasional papers, No. 10). The Center for Research on Learning and Teaching, University of Michigan.

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. Review of educational research, 62(3), 307-332.

Ramadian, O. D., Cahyono, B. Y., & Suryati, N. (2019). The Implementation of Visual, Auditory, Kinesthetic (VAK) Learning Model in Improving Students' Achievement in Writing Descriptive Texts. English Language Teaching Educational Journal, 2(3), 142-149.

SK, M. S., & Helena, M. T. C. (2017). Styles of Learning Based on the Research of Fernald, Keller, Orton, Gillingham, Stillman, Montessori and Neil D Fleming. International Journal for Innovative Research in Multidisciplinary Field, 3(4), 17-25.

Sharma, A., & Alvi, I. (2021). Evaluating pre and post COVID 19 learning: An empirical study of learners' perception in higher education. Education and Information Technologies, 26(6), 7015-7032.

Sirin, A., & Güzel, A. (2006). The relationship between learning styles and problem solving skills among college students. Kuram ve Uygulamada Egitim Bilimleri, 6(1), 255.

Swailes, S., & Senior, B. (1999). The dimensionality of Honey and Mumford's learning styles questionnaire. International Journal of selection and assessment, 7(1), 1-11.

Wan Tahir, W. M. M., Dol @ Abdul Wahid, A. H., Hussin, A. H., & Abdul Jabar, J. (2019). Students' Learning Styles and Their Academic Performance In Accounting Course. Journal of Academia, 7(Special Issue 1), 10-17.

Yuniarti, Y., Suyitno & Anggoro, S. (2021). The Effectiveness of Vak Models With Multimedia to Improve Social Science Learning Achievement. ICONESS 2021, Purwokerto, Indonesia. DOI 10.4108/eai.19-7-2021.2312715

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VOCABULARY ENHANCEMENT THROUGH POETRY WRITING IN ESL CLASSROOM

Nur Baiti binti Ismail Shauki [1]* & Juliazilah binti Junit [2]

[1,2] Department of Languages, Faculty of Social Science and Humanities, Tunku Abdul Rahman University of Management and Technology, Kuala Lumpur, MALAYSIA

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Corresponding Author:
nurbaiti@tarc.edu.my

ABSTRACT

Literature is deemed as a contrivance for promoting language acquisition. It can be used to motivate learners to achieve the desired language that may improve their academic performance. Poetry, being contemplated as a component of literature, has proven to place a significant impact on the development of students' literacy competence. Hence, the goal of this study is to investigate the efficacy of adopting poetry in teaching vocabulary in the ESL classroom. It seeks to answer two research questions, (1) what is the level of student vocabulary according to the British National Corpus (BNC)? And (2) what is the frequency of part-of-speech (POS) in the poetry written by the student? This paper also discusses some of the advantages and pedagogical approaches of using poetry in the ESL classroom. The findings suggested that the highest frequency of POS is nouns and the pronouns *You* and *I* dominate the list. Based on these findings, the present research demonstrates that it is possible to employ poetry-based vocabulary teaching activities to improve teacher's instructional practices and enhance students' language learning outcomes. By incorporating poetry into their lesson plans, teachers can create a more engaging and meaningful learning experience for their students.

1. Introduction

In most English proficiency education, students have very little to write because they lack practice and stimulation for their imagination and creativity. To some extent, their writing content in general reads dull and dry, and the plot is merely displaying plain chronological events with no twist and missing real-life experience. This suggests that students lack vocabulary in the language to express themselves. This study was carried out as one of several methods to ameliorate ESL student's language proficiency, especially in terms of their vocabulary, by engaging poetry in language learning.

It has been claimed that this literature is regularly adapted in ESL classrooms. Regarded as one of the literary elements, poetry is beneficial to expose students to English culture and to teach vocabulary. Several academicians have endeavoured to review the utility of linguistic analysis in poetry in a variety of ways. Amongst others are Javeed (2018) who combines poetry and communicative approach, also Ahmed (2014) and Inyang (2009) who employ stylistics in their poetry classes and Ekaterina & Irina (2021) who combine technology and poetry.

Furthermore, some scholars have also explored the use of cognitive linguistics and corpus linguistics in studying poetry. For instance, Minikeeva et al. (2020) argues that cognitive linguistics can provide insights into the conceptual structures and metaphors used in poetry, while Abdelzaher (2022) highlights how corpus linguistics can be used to identify recurring patterns and themes in poetic texts.

Drawing from that literature, this study laid its foundation on the British National Corpus (BNC) for comparison to the students' vocabulary. The BNC is a large collection of written and spoken texts from a wide range of genres, including poetry. By investigating the students' vocabulary in comparison to the BNC, this study aims to gain insights into their understanding and use of conceptual structures and metaphors in poetry. BNC was introduced by Paul Nation in 1990 as a valuable resource for language learning and teaching, as it provides a representative sample of the English language. The corpus has since become a widely used resource for language researchers and educators. It contains over 100 million words and is constantly updated to reflect changes in language use over time.

This article will also elaborate the approaches used in teaching poetry in ESL classrooms and some of the advantages of using them.

2. Literature Review

2.1 Interesting Approaches in Teaching Poetry in ESL Classroom

Poetry is important and useful in language classes because it deviates from the standard language by implementing some infrequent ways of sentence structure, illustrative meanings to words, or combining sounds into words, in non-traditional and swerving style. Thus, language teachers should make full use of these deviations of poetic pattern to stimulate learners' language motivation toward the ways in which the vocabulary can be enhanced or changed to fulfil various communicative purposes.

Poetry, if taught interactively, can provide ESL students with a wide range of language learning opportunities. These intriguing features of poetry with its beautiful diction and embellished with rhythm and elevated grammatical features, can oblige as a prevailing stimulus to teach vocabulary to ESL students. Parkinson and Thomas (2000) identify several methods for encouraging students to learn poems when teaching and learning poetry. The three methods that are most relevant for vocabulary integration are:

1. Paraphrasing: Students use different words to signify what the poem is about, for example feelings, environments.

2. Linguistic characteristics: A description of the poem's language based on the concepts of regular and non-regular.

3. Personal experience: An explanation of how this has changed over time and attempt to find meaningful reasoning.

Teachers can adopt and adapt various approaches available in the field to teach poetry to their students. This is to ensure that the approaches used are suitable to cater to multiple intelligence levels of students. According to Hughes (2007), "Poetry offers wonderful opportunities for reading, writing, speaking, and listening practice for ELLs. Poetry also gives students a chance to expand vocabulary knowledge, to play with language, and to work with different rhythms". Javeed (2018) as mentioned in the introduction above, recommended a supplementary approach in teaching poetry that is an integrated approach. In this study, the researchers have divided the lesson into three which are the pre-reading, whilst-reading and post-reading activities.

The pre-reading activities involve activating prior knowledge, introducing new vocabulary, and setting the purpose for reading. The whilst-reading activities include analysing the poem's structure, identifying literary devices, and interpreting the meaning of the poem. Lastly, the post-reading activities involve evaluating the students' understanding of the poem through discussions, written responses, and creative projects. This integrated approach ensures that students develop a deeper appreciation and understanding of poetry.

Many researchers insist on the integration of literature in language teaching (Savvidou, 2004; Stacey, 2009; Panavelil, 2011; Marin, 2017; Gonen, 2018, Akhmedov, 2018). These researchers argue that literature can help students develop their language skills while also exposing them to different perspectives and cultures. By incorporating literature into language teaching, teachers can foster a deeper understanding and appreciation for diversity among their students.

In defining integrated approach, Savvidou (2004) opines that what is required in the classroom for teaching literature is an approach that attempts to amalgamate components of those approaches that make literature comprehensible to students and constructive to their linguistic development. This approach should also take into consideration the cultural background of the students and their personal experiences. By doing so, teachers can create a more inclusive and engaging learning environment that promotes critical thinking and empathy.

The integrated approach can be defined as a linguistic methodology that employs stylistic analysis to reconnoitre texts, literary and non-literary, from the perception of style and its relationship to text and context. It entails an organized and thorough examination of a text's stylistic features to determine not only what a text means but also how it came to mean what it does. Furthermore, teachers guide students while also participating in an integrated approach. This gives the teachers parallel experience to what the students are learning while adopting the approach to suit the student's needs.

2.2 Advantages of Using Poetry in ESL Classroom

Poetry has some advantages in EFL classrooms for developing students' literacy competence. On the authority of Panavelil (2011), the advantages of using poetry in language teaching are as follows: (1) it can be used to expose students to authentic models – real language in context that can help them develop their language skills; (2) It is inspiring because it elicits strong emotional reactions in students; and (3) it provides students with insight into developing cross-cultural awareness, which aids them in acquiring fluency in the target language.

Conversely, in the opinion of Gonen (2018), using poetry in the English classroom can boost students' inventiveness and foster an engaging learning environment. Gonen (2018) elaborated further, stating that adapting poetry in the classroom could encourage students' literacy learning, vocabulary enhancement, and linguistic proficiency. Moreover, Gonen (2018) further opines that teaching poetry in the language classroom can help teachers teach sentence style, grammar, and word choice. The practice of poetry in language learning may incite learners to coin a new word or interpret a poetic style that they were unfamiliar with previously.

Al-Mahrooqi (2012) proposes a novel method of teaching poetry through interviews with students. In the investigation, the researcher found that students enjoy learning literature with teachers who could astound their imaginations. This approach is a technique of teaching English literature that employs literary texts for specific purposes to improve students' language skills.

On using poetry in teaching vocabulary, few researchers like Killander (2011) and Aydinoglu (2013) have identified different angles to this matter. Aydinoglu (2013) discusses suitable activities to be conducted using poetry to teach vocabulary. On the other hand, Killander (2011) identifies difficulty in using poetic words as a major challenge to integrate poetry in English classrooms. The difficulties that these students encountered are primarily linguistic in nature, as well as a lack of interest in poetry. As a result, the author sought solutions to this problem. It is important to collect the words of highest frequency used by the students to aid instructors to overcome this problem.

Furthermore, Aydinoglu (2013) suggests that teachers should select poems that are relevant to their students' interests and level of proficiency in English. Killander (2011) recommends incorporating visual aids and contextualising the poems to help students understand the meaning of poetic words.

Despite the different perspectives, both authors agree on the potential benefits of using poetry in language learning. Killander (2011) suggests that incorporating poetry can enhance students' language proficiency and creativity, while Aydinoglu (2013) emphasises the emotional and motivational aspects of using poetry to engage learners.

Baki & Behood (2012) argue that because the vocabulary used in poetry can improve the effectiveness of the learning process, teachers can help students develop language awareness. By incorporating poetry into their lesson plans, teachers can expose students to a variety of vocabulary and language structures that they may not encounter in everyday conversation. This can help students develop a deeper understanding and appreciation of the language they are learning. This is parallel to the second research question which is which Parts of Speech components are used most by the students, can aid in teaching basic grammar to students.

The findings of Imron and Hantari's (2020) research support the following claims about the benefits of literature in English teaching: (1) it is a reasonable basis for vocabulary expansion, (2) it encourages empathetic, critical, and creative thinking, and (3) it involves emotions as well as intellect, which adds to motivation and may contribute to self-development. In Kahn's (2020) accord, his research agrees that poems often use words that are rarely encountered in other texts used in English classrooms, hence helping students to expand their knowledge of vocabulary. The use of figurative language in poems also promotes creative thinking skills as well as teaches students 'to be more profound in expressing their intended thoughts yet maintaining brevity and clarity (Kahn, 2020)'.

Thus, this study hopes to answer two research questions which are (1) what is the level of student vocabulary according to the British National Corpus (BNC)? And (2) what is the frequency of part-of-speech (POS) in the poetry written by the student? Addressing these research questions is essential to gaining a comprehensive understanding of the linguistic and creative aspects of student poetry. The first question regarding the level of student vocabulary, as measured against the British National Corpus (BNC), holds significant implications for evaluating the students' language proficiency and the richness of their lexical choices. The BNC, being a comprehensive and well-established linguistic resource, provides a standardized benchmark against which the students' vocabulary can be objectively assessed. The analysis of their vocabulary in comparison to the BNC can shed light on their exposure to diverse language sources, their ability to incorporate varied words into their writing, and their overall linguistic competence.

The second research question concerning the frequency of part-of-speech (POS) in the student-written poetry delves into the syntactic and stylistic dimensions of their creative expression. Investigating the distribution of POS categories, such as nouns, verbs, adjectives, adverbs, and conjunctions, can uncover patterns in their writing style and illuminate their choices in constructing sentences. For instance, a high frequency of adjectives and adverbs might indicate an inclination towards descriptive and vivid imagery, while a prevalence of verbs could suggest an emphasis on dynamic and action-driven narratives. By quantifying and analysing the POS distribution, this study aims to provide insights into the students' stylistic preferences and the linguistic strategies they employ to convey their poetic ideas.

In conclusion, these two research questions are pivotal to unravelling the intricate relationship between language proficiency and creative expression in student poetry. The study's findings could contribute not only to the field of linguistics and education but also to the appreciation and pedagogy of creative writing. By examining the level of vocabulary and the distribution of part-of-speech in their poetry, we can illuminate the dynamic interplay of linguistic competence and imaginative prowess, ultimately enriching our understanding of how students harness language to craft artistic and meaningful verses.

4. Methodology

Using a mixed method research design, the researchers selected ten poems written by ten first year diploma undergraduates of a public university in Malaysia. Enrolled in the Diploma in Accountancy course, these students are between the age of 18 to 19 years old on average. The poem writing exercise was given to enhance the undergraduates' use of personal pronouns in their classroom written assignments. They were required to submit the written poems via email to the lecturer. The choice of the Diploma in Accountancy course as the subject of this study offers a unique angle, as it provides insights into a field often presumed to be dominated by technical and numerical content, highlighting the multidimensional nature of education.

The selection of poems as the medium of creative expression is significant for various reasons. Poetry, characterized by its condensed form and deliberate language choices, necessitates a heightened awareness of vocabulary, syntax, and semantics. By engaging students in a poetic exercise, the study targets a specific linguistic skill – the use of personal pronouns – while also indirectly assessing their broader language proficiency and creative aptitude. The poems, submitted via email to the lecturer, not only mirror real-world practices of communication but also provide a diverse collection for analysis.

3.1 Research Design

The poems were then converted to plain text and compiled into a genre-specific corpus, following the steps proposed in CACA (Singh, 2014; Singh et al. 2012). The data analysis was conducted using CLAWS Tagger where the vocabulary used in students' writing were tagged according to the POS. The data was then uploaded to AntConc, a concordance software, which can be accessed online for free. Besides having the functions of concordance and plotting, AntConc is also useful to collocate and compute the frequency of the tags (Singh & Shamsudin, 2011).

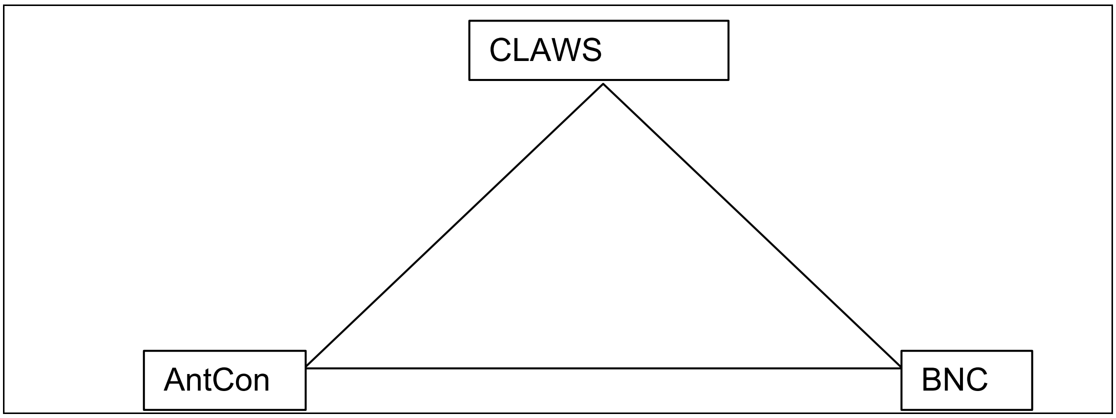

Figure 1. Data Triangulation

Following Paul Nation's methodology of headwords count, high frequency words are of 2,000 words and low frequency words are around 10,000 in number. Nation (2001, p. 388–389) mentioned "if more than five percent of the running words is unknown, then it is likely that there is no longer meaning-focused learning because so much attention has to be given to language features". Undoubtedly it is of utmost necessity to investigate the frequency level of vocabulary used in language lessons to determine its relevance. If the frequency level is incompatible with the standard, it is necessary for the teachers to provide supplementary activities to bridge this gap

(Shauki & Singh, 2018). Language students would be at a loss without these activities because their vocabulary level is insufficient to help them understand materials containing high frequency words.

Additionally, incorporating vocabulary instruction across content areas can also support students in building their understanding of high frequency words. This is compatible with a study from the National Reading Panel report (2005) which found that explicit vocabulary instruction can improve reading comprehension. Therefore, educators should prioritise providing students with a variety of strategies and opportunities to develop their high frequency word recognition skills.

Although poetry writings in the classroom have placed special focus on literary techniques and the poet as topics of interest, the least researched area seems to be that of vocabulary and frequency. Vocabulary is not just about expressing context and ideas; it is also about the representation of the author's creative personality and projecting perception. Hence, writers must carefully choose their words so that readers will be engaged and persuaded. The choices that we opt for is an indication of who we are as a writer. Therefore, the decision to explore vocabulary in poetry writing was prompted by the main consideration of providing an academic insight for further analysis on this discourse.

5. Results

Table 1
Summary of frequency count

Coverage	**100.00% (509 counted/ 0 not counted)**
Tokens (Total items)	509 (509 known)
Types (Unique items)	251 (251 known)

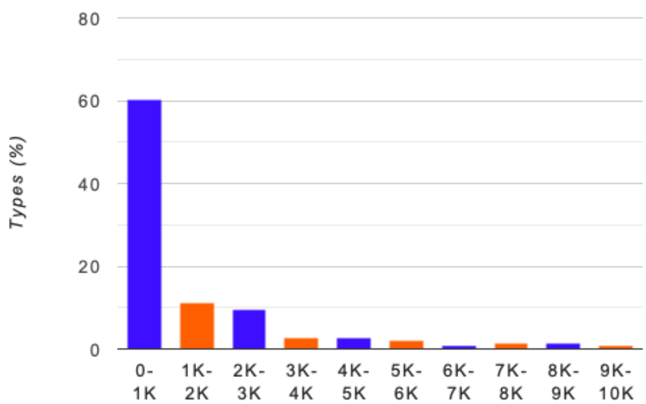

Figure 2. Percentage of total frequency according to British National Corpus (BNC) of 10K

The corpus-based analysis in Figure 1 illustrates distinct frequency patterns within different word ranges. In the 0-1k total range, comprising 88 words, common instances include “the" (7), "your" (10), "my" (5), "I" (9), and "you" (9). Moving to the 1k-2k range, a total of 16 words emerge, exemplified by terms like "smile" (2), "perfect" (1), and "faith" (1). Notably, the 2k-3k range encompasses 14 words, accounting for a cumulative 77.6% of the text, with examples such as "fast" (2), "deep" (1), and "sky" (1). Transitioning to the 3k-4k range, a computed frequency value of 4 is observed, featuring words like "gift" (1) and "sharing" (1). Similarly, the 4k-5k range exhibits a frequency of 4, prominently featuring "friendship" (3) and "forever" (1). Contrasting this, the 5k-6k range appears in only 3 instances, with the term "hearts" (1) being the primary representation.

The frequency distribution depicted in Figure 1 offers valuable insights into the vocabulary preferences and thematic inclinations present within the analysed text. The prominence of words such as "you," "I," and "your" in the 0-1k range suggests a strong personal and possibly introspective dimension to the content. The appearance of terms like "smile" and "perfect" in the 1k-2k range introduces an element of positivity and perhaps emotional resonance. Interestingly, the 2k-3k range, which constitutes a significant portion of the text, is characterized by descriptive words like "fast" and "deep," potentially indicating a focus on sensory experiences or vivid imagery. Furthermore, the recurrence of words like "friendship" and "forever" in the 4k-5k range points to enduring themes of human connection and longevity. While the 5k-6k range, represented by "hearts," offers a concise yet impactful note, underscoring the text's emotional core.

In summary, the detailed breakdown of word frequency across different ranges provides a nuanced perspective on the composition's linguistic and thematic composition. By recognizing the prevalence of certain words within specific ranges, we gain insights into the emotional tenor and narrative threads that weave through the text. This analysis not only enhances our understanding of the linguistic choices made by the writer but also hints at the underlying sentiments and motifs that give depth and meaning to the written piece.

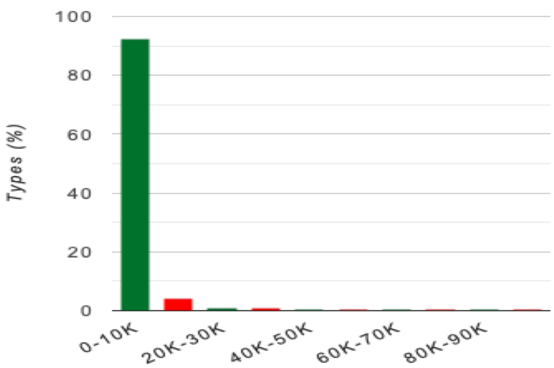

Figure 3. Percentage of total frequency according to British National Corpus (BNC) of 10K

Amazingly, there are six occurrences of 10K-20K words with examples being heartbeat (2) and *spoil* (2) as shown in Figure 2 above. When students used words in the 10,000 to 20,000 frequency range of the British National Corpus (BNC), it signifies that the words they employed are relatively common and moderately frequent in the English language. Words falling within the 10,000 to 20,000 frequency range are not among the most used words in English, but they are also not extremely rare. When students use words from this frequency range, it suggests that they have a grasp of vocabulary that extends beyond the very common words used in everyday speech.

5. Discussion

Paul Nation's headword list compiled from BNC is a convenient application for the matter of word rank. The list is organized in such a way that the level of the words and learner's description is cataloged accordingly (Shauki & Singh, 2018). In understanding ESL vocabulary instruction, it is necessary to select from the frequently used word, which words are of a priority. As Nation and Gu assert that "in terms of usefulness, all words are not created equal" (Nation, 2007, p. 20). The idea of 'usefulness' in this perspective refers to communicative usefulness. The main and most important goal of language learning in the modern era is for students to be able to successfully communicate themselves.

The presence of appropriate vocabulary that is used within context improves communication. Parenthetically, vocabulary learning should expose students to the words that will provide the greatest benefit in terms of adequately expressing themselves. Thus, to answer the first research question of this paper which is, what is the most frequently used vocabulary in poetry, the answer lies in the frequency count of the word. In Figure 1, the word from 10K or known as K10 in Nation & Davies (2012) shows the highest frequency with label K10 refers to the 10th 1,000 Most Frequent Words of English (words 9001 to 10000). As we can see in the description of the figure above, the highest frequency words mostly came from the pronouns type with examples given such as me, I and you. This indirectly has answered the second research question of this study which is, which Parts of Speech components are used most by the students.

The findings from the corpus-based investigation showed five types of POS were present in the study. The five POS are Nouns (83), Adverbs (44), Preposition (37), Adjectives (33), and Verb (24). There are dominating uses of the pronouns 'you' and 'I' in the ten poems analysed. The pronoun 'you' in normal writing usually indicates the pronominal reference of the writer to its reader. Nonetheless, it is a different case with poetry writing because if the writer uses the pronoun 'you', it is usually the indefinite version of the pronoun 'you'. Consequently, it can be unclear to whom the speaker is referring to as it can refer to anyone and/or everyone. It is up to the audience to interpret to whom the pronoun refers.

As exemplified in poem (2), it is unclear to say the writer uses 'you' to indicate reference to his own parent or parent in general as his special nurse and chef. This is the similar situation with poems (1), (3) and (7).

Poem (2):

You are the best nurses

who have treated me

you are the greatest chef

ever to provide meals for me

On a different note, poem (5) and (6) give us clear pronominal references with you in poem (5) refers to the pop singer, Justin Bieber, while you in poem (6) refers to Mathematics subject. The differences might be because for these two poems there are many occurrences of the specific subject in the poem. It might be safe to say the use of proper nouns along with you will give a clear understanding of whom it refers to.

Poem (6):

Oh mathematics,

Sometimes you make me happy,

Sometimes you make me laugh,

Additionally, it is important to note that the context and tone of the poem can also provide clues as to what the subject is referring to. It is always best to scrutinise the poem rather than solely focusing on individual words or phrases. Furthermore, the use of mathematical language and concepts in the poems adds depth and complexity to the overall meaning. The poems may also highlight the intersection between art and science, showcasing how seemingly disparate fields can intertwine in unexpected ways.

Poem (1):

Tirelessly,

Your sacrifices have been so precious to me,

Poem (7):

If only to avoid loneliness,

anything will do.

In these two poems (1) and (7), the authors used C5 vocabulary: sacrifices and loneliness, which shows the depth of human emotions. The poems also depict the struggle of individuals to cope with these emotions and how they affect their lives. The authors' use of vivid imagery and metaphors adds to the overall impact of the poems, making them a powerful representation of the human experience.

Among the advantages of knowing a high level of CEFR vocabulary are the ability to express oneself more precisely and effectively, as well as the capacity to comprehend complex texts and ideas. This advantage aligned with the study conducted by Kilandar (2011) and Krishnan & Yunos (2019) where students show remarkable aptitude and ability to use the language when they are exposed to low-frequency words. Furthermore, possessing a broad range of vocabulary can also enhance one's critical thinking skills and overall cognitive abilities.

This is the same case with Poem (3) which uses a C6 vocabulary. These poems are longer and have more vocabulary compared to the poems that use the lower CEFR level of vocabulary. It suggests that writing practice with more advanced literature can be a valuable exercise in improving one's language skills and cognitive development. Additionally, exposure to diverse vocabulary can also expand one's cultural knowledge and understanding of different perspectives.

Poem (3):

I fell in love with your melody.

6. Conclusion

Among the advantages offered by knowing highest frequency words is it will inexorably be linked to the communicative efficiency of the user. As Baron, Rayson and Archer (2009) states, “A frequency list records the number of times that each word occurs in the text. It can therefore provide interesting information about the words that appear (and do not appear) in a text”. For instance, the word smile, smiling, smiled and smiles, do we count it as one word or six parental words? Thus, other than providing data that stores regularity of the word, frequency list also contributes to an abundance of information of the implicit or explicit word (Shauki & Singh, 2018).

Furthermore, it is critical to teach the learners vocabulary knowledge that will benefit them the most. According to Nation (2001), the most attention should be paid to the most frequently used words in General English. Low frequency words are not worthy of classroom time, and different learning and guessing strategies should be used after sufficient exposure to those frequent words.

Nonetheless, the study found that incorporating poetry into language learning not only improved vocabulary, but also enhanced students' understanding of cultural nuances and emotional expression in the English language. This suggests that poetry can be a valuable tool for ESL students to develop both linguistic and cultural competence.

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Authors Contributions

All authors collectively contributed to the research and the final manuscript.

Conflict of Interest

There is no conflict of interest associated with this publication.

References

Abdelzaher, E. (2022). An Investigation of Corpus Contributions to Lexicographic Challenges over the Past Ten Years. *Lexikos, 32*. 162-179. 10.5788/32-1-1714.

Ahmed, J. (2014). Teaching of Poetry to Saudi ESL Learners: Stylistics Approach. *Study in English Language Teaching, 2*(1), URL: www.scholink.org/ojs/index.php/selt [Accessed on October 6th, 2021]

Akhmedov, R. (2018). Integrating Language and Literature in Teaching EFL. In Conference: *Enhancing Foreign Language Teaching in the Continuous Education*.

Aydinoglu, N. (2013). Integration of Poetry with Vocabulary Teaching. *Mediterranean journal of Educational Research.* 274-284.

Baki, O., & Behood, M. (2012). Teaching Vocabulary Through Poetry in an EFL Classroom. *International Online Journal of Primary Education (IOJPE), 1*(1).

Ekaterina, A., & Irina, V. K. (2021). Technologies In The Internet Poetry: Expectations And Reality. *European Proceedings of Social and Behavioural Sciences*. 342-348. Doi:10.15405/epsbs.2021.12.03.46.

Gonen, S. (2018). Implementing Poetry in the Language Class: A Poetry-Teaching Framework for Prospective English Language Teachers. *Advances in Language and Literary Studies. 9(*28). Doi:10.7575/aiac.alls.v.9n.5p.28.

Hughes, J. (2007). Poetry: A powerful medium for literacy and technology development (What Works? Research into Practice. *Research Monograph* (7). Retrieved from http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/Hughes.pdf

Imron, A. & Hantari, W.C. (2020) How Poetry Improves EFL Learners' Vocabulary through Curriculum-based Dynamic Assessment. Metathesis. *Journal of English Language Literature and Teaching, 5(*1), 1-10.

Inyang, G. B. (2009). Linguistic – Stylistic Technique and the Effective Teaching and Learning of Poetry in Nigerian Senior Secondary Schools. *African Research Review*. *3*. 10.4314/afrrev.v3i2.43608.

Javeed, A. R. (2018). Teaching Poetry in ESL Classroom through Integrated and Communicative Approach. *International Journal of Interdisciplinary Research in Arts and Humanities, 3*, Conference World Special Issue 1, 139-143.

Khan, S. (2020). Why and how to use a poem in ELT classroom. *International Online Journal of Education and Teaching (IOJET), 7*(3). 803-809. https://iojet.org/index.php/IOJET/article/view/807

Krishnan, P. D., & Yunus, M. M. (2019). Blended CEFR in Enhancing Vocabulary among Low Proficiency Students. *Arab World English Journal (AWEJ)* Special Issue on CALL (5). 141 153. DOI: https://dx.doi.org/10.24093/awej/call5.11

Khatib, M. (2011). A New Approach to Teaching English Poetry to EFL Students. *Journal of Language Teaching and Research, 2*(1), 164–169. https://doi.org/10.4304/jltr.2.1.164- 169

Killander, C. (2011). Poetry in Foreign Language Teaching. Aspects of a major challenge. In *Proceedings of ICERI2011 Conference*, 5618–5628.

Marin, M. (2017). An Integrated Approach to Teaching Poetry in a Greek EFL Classroom. A Case Study: Comparing Cavafy and Shakespeare. *Research Papers in Language Teaching and Learning, 8*(2), 89-102.

Minikeeva, A. A, Sadykova, A. G., & Med, N. D. (2020). Cognitive linguistic approach to the integrated theory of Metaphor. *Utopía y Praxis Latinoamericana, 7*(25). https://www.redalyc.org/journal/279/27964362024/27964362024.pdf

Panavelli, A. (2011). Teaching Poetry in an EFL/ESL Class: An Integrative and Communicative Approach. *English Language Teaching Voices, 1*(3).

Savvidou, C. (2004). An Integrated Approach to Teaching Literature in the EFL Classroom. *The Internet TESL Journal, 10*(12). Retrieved at http://iteslj.org/Techniques/Savvidou Literature.html on August 6th, 2021.

Stacey, W. F. (2009) Integrating Language and Literature: Teaching Textual Analysis with Input and Output Activities & Input to Output Approach. *Foreign Language Annals, 42*(3), 453 467.

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FACTORS THAT INFLUENCE PURCHASE INTENTION OF SECOND-HAND PRODUCTS

Nor Ashikin Ab Manan*[1] & Nor Nadia Raslee[2]

[1]Academy of Language Studies, Universiti Teknologi MARA(UiTM), Perak Branch, Seri Iskandar Campus, Perak, MALAYSIA

[2]Academy of Language Studies, Universiti Teknologi MARA(UiTM), Perak Branch, Tapah Campus, Perak, MALAYSIA

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Corresponding Author:
noras914@uitm.edu.my

ABSTRACT

Product reuse is one of the strategies in reducing the consumption of fresh resources in the production industries. Reuse plays a significant role in the minimization of waste as envisioned by waste prevention and zero waste strategies. However, for reuse to occur, there needs to be both a supply of used items and a demand for these goods. Therefore, this study was conducted to investigate the factors which influence college students and their families' purchase intention of second-hand products. The quantitative study utilised an online survey for data collection and its research instrument was an online questionnaire. The questionnaire was distributed using snowball sampling among university students to determine the factors influencing their decision in buying second-hand products. The study hopes to address two research questions. a) What are the factors which influence purchase intention of second-hand products? b) What are the factors which deter the consumers from purchasing second-hand products? Based on the data analysis it was found that the main deciding factors for the respondents' purchase intention was the condition of the second-hand items followed by the price and finally the brand. The respondents who have never bought second-hand products stated that the main factor that deter them from purchasing second-hand products is, they are considered unhygienic.

1. Introduction

The popularity of purchasing second-hand products in Malaysia has been increasing in recent years. According to Carousell Group Recommerce Index 2021 report, eight out of ten people in Malaysia have made second-hand purchases (Aman, 2021). During the Covid 19 pandemic, the demand for used items or thrift shopping had increased due to economic reasons. However, the demand for second-hand items such as gadgets, furniture, toys, tableware, and kitchenware (Lai, 2023) used clothes (Pfordten, 2023) still continue to rise even after the pandemic. The boom of second-hand market is not entirely due to the consumers' lack of funds or based on social class, as it was observed that individuals from various levels of income participate in this activity (Chan, 2020).There are other factors that affect the purchase of second-hand goods such as the rise of hipster subculture where finding a rare or unique items at a thrift shop is considered as increasing one's social capital (Chan, 2020). Other than that, more people are becoming environmentally conscious that they indulge in second hand buying to help lighten the load at landfills. Whether Malaysians are thrifty or environmentally conscious, the country has become one of the world's biggest markets for used clothes (Pfordten, 2023).

2. Literature Review

The present scenario sees second-hand stores flourishing across the world. The rising interest and preference to buy second-hand goods are driven by factors such as sentimental value and nostalgia, originality, a platform for self-expression and personal style (Bae, Choi, Gantumur, & Kim, 2002). Consequently, second-hand stores are most often cheaper as compared to an outlet in a shopping mall and their prices are inexpensive for lower incomes (Pierce & Paulos, 2011). Besides second-hand stores selling generally cheaper used clothing, including shoes and bags, another business model for second-hand clothing can also be seen. In 2019, a report on the Wall Street Journal revealed that the market for second-hand luxury goods is growing at a fast pace (Tu, Hsu & Creativani, 2022). Namely, in Taiwan, the business of second-hand luxury goods is booming as it allows consumers to find goods which are limited editions or discontinued (Tu et al., 2022).

The utilisation of pre-owned, refurbished, repaired, preloved, recycled, and rental goods symbolise positive things for the environment, as it means extending their lifespans and providing novelty to consumers (Tu et al., 2022). This, however, does not mean that consumers of second-hand goods are environmentally aware. Yang, Shuai, Song, and Tong (2017) reported that consumers normally sell their clothing to second-hand shops for the sole reason of earning extra money, not for sustainable reasons.

Nevertheless, a more positive prospect can be assumed for the younger generation. In a study on millennials and their perceptions on fast fashion and second-hand clothing, Lam, Hau-Yan, Yurchisin, and Cook (2016) found that the younger generation specifically millennials who were born between 1980 and 1995, as compared to their predecessor, are comparatively more environmentally aware. They possessed the realisation and social responsibilities of how the fashion industry is affecting the environment (Lam, et al., 2016). It is safe to assume that the personal values that consumers possess are highly relevant to their 'green consumption behaviour' (Tu et al., 2022). However, this might not be the case for millennials worldwide, while millennials believe in certain values and expectations regarding the environment, these aspects seem to contradict one another, research has also found that while they do care about sustainable issues, they still purchase fast fashion products (Johansson et al., 2017).

Similarly, in India, Tarai and Shailaja (2020) opined that while there is increased global awareness on the impacts of the fashion industry on the environment, this is greatly outweighed by the habits of the consumers' contemporary lifestyle. Such lifestyle constitutes overconsumption of resources, which one of them meant consuming fast fashion. i.e., rapid change in fashion with easy and cheap availability of textiles. Subsequently, consumers remain unaware or lack awareness in purchasing eco-friendly garments.

According to Tarai and Shailaja (2020), the level of acceptance for second-hand goods is noticeably significant compared to the past. Most consumers nowadays accept that second-hand goods will improve environmental issues such as pollution and waste. Mass production is always associated with some type of pollution, for instance, mass production of clothing and footwear has an environmental impact of 2% to 10% of environmental impact and this constitutes to 70% to 80% of environmental impact due to overconsumption. Unfortunately, in their study, Tarai and Shailaja (2020) revealed that only 38.84% of their participants acknowledged the positive facet of second-hand garments such as a more useful and environment-friendly option. Alternatively, their study revealed that the majority associated second-hand goods with being out of style and unhygienic. On their part of managing their own preloved clothes, 71% of the participants preferred to donate their second-hand garments, 26% would throw them away meanwhile, a minimal 4% would redesign and reuse the garments again for other purposes (Tarai & Shailaja, 2020).

In their study in Taiwan, Tu et al. (2022) indicated that 79.5% of their respondents had never purchased second-hand goods and in the future, have no intention to purchase second-hand goods. The respondents revealed their reasons which include unable to accept second-hand goods, feeling ashamed of the stigma associated with purchasing second-hand product, the questionable quality of second-hand goods, simply having no interest in second-hand goods, money issues in purchasing second-hand goods and lastly, the worry regarding the origins of the second-hand goods.

Since purchasing of second-hand products is not a simple form of commercialism, the study is conducted to create new knowledge in second-hand products consumption and customer buying behaviour by identifying factors that influence purchase intention of second-hand products.

3. Methodology

The study used an online survey as its data collection method. Snowball sampling, also known as respondent, driven sampling, was used in this study as proposed by Naderifar (2017). The research instrument used was an online questionnaire, which was divided into 3 sections. Section A is for the respondents' demographic, section B caters to the respondents who have had experienced purchasing second-hand products while section C is for the respondents who have never purchased second-hand products. The link to the online survey was initially shared with thirty (30) students from a Report Writing class at a public university in Malaysia. These students were asked to fill in the questionnaire and share the link with their friends or family members. The questionnaire link was open for one week from 10 to 16 September 2023.

4. Results and Discussion

By the end of the study period, the number of respondents who participated in the survey was sixty (60). The results are presented in the following sub-sections.

a) Section A: Respondents' Demographic

The pie charts in Figure 1 and 2 show the respondents' age group and their gender distribution respectively. Based on figure 1, the majority of the respondents (48.2%) were below the age of twenty while 8.3% were older than 35 years old.

Meanwhile, Figure 2 shows that sixty percent (60%) of the respondents were females, while forty percent (40%) were males.

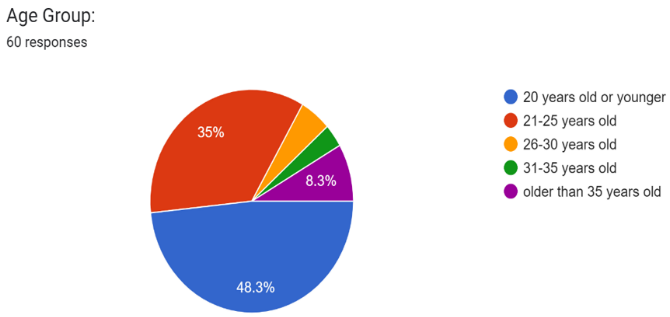

Figure 1. Respondents' Age Group.

Meanwhile, Figure 2 shows that sixty percent (60%) of the respondents were females, while forty percent (40%) were males.

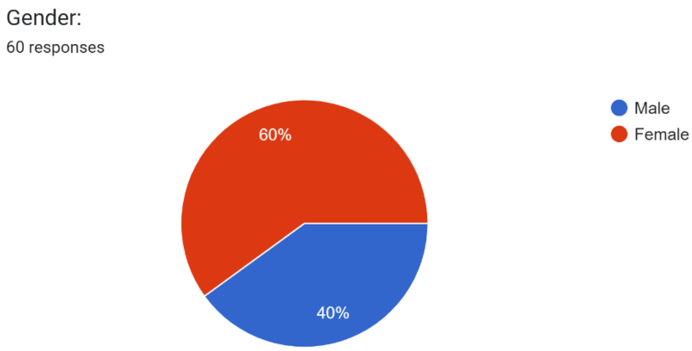

Figure 2. Respondents' Genders.

b) Section B: Results for multiple choice questions.

The first question in section B of the questionnaire was aimed at dividing the respondents into two group of consumers, those who have had experience buying second-hand products and those who have never experienced second-hand purchase. Based on Figure 3, the majority (90%) of the respondents have had second-and product purchase and only 10% have never had the experience.

Figure 3. The percentage of respondents' who have made second-hand purchase.

The second question of section B was intended to identify the main reason why the respondents made their second-hand purchase. Based on the pie chart in Figure 4, Most of the respondents stated that the main reason why they bought second-hand products was the price. Only a small fraction of the respondents (1.9%) bought second-hand products due to their concern for the environment, while 11.1% of the respondents bought second-hand products because of their brands.

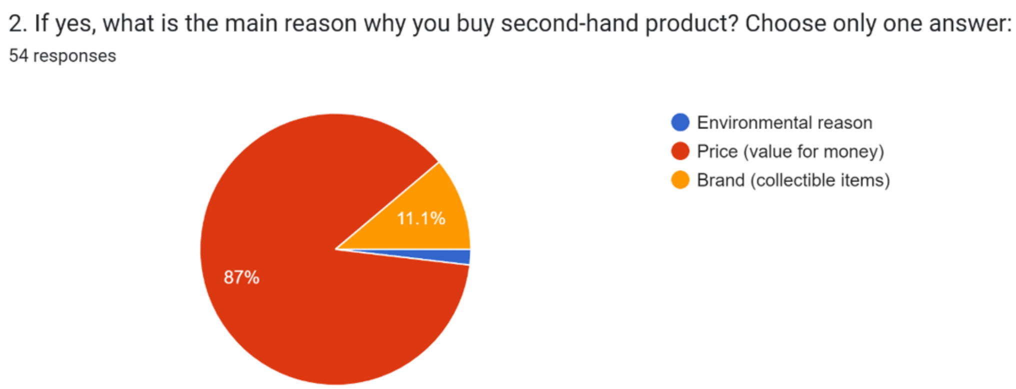

Figure 4. The main reason for buying second-hand products

c) Second-hand product categories

Table 1
Categories of second-hand products

Product Category	***Examples of products***
Personal	Clothes, shoes, jewellery, handbag, bag, accessories etc.
Leisure & Hobbies	Books, video games, DVD, music instruments, toys etc.
Home	Lamp, kitchen utensils, furniture, tableware, bed sheets etc.
Vehicles	Car, motorcycle, bicycle etc.
Electronics	Mobile phone, camera, computers etc.

Question 3 requires the respondents to choose the categories of second-hand products (based on Table 1) they had purchased up to the time of study, which means they could choose more than one category.

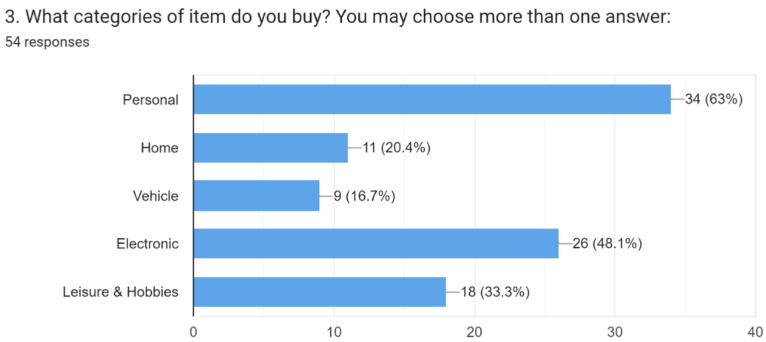

Figure 5: The categories of second-hand products bought by the respondents

Based on Figure 5, the second-hand product category which is the most popular among the respondents is personal item where 34 (63%) out of the 60 respondents had bought items in that category. It is followed by electronic, where 26 (48.1%) out of 60 respondents had made second-hand purchases from that category. Leisure and hobby category is the third most popular with 18 (33.3%) out of the 60 respondents admitting making a second-hand purchase of items in that category while the least popular are home and vehicle categories where only 11(20.4%) and 9 (16.7%) out of 60 respondents had made purchases from the categories respectively.

d) Results from 5-point Likert scale questions

For question 4 and 5, the respondents were asked to rate their agreement to three statements based on 5-point Likert Scale as follows: 1=strongly disagree (1 point); 2 =disagree (2 points); 3= neutral (3 points); 4=agree (4 points); 5= strongly agree (5 points). Table 2 and 3 show the average scores for each of the statements for question 4 and 5 respectively.

Question 4: "When deciding to buy the second-hand product, what are the factors that influenced you to make the purchase?"

Table 2
The average score for question 4

The Statements	***Average Score***
The factor that influences my decision to buy a second-hand product is the ***price***.	3.98
My decision to buy a second-hand product is influenced by the ***brand***.	3.5
I will look at the ***condition of the product*** before deciding to buy.	4.13

Based on Table 2, the factor which has the biggest influence on the respondents' decision of purchasing a second-hand item was the product condition, followed by the price. The product brand has the least influence on their decision.

Question 5: "What is your main concern when buying second-hand products?"

Table 3
The average score for question 5

The Statements	***Average Score***
I am concerned about ***the hygiene*** of the second-hand products such as clothing, shoes and other personal items	3.83
When buying second hand products, I worry about ***the quality*** because usually the warranty period has expired	3.80
I worry about the ***negative stigma*** attached to buying second-hand products	3.30

Based on Table 3, the respondents' major concerns are hygiene (3.83) and the quality (3.80) of the second-hand products. They are least concerned about the stigma (3.30) attached to buying second-hand items.

e) Section C: Respondents' who have never made second-hand purchase

Finally, section C was intended for the respondents who had never made second-hand purchase to choose the factors which deter them from purchasing second-hand products. Based on Figure 3 only 10% (6) out of 60 respondents had never made second-hand purchase. The main factor which had deterred the respondent from purchasing second-hand products is 'hygiene' as 5 (83.3%) out of the 6 respondents had chosen this category followed by the 'perceived quality of the products' which was chosen by 3 (50%) respondents. Other factors such as 'negative stigma', 'the products may be from someone with contagious diseases' and 'can get new one at a cheaper price' share the same percentage of 16.7% since only one respondent had made purchase from these categories.

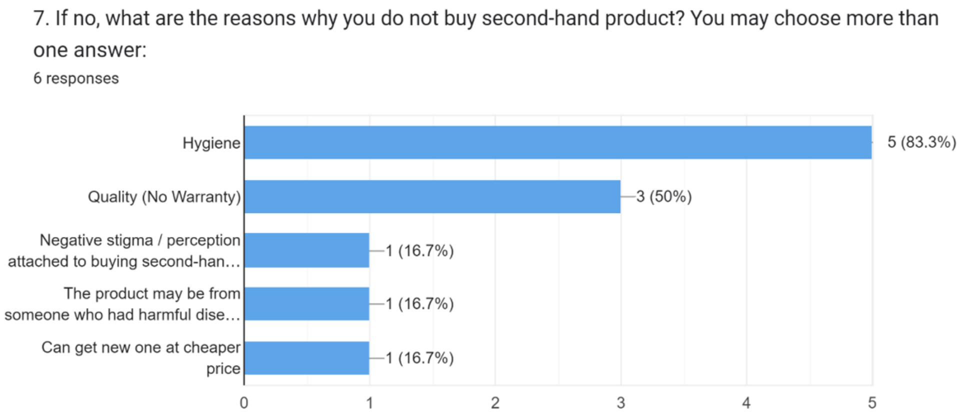

Figure 6: The factors that deter the respondents from buying second-hand products

5. Conclusion

Based on the survey, it can be concluded that the majority or 90% of the respondents have had experienced with purchasing second-hand products. The percentage is higher than the percentage reported by Carousell Group Recommerce Index 2021 which found that 80% of Malaysians have had second-hand purchase experience (Aman, 2021). The findings are in contrast with the study by Tu et al. (2022) who found that 79.5% of the Taiwanese consumers in their study had never purchased second-hand goods and have no intention of making second-hand purchase in the future.

It can also be concluded the respondents in the study are not environmentally conscious since only 1.9% of them bought second-hand products due to their concern for the environment. The percentage is much lower than reported by Tarai and Shailaja (2020) who conducted their study among Indian consumers. They found that 38.84% of their participants acknowledged that buying second-hand products was an environment-friendly option.

In addressing the first research question, although the respondents chose ‘price’ as the main reason for them to purchase second-hand products and not for ‘environmental reason’ or for ‘branded item collection’, the main factor influencing their purchase is the condition of the products. They would buy if it is still in good condition and ‘is value for money’, not simply because the product in question is cheap. Like the issue that discourages those who have not considered or purchased second-hand products, the respondents who have purchased second-hand items cite hygiene as their top concern. This is consistent with the study conducted by Tarai and Shailaja (2020) which revealed that the majority associated second-hand goods with being out unhygienic.

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Authors Contributions

Nor Ashikin Ab Manan was primarily responsible for the conceptualization and design of the study, while Nor Nadia Raslee was actively engaged in the comprehensive literature review and led the data collection efforts. Nor Ashikin Ab Manan is responsible in drafting the initial manuscript, conducted statistical analyses, and provided critical input throughout the manuscript revision process.

Conflict of Interest

There is no conflict of interest associated with this publication.

References

Aman, A.S. (2021, December 8). Eight of 10 people in Malaysia make second-hand purchases, saysCarousellhttps://www.nst.com.my/business/2021/12/752536/eight-10-people malaysia-make second-hand-purchases-says-carousell

Bae, Y., Choi, J., Gantumur, M.& Kim, N. (2002). Technology-Based Strategies for Online Secondhand Platforms Promoting Sustainable Retailing. Sustainability 2022, 14, 3259.

Chan,S. K. R. (2020). "Selam Bundle": Thrift Shopping As Malaysian Social Class Integration Platform. Jebat: Malaysian Journal of History, Politics & Strategic Studies. 47(3)376-402.

Ekström, K. M. and Salomonson, N. (2014). Reuse and Recycling of Clothing and Textiles – A Network Approach. Journal of Macromarketing, 34 (3),383-399. https://doi.org/10.1177/0276146714529658

Han, J., Ijuin, H., Kinoshita, Y., Yamada, T., Yamada, S. & Inoue, M. (2021). Sustainability Assessment of Reuse and Recycling Management Options for End-of-Life Computers-Korean and Japanese Case Study Analysis, Recycling 2021, 6, 55. https://doi.org/10.3390/recycling6030055

Johansson, E., Julianose, V., & Winroth, L. (2017). Sustainable Chic: A Cross-Cultural Study on Millennials' Perception of Sustainability and Intended Buying Behavior in the Fast Fashion Industry. Växjö: Linnaeus University, Kalmar & Växjö.

Kinoshita, Y., Yamada, T., Gupta, S.M., Ishigaki, A. & Inoue, M. (2016). Disassembly parts selection and analysis for recycling rate and cost by goal programming. J. Adv. Mech. Des. Syst. Manuf, 10, 1–15.

Lai, A. (2023, May 1). Sale of pre-loved items slowly picking up. The Star. https://www.thestar.com.my/news/nation/2023/05/01/sale-of-pre-loved-items-slowly picking-up

Lam, Hau-Yan, Yurchisin, J. & Cook, S. (2016). Young adults' ethical reasoning concerning fast fashion retailers. Paper presented at the International Textile and Apparel Association, Vancouver, BC, Canada, November 8–11.

Mohammad, J., Quoquab, F. & Mohamed Sadom, N.Z. (2021). Mindful consumption of second hand clothing: the role of eWOM, attitude and consumer engagement. Journal of Fashion Marketing and Management, 25(3), 482-510. https://doi.org/10.1108/JFMM-05-2020-0080

Naderifar, M., Goli, H., & Ghaljaie, F.(2017). Snowball Sampling: A Purposeful Method of Sampling in Qualitative Research. Strides Dev Med Educ, 14(3), 1-6. http://doi.org/ 10.5812/sdme.67670.

Newell, A. S. (2015).Textile waste resource recovery: a case study of New York State's textile recycling system. New York.

Pfordten, D. (2023, March 14). INTERACTIVE: Malaysians just love pre-loved goods. The Star. https://www.thestar.com.my/news/nation/2023/03/14/interactive-malaysians-just-love pre-loved-goods

Pierce, J., & Paulos, E. (2011). Second-hand interactions: Investigating reacquisition and dispossession practices around domestic objects. Paper presented at SIGCHI Conference on Human Factors in Computing Systems, Vancouver, BC, Canada, May 7–12; pp. 2385 94.

Sorensen, K., & Johnson Jorgensen, J. (2019). Millennial perceptions of fast fashion and second hand clothing: an exploration of clothing preferences using Q methodology. Social Sciences, 8(9), 244.

Tarai, S., & Shailaja, K. (2020). Consumer perception towards sale of second-hand clothes in the localities of Odisha, State of India. Journal of Textile Engineering & Fashion Technology, 6(4), 159-162.

Tu, J. C., Hsu, C. F., & Creativani, K. (2022). A Study on the Effects of Consumers' Perception and Purchasing Behavior for Second-Hand Luxury Goods by Perceived Value. Sustainability, 14(16), 10397. https://doi.org/10.3390/ su141610397

Yang, Shuai, Yiping Song, and Siliang Tong. (2017). Sustainable retailing in the fashion industry: A systematic literature review. Sustainability 9, 1266.

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