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Multidisciplinary Education for Human-Centred Lifelong Learning

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FOREWORD

It is with great pleasure that I welcome readers to the proceedings of the International Conference on Liberal Studies (i-CITRA 2026). This conference represents an important milestone in our continuing journey to strengthen liberal studies and reaffirm its relevance in preparing graduates for a rapidly changing and increasingly complex world.

i-CITRA 2026 is particularly meaningful for Universiti Kebangsaan Malaysia as it is held in the same year that Pusat Pengajian Citra Universiti (PPCU) achieved faculty status, which was officially announced on the 17th July 2026. This milestone marks a new chapter for Citra at UKM and strengthens our responsibility to advance liberal studies through education, research, innovation, community engagement and wider academic collaboration at national and international levels.

Since the inaugural i-CITRA conference in 2021, our conversations have continued to evolve alongside major changes in higher education and society. The emergence of artificial intelligence (AI), shifting workplace expectations, sustainability challenges and the growing importance of lifelong learning require universities to continually reconsider how we educate future-ready graduates.

In this context, liberal and general education remain highly significant. Higher education must extend beyond disciplinary knowledge and professional preparation. It must also cultivate critical thinking, effective communication, ethical awareness, adaptability, collaboration and the capacity to integrate knowledge across different fields and contexts. At UKM, this broader educational purpose is reflected through Citra education, while similar aspirations are pursued through Mata Pelajaran Umum (MPU) across Malaysian higher education institutions.

The papers gathered in this proceeding reflect the richness and diversity of discussions at i-CITRA 2026. They address the importance of MPU in nation building, curriculum innovation, teaching and learning approaches, graduate competencies, the opportunities and challenges of adopting AI, community and industry engagement, and the changing landscape of higher education. Together, these contributions demonstrate the continuing importance of liberal studies in connecting knowledge with judgement, learning with practice, and education with wider responsibilities to the society.

On behalf of the organising committee, I extend my sincere appreciation to our keynote speaker, forum panellists, presenters, authors, reviewers, session chairs, participants, institutional partners and every member of the organising committee for making i-CITRA 2026 possible.

It is my hope that this volume will serve not only as a record of i-CITRA 2026, but also as a source of reflection, new ideas and continued collaboration. May the conversations and

scholarship presented here contribute to strengthening liberal studies and to shaping a more responsive, inclusive and future-oriented higher education landscape.

Dr Rozita Ibrahim
Chairperson
International Conference on Liberal Studies (i-CITRA 2026)
Fakulti Pengajian Sains Citra (Faculty of Liberal Science), UKM

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THEME 1: CONCEPTS AND PHILOSOPHY OF LIBERAL, CITRA AND GENERAL STUDIES (MPU) EDUCATION

Membumikan Hidup Beragama Mahasiswa Melalui Kursus MPU

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ABSTRAK

Kursus MPU mendedahkan pelajar dengan OBE (Outcome Base Education) yang mengukur prestasi secara empirikal demi mencapai aspirasi negara. Makalah ini bertujuan memberi nilai tambah pemerkasaan kualiti hidup pelajar melalui kaedah membumikan hidup beragama menerusi semua kursus MPU. Dalam usaha itu, pengumpulan data awal dilakukan secara dokumentasi dan dibincangkan bagi mendapatkan persetujuan pengajar MPU. Dapatan menunjukkan usaha membumikan perlu dilakukan secara teknikal, peningkatan domain afektif dan penyertaan libatsama pelajar pensyarah. Fungsional agama dijadikan nilai bersama yang boleh disatukan daripada semua anutan pelajar. 6 item dapatan ini masih bersifat teoritikal dan pengamatan nilai. Ia diharapkan dapat membantu penambahan kualiti hidup generasi pelajar pembina wawasan negara.

Kata Kunci: bahasa moral bersama, Citra, teori fungsional, agama di Malaysia

PENGENALAN

Kursus Mata Pelajaran Umum; Aspirasi Negara Bangsa, Falsafah dan Cabaran Semasa, Citra Malaysia, Kursus Integriti dan Anti Rasuah, Perlembagaan dan Masyarakat Berintegriti merupakan subjek wajib IPT. Membumikan bermaksud mengukuh dan mengembangkan sesuatu perkara, idea, atau undang-undang supaya ia menjadi amalan dan kefahaman realiti kehidupan masyarakat.

Kami melihat masalah kemenjadian generasi muda yang meruntuhkan jiwa ekoran tiadanya jati diri hidup beragama dan pegangan kerohanian. Isu ini menyumbang kepada pelbagai krisis moral dan fenomena yang mencerminkan keruntuhan jiwa. Makalah ini bertujuan mencadangkan nilai tambah pemerkasaan jati diri pelajar melalui kaedah membumikan jati diri hidup beragama. Persoalan yang ditimbulkan ialah bagaimana jati diri hidup beragama secara teknikal dan bersepadu boleh dibangunkan dalam usaha peningkatan kualiti hidup pelajar. Justifikasi membumikan kursus MPU dengan nilai agama ialah berdasarkan fungsi semua agama: pembentukan integriti dan kawalan dalaman, memupuk keharmonian, empati, dan kerukunan sosial, membina benteng menghadapi cabaran ideologi moden, menjiwai falsafah kenegaraan, membangunkan keseimbangan holistik dan kelestarian masa depan pendidikan.

Metod dokumentasi dan FGD digunakan. Dapatan awal yang diperolehi secara dokumentasi dipadankan dengan persetujuan semua ahli FGD dengan itemnya.

DAPATAN

1. Teknik Memandu Pensyarah Menguasai Modul Berpaksikan Nilai Hidup Beragama

-Penggunaan Pedagogi dan Teknologi Pendidikan Terkini. Pendekatan integratif Akal dan Hati perlu dikuasai dengan mengimbangi pemikiran kritis bersama kesedaran dalaman, nilai dan spiritualiti supaya pendidikan beragama adalah kuasa transformasi membentuk insan secara holistik.

-Pendekatan Konsep Praxis (mewujudkan hubungan dialektik antara pemahaman teori dan tindakan transformatif). Mengaitkan teori secara terus dengan pengalaman sosial seperti Pembelajaran Berdasarkan Pengalaman.

-Pembelajaran Berasaskan Masalah menerusi kuliah interaktif, perbincangan kajian kes berfokuskan pada pelanggaran moral dan rasuah, penganjuran aktiviti main peranan membabitkan dilema etika, serta latihan refleksi kendiri.

-Membudayakan Kemahiran Dialog Merentasi Perbezaan, iaitu melatih pelajar kemahiran saling mendengar dan bertutur secara beradab serta

berempati bagi menyelesaikan konflik dan mengurus isu kepelbagaian secara konstruktif.

2. Kaedah Pentaksiran Yang Mengikat Pembelajaran Dengan Nilai Hidup Beragama.

Pendekatan pentaksiran Domain Afektif (Sikap dan Nilai). Mencadangkan supaya pelajar mencapai aras A4 (Mengurus sistem nilai) dan A5 (Menghayati atau membudayakan nilai). Pelajar dinilai sejauh mana kemampuan bertindak secara konsisten dengan sistem kepercayaan, falsafah, dan nilai. Ia berkait rapat dengan kluster hasil pembelajaran Etika dan Profesionalisme serta Nilai, Sikap dan Profesionalisme. Kaedah pentaksiran yang boleh digunakan ialah:

-Refleksi Kendiri, Penulisan refleksi berkesan mentaksir domain afektif kerana ia memaksa pelajar meleraikan konflik dalaman, menyatakan pendirian, serta menghubungkaitkan kepercayaan peribadi (nilai agama) dengan tindakan mereka.

-Kajian Kes dan Main Peranan (Role-Play). Pentaksiran dibuat ke atas keutuhan nilai integriti/sejauh mana mereka kekal amanah, jujur, tulus, dan telus apabila berdepan dengan cabaran moral yang menguji pegangan agama.

-Projek Komuniti dan Service-Based Learning di bawah Amalan Pendidikan Berimpak Tinggi (HIEPs). Mengukur sumbangan holistik pelajar, semangat kesukarelaan, dan pembinaan hubungan yang harmoni dengan masyarakat pelbagai.

-Pembentangan dan Laporan Projek Berkumpulan bagi menilai kemahiran etika dalam interaksi. Mereka diuji kemampuan berhujah, mempertahankan sistem nilai dan kebenaran.

Amnya, kaedah pentaksiran berterusan secara penjajaran konstruktif sesuai bagi melihat perkembangan watak pelajar.

3. Pendekatan Bagi Membumikan Nilai Hidup Beragama Merujuk Kepada Setiap Kursus

-Falsafah dan Cabaran Semasa (FCS): Pendekatan integratif akal dan hati. Pensyarah tidak hanya mengajar falsafah sebagai teori abstrak, sebaliknya mengintegrasikan kemahiran penaakulan akal dengan kesedaran hati agar ia menjadi kuasa transformasi membentuk insan holistik dan beretika. Pelajar perlu memahami konsep khalifah dan karamah insan agar mereka sedar tujuan hidup melangkaui kejayaan material dan merangkumi kewajipan moral terhadap Tuhan, masyarakat, dan alam sekitar.

-Malaysian Citra (MC): Perlu membawa pelajar keluar dari bilik kuliah supaya mampu menyepadukan pengetahuan akademik dengan khidmat komuniti. Hal ini menterjemahkan nilai agama seperti ihsan, empati, dan tanggungjawab sivik kepada bentuk tindakan dunia sebenar. Sambutan perayaan pelbagai agama dan "Rumah Terbuka" boleh menjadi ruang konstruktif mendedahkan pelajar kepada amalan empati dan dialog rentas budaya. Perlu diterapkan pemahaman bahawa identiti budaya Malaysia berkait dengan agama dan tradisi kepercayaan yang membentuk sistem nilai serta kerukunan.

-Kursus Integriti dan Anti Rasuah (KIAR): Perlu pendedahan realiti seperti lawatan ke fasiliti SPRM dan sesi perkongsian pengalaman. Menanamkan doktrin bahawa tiada sebarang agamapun membenarkan penyelewengan. Pelajar boleh dilibatkan dalam perbincangan dilema etika menerusi role-play untuk membina kawalan dalaman agar budaya telus dapat dipraktikkan.

-Perlembagaan dan Masyarakat Berintegriti (PMB): Pembelajaran Berasaskan Masalah tentang hak beragama membimbing pelajar meneliti peruntukan Perlembagaan (Perkara 3:Islam sebagai Agama Persekutuan, dan Perkara 11: Kebebasan Beragama). Memupuk rasa saling menghormati kontrak sosial dan keamanan bermasyarakat majmuk. Menggunakan model Piagam Madinah bagi menunjukkan bagaimana prinsip asas Islam (keadilan, persamaan, syura, dan perlindungan hak bukan Islam) diinstitusikan secara harmoni dalam kerangka bernegara.

-Aspirasi Negara Bangsa (ANB): Perlu membawa pelajar menghayati Rukun Negara (Kepercayaan kepada Tuhan) sebagai kerangka normatif yang membentuk akauntabiliti moral tertinggi. Melalui tugasan kolaboratif dan simulasi penyelesaian konflik, pelajar mahir menangani stereotaip dan ucapan kebencian berteraskan nilai keadilan, kerjasama, dan menghormati identiti agama kaum lain. Menyedarkan pelajar bahawa pembangunan negara tidak akan mapan tanpa sulaman etika, integriti, dan keluhuran jiwa beragama.

4. Bagaimana Pentaksiran Refleksi Kendiri Membantu Penghayatan Nilai Murni. Memastikan pembelajaran tidak sekadar kekal sebagai hafalan kognitif, sebaliknya membentuk watak pelajar melalui cara-cara berikut:

-Menyediakan ruang menilai prinsip hidup peribadi refleksi kendiri masing-masing secara praktikal.

-Meleraikan konflik dalaman dan membina pendirian (aras Afektif A4: kemahiran mengurus atau mengkonsepsi sistem nilai).

-Mendorong tindakan konsisten melalui pembudayaan nilai bagi mencapai aras afektif: Menghayati atau membudayakan nilai. Mengukur sejauh mana pelajar berpegang teguh kepada sistem kepercayaan dan falsafah yang luhur.

-Menterjemah teori ke bentuk tindakan transformatif (*Praxis*). Hubungan dialektik antara teori dan tindakan memastikan pelajar melakukan refleksi kritikal yang dikaitkan dengan pengalaman sosial dan tindakan nyata untuk mencipta perubahan.

-Mengukur ketulusan, kejujuran dan integriti sebenar dalam konteks pemarkahan, laporan refleksi atau jurnal individu secara langsung untuk mentaksir atribut kelakuan seperti Etika Kerja dan Integriti.

5. Kaedah SULAM Menterjemah Nilai Agama Dalam Tindakan Nyata.

-Mekanisme pengantara yang merapatkan jurang antara pembelajaran di bilik kuliah dengan keperluan sebenar sesebuah komuniti.

-Memupuk sifat empati, ihsan dan tanggungjawab sivik secara praktikal melalui penglibatan khidmat komuniti, nilai-nilai ihsan dan saling membantu dizahirkan secara praktikal.

- Ejen Inovasi Sosial dalam membumikan nilai agama untuk sentiasa membawa kebaikan. Ia mengubah paradigma pelajar daripada sekadar penerima maklumat pasif kepada ejen kemajuan yang bertanggungjawab secara sosial.

-Teori pembelajaran berasaskan pengalaman, pengetahuan bermakna akan tercipta apabila berhadapan dengan situasi sebenar.

PERBINCANGAN

Kaedah membumikan nilai hidup beragama perlu merujuk kepada semua agama di Malaysia. Ia membentuk satu "bahasa moral bersama" yang menyuburkan keharmonian, keadilan, serta kelestarian alam. Nilai-nilai setiap tradisi kepercayaan ini dibumikan dalam kehidupan masyarakat dengan cara:

Islam: aplikasi konsep Ubudiyyah dan Khalifah: Agama meliputi seluruh aspek kehidupan termasuk cara berfikir, bertindak, etika kerja, dan membuat keputusan berteraskan tauhid. Manusia bertindak sebagai khalifah yang memikul amanah memakmurkan bumi, bukannya mengeksploitasi sumber secara rakus. Ia dibumikan melalui aplikasi Maqasid Syariah dalam pembentukan dasar untuk menjaga nyawa, akal, harta, keturunan, dan memelihara alam secara beretika.

Buddhisme: Nilai penderitaan dan pembebasan jiwa dibumikan melalui disiplin kendiri, kehidupan sederhana, dan memiliki pemahaman rasional dalam tindakan harian. Penganut Buddha mempraktikkan metta (cinta kasih) dan karuna (belas kasihan) sebagai panduan berinteraksi sesama manusia dan alam. Ia diaplikasikan secara fizikal (kerja kebajikan) serta ritual semasa perayaan Wesak sebagai simbolik kepada sifat ihsan dan memelihara kehidupan makhluk lain.

Hinduisme: Kepercayaan setiap perbuatan ada akibat(karma) menggesa penganutnya amalkan dharma (tanggungjawab moral sentiasa melakukan kebaikan dan mengelakkan penyelewengan demi mencapai moksha (kebebasan rohani). Ia dibumikan melalui seva (khidmat sukarela) tanpa mengira batas etnik.

Kristian: Nilai agape (kasih sayang kemanusiaan tanpa syarat). Ia diterjemahkan di peringkat sosial apabila para penganutnya komited dalam aktiviti sukarela, projek pemulihan dan berempati kepada golongan yang memerlukan.

Cina: Konfusianisme dibumikan melalui pembinaan institusi keluarga dan hierarki masyarakat yang saling menghormati. Nilai terasnya ialah ren (kemanusiaan), li (tatasusila/ tata tertib), dan xiao (berbakti kepada ibu bapa). Taoisme membumikan elemen keharmonian dengan alam semula jadi menerusi prinsip wu wei (tidak memaksa/tidak melawan aliran tabii alam). Ia dipraktikkan dengan gaya hidup yang bersederhana dan mengekalkan keselarasan antara daya positif dan negatif (yin dan yang) dalam rutin kehidupan.

Kepercayaan Nenek Moyang / Pribumi (Orang Asli / Orang Asal): Membumikan nilai kepercayaan menerusi hubungan rohaniah yang mendalam dengan ekosistem, hutan, dan kitaran pertanian (animisme). Sistem ini dilaksanakan menerusi amalan pantang larang yang mendidik rasa hormat kepada persekitaran. Ritual seperti tarian Sewang membumikan semangat kebersamaan, persaudaraan, dan kesamarataan.

Sikhisme: Penyatuan dan kelestarian dibumikan secara institusi menerusi peranan Gurdwara sebagai pusat interaksi serta memupuk tradisi bahasa dan kebudayaan kepelbagaian Malaysia.

KESIMPULAN

Kemenjadian pelajar beragama melalui kursus MPU dapat mewujudkan nilai keharmonian dan persefahaman rentas budaya. Ciri-ciri pelbagai agama ini diinstitusikan secara sosial menggalakkan toleransi dan keluhuran budi. Interaksi falsafah kesemua agama inilah yang membentuk benteng masyarakat menentang individualisme, rasuah, dan materialisme.

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Konsep Program Pengajian Siswazah Pusat Pengajian Citra Universiti dalam Kerangka Kurikulum Tersedia Masa Hadapan

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ABSTRAK

Revolusi Industri 4.0 bukan hanya memberi impak positif yang amat nyata dalam memacu kepesatan ekonomi global, perubahan budaya dan gaya hidup masyarakat bahkan turut menimbulkan pelbagai cabaran untuk mengukuhkan nilai agama dan budaya setempat. Bagi memastikan masyarakat berupaya berhadapan dengan cabaran RI 4.0 ini serta terpimpin dalam kerangka Falsafah Pendidikan Kebangsaan,maka konsep kurikulum tersedia masa hadapan perlu dijadikan asas dalam pembinaan kurikulum pendidikan negara disemua peringkat pengajian termasuklah di peringkat Pendidikan tinggi. Menyedari hakikat ini Pusat Pengajian Citra Universiti UKM telah mengorak langkah dengan merangka dan menawarkan Program Pengajian Siswazah berasaskan konsep kurikulum tersedia masa hadapan seiring dengan tuntutan RI.4.0. Persoalannya adalah apakah faktor yang mendorong pembinaan program pengajian siswazah ini? Sejauh mana konsep dan struktur kurikulum program pengajian ini menepati kurikulum tersedia masa hadapan? Apakah cabaran semasa yang dihadapi dalam menawarkan program pengajian ini? Maka objektif kajian ini adalah untuk meneroka faktor-faktor mendorong pembinaan program pengajian ini. Menganalisis sejauh mana konsep dan struktur kurikulum pengajian menepati konsep kurikulum tersedia masa hadapan. Kajian juga bertujuan untuk mengenalpasti cabaran yang dihadapi dalam menawarkan program pengajian ini di khalayak. Bagi mencapai semua objektif tersebut,metod kajian kualitatif menerusi analisis dokumen digunakan. Hasil kajian dijangkakan dapat mengenalpasti faktor utama yang mendorong kepada pembinaan program pengajian siswazah ini. Selain itu, konsep dan struktur kurikulum program pengajian juga dijangkakan menepati konsep kurikulum tersedia masa hadapan. Cabaran dalam menawarkan program ini juga dijangka dapat dikenalpasti. Sumbangan utama kajian ini mengenengahkan konsep kurikulum tersedia masa hadapan dalam Program Pengajian Siswazah Pusat Pengajian Universiti UKM.

Kata Kunci: Program Pengajian Siswazah, Pusat Pengajian Citra, Kurikulum Tersedia Masa Hadapan

PENGENALAN

Program Pengajian Siswazah yang ditawarkan oleh Fakulti Pengajian Sains Citra (FPSC) bertujuan menyediakan peluang baharu kepada pelajar untuk mengikuti satu bentuk struktur pengajian yang membina dan menyumbang ilmu baharu kepada korpus ilmu dalam bidang Sains Citra di bawah disiplin pengajian umum (general studies discipline) yang bersifat merentas dan pelbagai disiplin (cross and multidisciplinary). Penawaran kursus ini adalah selari dengan saranan pihak Kementerian Pengajian Tinggi yang menyarankan agar pendidikan tinggi Malaysia perlu lebih fleksibel, inklusif dan berorentasikan kemahiran. Aspek ini perlu diberi penekanan dalam merangka dan membina program pendidikan tinggi sebagai satu langkah transformasi bagi berhadapan dengan cabaran Industri 4.0. Salah satu aspek penting yang perlu diberi perhatian adalah menekankan aspek Kurikulum Tersedia Masa Hadapan dalam membangunkan program pendidikan tinggi ini. Justeru, kertas kerja ini bertujuan untuk melihat konsep Program Pengajian Siswazah Fakulti Pengajian Sains Citra dalam

kerangka Kurikulum Tersedia Masa Hadapan. Kertas kerja ini menumpukan kepada 3 hasil kajian iaitu meneroka faktor-faktor pembinaan program pengajian; menganalisis sejauh mana konsep program menepati Kurikulum Tersedia Masa Hadapan dan mengenalpasti cabaran dalam penawaran program.

HASIL DAN PERBINCANGAN

Dapatan hasil pertama menujukkan faktor era Revolusi Indusrti 4.0 adalah salah salah satu faktor yang mencetuskan motivasi pembinaan Program Pengajian Siswazah Sains Citra. Revolusi Indusrti 4.0 ini bukan hanya memberi impak dalam aspek pembuatan, pertanian, pengangkutan dan tenaga sahaja, bahkan turut memberi kesan terhadap pendidikan (Shahidah Hamzah 2024). Justeru FPSC mengambil inisiatif menyahut seruan Kementerian Pengajian Tinggi bagi merangka program siswazah yang dapat melahirkan graduan yang berupaya berhadapan dengan perubahan era digital dalam RI4.0 ini.

Kemampuan memenuhi keperluan bidang-bidang perkhidmatan yang memerlukan tenaga kerja semasa turut menjadi faktor kepada pembinaan Program Pengajian Siswazah Sains Citra. Dapatan kajian pasaran (antara 1 November 2019 hingga 31 Mac 2020) menjelaskan bahawa Program Pengajian Siswazah ini dapat memenuhi keperluan semasa pasaran dan industri bagi mengisi jawatan dalam sektor awam dan swasta. Bakal graduan daripada program ini dilihat berdaya saing bukan hanya untuk pasaran tempatan, tetapi juga luar negara. Selain itu juga, Program Pengajian Siswazah ini dijangka dapat melahirkan tenaga kerja dalam bidang Kerjaya Hijau yang mula mendapat perhatian dunia masa kini temasuk di Malaysia . Perubahan konsep kerjaya hijau dalam konteks ruang lingkup ekonomi global menuntut keseimbangan antara pertumbuhan dan juga aspek kelestarian. Situasi global juga menujukkan bahwa dunia kini mula beralih ke arah ekonomi hijau yang akan memberi kesan terhadap pekerjaan masa kini. Aspek kelestarian alam sekitar mula dizahirkan dalam dasar tenaga, perinudtrian dan juga pelaburan (Fairus Muhammad Darus 2026).

Program Pengajian Siswazah ini juga relevan dengan lima kluster penyelidikan UKM iaitu Sumber Lestari, Alam Sekitar dan Kehidupan Pintar; Teknologi Digital dan Terkehadapan; Kesihatan dan Perubatan Termaju; Transformasi Sosial dan Ekonomi; dan Warisan dan Masyarakat Madani (Pejabat Timbalan Naib Canselor Hal Ehwal Penyelidikan dan Inovasi 2023). Penyelidikan yang dilakukan oleh para graduan dapat mengisi mana-mana kluster penyelidikan yang telah ditetapkan oleh UKM. Selain itu faktor untuk membina kemenjadian insan dengan akhlak, etika, moral , kerohanian, kemahiran memimpin, pembentukkan identiti nasional, penguasaan ilmu pengetahuan dan juga memperoleh pelbagai kemahiran yang meliputi kemahiran Bahasa,kemahiran berfikir dan pengetahuan adalah antara faktor pembinaan Program Pengajian Siswazah ini. Era kini yang berhadapan dengan pelbagai ketidaktentuan ekonomi dan kecelaruan nilai serta budaya, menuntut Institusi Pengajian Tinggi bukan hanya menjadi sebagai wadah penyampaian ilmu dan maklumat semata-mata, bahkan menuntut IPT berperanan sebagai ekosistem pembentukan manusia yang mengintegrasikan pembangunan intelektual, emosi dan sosial dalam kerangka yang lebih bersepadu dan tersusun (Wan Safuraa Wan Osman 2026).

Dapatan hasil kedua menunjukkan bahawa konsep Program Siswazah Sains Citra ini didapati selari dan menepati elemen-elemen Kurikulum Tersedia Masa Hadapan (KTMH). Tiga (3) elemen utama KTMH adalah 1: Struktur Kurikulum Boleh Lentur dan Organik (*Fluid and Organic Curriculum Structure*); 2: Penyampaian Pembelajaran dan Pengajaran Transformatif (Transformative Teaching and Learning Delivery) dan 3: Pentaksiran Alternatif (Alternative Assessment) (Pengajaran UKM 2023). Berhubung dengan elemen pertama Program Pengajian Siswazah yang ditawarkan adalah bersifat multi disiplin dan merentas disiplin. Elemen kedua pula, Program Pengajian Siswazah yang ditawarkan juga menitikberatkan aspek pembelajaran berasaskan pengalaman secara mendalam. Manakala elemen ketiga, Program Pengajian Siswazah menilai pelajar sejauh mana calon siswazah berupaya mengaplikasikan pengetahuan mereka dalam situasi sebenar.

Dapatan hasil ketiga pula menunjukkan terdapat beberapa cabaran dalam menawarkan Program Pengajian Siswazah ini. Antara cabaran yang dihadapi adalah jumlah pelajar baharu yang mendaftar dalam program Sarjana Sains Citra masih belum mencapai unjuran tahunan yang ditetapkan iaitu sekurang-kurangnya 5 pelajar bagi setiap

tahun. Selain itu juga pendaftaran pelajar antarabangsa juga masih belum mencapai sasaran yang dihasratkan.

KESIMPULAN

Hasil kajian mendapati bahawa konsep Program Pengajian Siswazah bagi FPSC menepati elemen-elemen Kurikulum Tersedia Masa Hadapan.

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Hubungan antara Kebergantungan Terhadap AI Generatif dan Pematuhan Etika Akademik Pelajar PSIS dalam Penyiapan Tugasan MPU Pengajian Islam

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ABSTRAK

Kecerdasan Buatan (AI) ialah satu rangkaian teknologi maju yang membolehkan mesin menjalankan pelbagai tugas, membuat pertimbangan serta mengenal pasti penyelesaian yang sesuai secara automatik untuk mencapai matlamat yang telah ditetapkan. Pada masa kini, perkembangan teknologi kecerdasan buatan (AI) telah menghasilkan pelbagai alat yang mampu meningkatkan kecekapan dan keberkesanan dalam pembelajaran. Para pelajar memanfaatkan pelbagai aplikasi AI untuk melaksanakan tugasan dalam pembelajaran termasuk mencari bahan pembelajaran, membantu dalam penulisan tugasan serta menyokong pelbagai keperluan pembelajaran yang lain. Walau bagaimanapun, penggunaan alat AI yang pesat dalam pembelajaran turut menimbulkan perdebatan etika, khususnya yang berkaitan dengan integriti akademik, keaslian dan kebolehpercayaan sumber yang dihasilkan oleh AI. Kajian ini bertujuan mengenalpasti hubungan kebergantungan terhadap AI Generatif dan pematuhan etika akademik dalam kalangan pelajar semester 2 yang mengambil kursus MPU Pengajian Islam. Kajian ini menggunakan pendekatan kuantitatif yang melibatkan seramai 75 orang pelajar Diploma Sains Kesetiausahaan (DSK) dan Diploma in Information Technology (DIT) di Politeknik Sultan Idris Shah. Analisis statistik deskriptif dan inferensi digunakan ke atas data yang dikumpul dengan menggunakan perisian IBM SPSS Statistik 24.0. Kajian menunjukkan hubungan positif yang signifikan kebergantungan terhadap AI Generatif dan pematuhan etika akademik dengan nilai pekali korelasi Pearson (r) yang diperolehi ialah .764 dan ini bermakna hubungan tersebut adalah kuat. Oleh yang demikian, hasil kajian ini diharapkan dapat membantu pensyarah membimbing pelajar memiliki kesedaran serta tanggungjawab moral yang tinggi dalam memanfaatkan teknologi AI secara beretika dan bertanggungjawab.

Kata Kunci: AI Generatif, Etika Akademik, Politeknik Sultan Idris Shah, Pengajian Islam

PENGENALAN

Kecerdasan Buatan Generatif (GenAI) menunjukkan potensi dalam bidang pendidikan, khususnya dalam menyokong pembelajaran kendiri, pembelajaran bahasa serta pelaksanaan tugasan secara automatik. Dalam konteks pengajaran dan pembelajaran GenAI turut dimanfaatkan sebagai alat sokongan untuk memberikan maklum balas terhadap tugasan penulisan, termasuk esei dan penulisan penyelidikan. Maklum balas yang dihasilkan merangkumi pelbagai aspek penulisan seperti ketepatan tatabahasa, penyusunan idea, struktur penulisan dan kandungan.

Walau bagaimanapun, penggunaan GenAI yang semakin meluas turut menimbulkan persoalan berkaitan tahap kebergantungan pelajar terhadap teknologi tersebut. Kajian oleh Azhar et al. (2025) yang meneliti hubungan antara kebergantungan terhadap GenAI dengan integriti akademik mendapati bahawa peralihan penggunaan GenAI daripada sekadar alat sokongan kepada bentuk kebergantungan berpotensi menimbulkan kebimbangan terhadap perkembangan pemikiran kritis, kemahiran penyelesaian masalah dan keupayaan membuat keputusan secara beretika dalam kalangan pelajar.

Selari dengan dapatan tersebut, Revesai (2025) melaporkan kebergantungan terhadap GenAI mempunyai kaitan dengan kemerosotan dalam beberapa aspek pembelajaran akademik, khususnya pemikiran kritis, kemahiran menulis dan proses pemerolehan pengetahuan. Keadaan ini boleh memberikan implikasi terhadap pematuhan prinsip integriti akademik. Justeru,

meskipun GenAI menawarkan pelbagai manfaat dalam menyokong proses pembelajaran, penggunaannya perlu disertai dengan kesedaran terhadap batas penggunaan, keupayaan menilai maklumat secara kritis serta pematuhan terhadap prinsip etika dan integriti akademik.

Selain itu, masalah pematuhan terhadap ketelusan penggunaan GenAI turut menjadi perhatian. Kajian Gonsalves (2024) mendapati 74% pelajar dalam satu tidak mengisytiharkan penggunaan AI walaupun pengisytiharan tersebut diwajibkan dalam penilaian akademik. Manakala kajian oleh Lund et al. (2025) pula menunjukkan kepercayaan etika pelajar mempunyai pengaruh yang lebih kuat terhadap persepsi dan tingkah laku berkaitan salah laku GenAI berbanding kesedaran terhadap polisi institusi. Oleh yang demkian kajian penggunaan AI, serta kebergantungan dan pematuhan etika akademik pelajar memerlukan pengkajian yang lebih terperinci

Dalam konteks kajian di Politeknik Sultan Idris Shah (PSIS) pelajar yang mengikuti kursus MPU (Pengajian Islam) adalah bersesuaian kerana tugasan Pengajian Islam bukan sahaja menilai keupayaan pelajar mendapatkan maklumat, tetapi turut melibatkan kefahaman, penghayatan, penghujahan dan penerapan nilai-nilai Islam terhadap penyiapan tugasan. Kebergantungan yang berlebihan kepada GenAI dalam menghasilkan jawapan atau tugasan berpotensi menyebabkan pelajar kurang menggunakan pemikiran dan kefahaman sendiri. Pada masa yang sama, penggunaan kandungan GenAI tanpa semakan yang sewajarnya atau dengan anggapan kandungan tersebut sebagai hasil kerja pelajar boleh menimbulkan persoalan berkaitan kejujuran dan etika akademik

Oleh yang demikian, objektif kajian mengenalpasti hubungan antara kebergantungan penggunaan GenAI dan pematuhan etika akademik dalam kalangan pelajar PSIS bagi kursus MPU (Pengajian Islam). Dapatan kajian diharapkan dapat membantu pihak institusi dan pensyarah memahami corak penggunaan GenAI dalam kalangan pelajar serta menjadi asas kepada pembangunan panduan penggunaan AI yang lebih jelas dan beretika dalam proses pengajaran dan pembelajaran.

HASIL DAN PERBINCANGAN

Penyelidik telah mengedarkan sebanyak 127 set soal selidik dalam bentuk *e-google form* kepada pelajar yang mengambil kursus MPU (Pengajian Islam) di Politeknik Sultan Idris Shah. Strategi pengedaran ini adalah selaras dengan panduan Krejcie dan Morgan (1970), yang mencadangkan saiz sampel sebanyak 92 bagi populasi 127 pelajar. Hasilnya, pengkaji menerima 105 set soal selidik yang berjaya dilengkapkan.

Demografi Responden

Kajian ini mengumpulkan maklumat demografi responden seramai 105 orang pelajar dari Diploma Sains Kesetiausahaan (DSK) dan Diploma *in Information Technology* (DIT). Taburan demografi responden seperti Jadual 1 di bawah.

Program Pengajian	DIT	DSK	Jumlah
Lelaki	40	12	52
Perempuan	10	43	53
Jumlah	50	55	105

Jadual 1: Demografi responden

Analisis Deskriptif

Berdasarkan Jadual 2, skor min bagi pembolehubah bebas kebergantungan GenAI mencatat purata 3.19 manakala sisihan piawaian .792. Bagi pemboleh ubah bersandar, etika akademik mencatat min 4.09 manakala sisihan piawaian .678. Secara keseluruhannya min bagi kedua-dua pembolehubah berada pada tahap sederhana.

	Min	Sisihan Piawaian
Pembolehubah Bebas Kebergantungan terhadap Gen-AI	3.19	.792
Pembolehubah Bersandar Etika Akademik	4.09	.678

Jadual 2: Min dan Sisihan Piawaian Pembolehubah

Analisis menunjukkan aplikasi berasaskan GenAI seperti Chat GPT, Gemini, dan Microsoft Copilot telah mula digunakan sebagai instrumen sokongan harian untuk penyiapan tugasan, merangkumi pencarian idea awal dan penulisan pantas selari dengan

kajian Mohd Salleh et al. (2025) mengenai pengadaptasian secara meluas AI di universiti tempatan atas faktor kecekapan.

Manakala dapatan kajian berkaitan pematuhan etika akademik dalam kalangan pelajar DSK dan DIT menyokong penggunaan Garis Panduan Penggunaan Teknologi Kecerdasan Buatan Generatif (KBG) dalam Pengajaran dan Pembelajaran (PdP) Pendidikan Tinggi oleh Kementerian Pendidikan Tinggi (KPT) Malaysia (2024).

Ujian Normaliti

Ujian Kolmogorov-Smirnov pada Jadual 3 menentukan taburan normal data bagi kedua-dua pemboleh ubah kajian. Nilai bagi kebergantungan terhadap AI generatif ialah p = .001, manakala pematuhan etika akademik ialah p = .005. Kedua-dua nilai tersebut adalah kurang daripada 0.05, ia menunjukkan data tidak bertaburan secara normal. Oleh itu, analisis korelasi Spearman digunakan untuk menguji hubungan antara kebergantungan terhadap AI generatif dengan pematuhan etika akademik.

	Kolmogorov-Smirnov		
	Statistic	df	Sig.
Penggunaan AI	.116	105	.001
Pematuhan Akademik	.107	105	.005

Jadual 3: Keputusan Ujian Normaliti

Analisis Korelasi

Berdasarkan analisis korelasi Spearman, terdapat hubungan positif yang signifikan antara kebergantungan terhadap AI generatif dengan pematuhan etika akademik dalam kalangan pelajar. Keputusan menunjukkan nilai pekali korelasi Spearman sebanyak $r_s = .273$ dengan nilai signifikan p = .005. Oleh kerana nilai p adalah kurang daripada 0.01, hubungan yang diperoleh adalah signifikan pada aras 0.01. Nilai pekali korelasi .273 menunjukkan bahawa hubungan antara kedua-dua pemboleh ubah adalah positif tetapi lemah. Analisis ini melibatkan seramai 105 orang responden.

Pemboleh ubah	Etika pematuhan akademik		
Kebergantungan terhadap GenAI	N	rs	p
	105	.005	.273

P<0.05**

Jadual 4 : Analisis Korelasi Spearman

KESIMPULAN

Dapatan penyelidikan ini membawa implikasi pedagogi serta praktikal yang amat penting, terutamanya bagi tenaga pengajar kursus MPU (Pengajian Islam). Tindakan menyekat pendedahan teknologi berasaskan aplikasi ini secara mutlak disifatkan tidak lagi relevan. Oleh yang demikian, pendidik disaran untuk mengalih pendekatan pengajaran menerusi penerapan intervensi berasaskan nilai murni.

Langkah awal memerlukan tenaga pengajar merangka semula bentuk pentaksiran akademik dengan menerapkan elemen penghayatan serta refleksi kendiri yang tidak mampu dijana oleh kecerdasan buatan. Penilaian tradisional bertulis wajar digantikan dengan tugasan berteraskan kajian kes mahupun pembentangan secara lisan. Seterusnya, para pensyarah bertanggungjawab menyemai prinsip amanah ilmiah dalam kalangan pelajar menerusi panduan pengisytiharan penggunaan AI dan tatacara rujukan yang telus. Menerusi strategi ini, pendidik berperanan sebagai pembimbing moral yang memastikan pemanfaatan teknologi dilaksanakan secara beretika serta mematuhi tuntutan syarak.

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A Philosophical Reflection on Value-Based Education in Malaysian Tertiary Education

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ABSTRACT

According to the Guidelines on Values-Based Education (VBE) introduced by the Malaysian Qualifications Agency (MQA), students who possess professional knowledge and competencies may nevertheless demonstrate weaknesses in moral and ethical reasoning. These shortcomings are attributed to institutional challenges, including fragmented policies, inadequate educator training, limited institutional support, and a lack of consensus on core values. To address these issues, VBE was introduced into tertiary education with the aim of systematically instilling six core values in students. However, this paper argues that the proposed solutions are grounded on a questionable assumption about the nature of values. Drawing on conceptual analysis and philosophical reflection, it contends that values are not static entities that can simply be selected once they have been successfully instilled through systematic education. Rather, values are dynamic structures that emerge through human experience and involve the capacity to evaluate, prioritise, and choose among competing values in concrete situations. Given this nature, the mere instillation and internalisation of values are insufficient to guarantee value-based choices and actions. Accordingly, the primary purpose of this paper is to elucidate the dynamic nature of values and to identify the obstacles that hinder their realisation in practice. In particular, it examines how individuals may fail to choose or act upon certain values despite possessing a sound understanding and deep internalisation of those values through the educational system. Based on this analysis, the paper argues for the need for an alternative framework that can provide a stronger foundation for "living through values," which is envisioned by VBE.

Keywords: Values-based Education, Values, Context-independence, Living through Values

INTRODUCTION

With the rapid economic growth and social development, Malaysian higher education plays an important role in cultivating professional and skilled talents, ensuring the high demand from job market can be met. Meanwhile, it has become a challenge that graduates from higher education may perceive themselves narrowly as mere professionals without humanitarian concerns. As a result, graduates who possess professional skills and knowledge may be found lacking in ethical awareness and well-rounded moral judgements. This issue becomes even more pressing when technological advancements are introduced to society but have negative impact due to a lack of humanitarian considerations.

Against this background, Malaysian Qualification Agency (MQA) has introduced Value-Based Education and published the Guidelines on Values-Based Education (VBE) 2026 (hereafter, the Guidelines) as a policy for implementation. The Guidelines suggests that the core values introduced by MQA or institution for VBE are universal and embedded in Malaysian context, in the ways of aligning with National Philosophy of Education and the Principles of the Rukun Negara. VBE policy prospects that by internalizing those values into the curricular, extracurricular and academic settings, Malaysian higher education can nurture holistic graduates who are able to living through values, contributing to society, nation and global, as portrayed in National Philosophy of Education and the Principles of the Rukun Negara.

This paper argues that, although the VBE policy and its implementation are well-intentioned, they may not be effective because they are

based on a problematic assumption about the nature of values. This flawed assumption helps explain why many individuals fail to choose and act in accordance with values, despite having been educated about and exposed to them over an extended period. The paper subsequently examines the implications of this problematic assumption for VBE and proposes an alternative framework for value-based education.

VALUES-BASED EDUCATION (VBE)

Before VBE was officially introduced and emphasised in Malaysia's higher education system, value education was primarily delivered through general studies courses, co-curricular activities, and community service programmes. It focused largely on teaching students about the concepts and theories of values, without systematic integration across broader educational experience. As a more advanced approach to value education, VBE provides a comprehensive educational framework through which students not only learn about values but also live, experience, model, and internalise them within educational institutions.

According to the Guidelines, VBE is defined as “an educational approach that focuses on instilling moral and ethical values and nurturing character, attitude and behaviour. It is guided by humanistic, societal and communal values through integrating core values into teaching, learning and institutional culture so that the values are actively lived” (MQA, 2026).

Under this approach, educational institutions play a crucial role in providing an environment that fosters character development through diverse and inclusive educational mechanisms, such as institutional vision and mission statements, academic curricula, co-curricular activities, community engagement programmes, administrative practices, and campus culture.

For VBE to be considered an effective educational approach, it must be found upon two basic assumptions concerning the nature and operation of values:

Assumption 1: The nature of values is static and context independent.

Assumption 2: The instillation and internalisation of values in individuals will necessarily lead to value-based action.

Due to space limitations, this paper cannot analyse both assumptions and will therefore focus on Assumption 1. It argues that VBE's assumption regarding the nature of values is flawed. The following discussion begins by examining the content of this assumption and explaining why VBE is grounded in such a conception of values. It then demonstrates why this assumption is unjustified.

WHAT IS VALUE?

We talk about values every day and generally distinguish between what is and is not a value. The Guidelines introduce six core values: dignity, justice, integrity, gratitude, courage, and altruism (ibid.). When people encounter these six core values, the question that usually comes to mind is, "Why are these six values considered core values?" rather than, "Why are these six concepts regarded as values?" This is because common sense already assumes that they are values. However, if we do not take this list for granted and instead ask, "Why are these six concepts values?" we begin to engage in the philosophy of value, because this question leads us back to the fundamental issue of what a value is and what constitutes value.

Based on our everyday experience, people naturally assume that value is a property. We have never directly perceived value itself; rather, what we perceive are the characteristics displayed by its bearer, which we classify and label as values. For example, we perceive the value of honesty through a person's actions and behaviour. If individuals refrain from making statements that are inconsistent with the facts, consistently convey truthful information through their behaviour, and avoid communicating false or inaccurate information to others, we would say that their words and actions embody the value of honesty and are thus ethical. Every value has its own distinctive characteristics, and these can be identified by examining how people define or interpret the relevant value concept.

In the Guidelines, each of the six core values is provided with a specific definition. Taking altruism as an example, the Guidelines define it as "Altruism as a core value refers to individuals' selfless concern for the well-being of others, in which they act out of genuine care, compassion and generosity, without anticipating personal gain or reward. It embodies the spirit of helping, serving and sacrificing for others, which is often motivated by empathy, love or moral conviction." (ibid.). These characteristics are therefore regarded as the defining properties of altruism.

At this point, the relationship between the nature of value and VBE should become clear. If the nature of value is understood as a set of specific properties embodied and expressed by its bearer, and if these properties can be articulated through definitions, then the role of VBE becomes apparent. The first step is to identify the properties of each core value by defining its content, as is done in the Guidelines. The next step is for higher institutions to embed these properties into teaching, assessment, extracurricular activities, administrative systems, and the broader institutional culture, allowing them to permeate students' lives and become internalised as part of their character. For example, if VBE aims to cultivate altruism in students, it must focus on enabling them to understand, practise, and internalise the defining properties of altruism. If students' motivations and behaviours subsequently reflect more of these properties than before, VBE may be regarded as successful.

For the inculcation and internalisation of values to be effective within the VBE framework, the properties reflected in the definitions of core values must remain consistent across all relevant contexts. For example, once VBE identifies "selfless concern for the well-being of others," "genuine care, compassion and generosity," "helping, serving and sacrificing for others," and motivation grounded in "empathy, love or moral conviction" as the defining properties of altruism, these characteristics are assumed to represent altruism in any context. This is Assumption 1 discussed earlier: that the nature of value is static and context-independent, such that the same properties can represent a particular value regardless of context.

For VBE, this assumption is essential. If the properties of a value were to change according to context, the entire educational framework of VBE would become extremely difficult to implement. For example, in Context A, selfless sacrifice without regard for personal gain may exemplify altruism; however, in Context B, the same behaviour may not be considered altruistic, may not even be regarded as valuable, and may instead be viewed negatively. In such circumstances, instructors would no longer know which properties represent a particular value or how to teach and cultivate values whose content and characteristics are context-dependent and uncertain.

To know whether VBE’s assumption on values is tenable, we must therefore explore a critical question: Is the nature of values static and stable? Answering this question does not require complex philosophical reasoning. Our experience of values suggests that their nature cannot be entirely static and context-independent; rather, it is dynamic and context-dependent. Taking the value of altruism as described in the Guidelines as an example, is it possible for a person's motivations and actions to possess all of the defining properties of altruism, yet not be regarded as altruistic? Alternatively, could they be recognised as altruistic while nevertheless being viewed as lacking value or even as carrying negative value? Both situations appear possible.

Imagine that a villager called Jim accidentally becomes involved in an investment scheme that promises extraordinarily high returns from a relatively small investment. After becoming wealthy almost overnight, he genuinely cares about the well-being of his fellow villagers and hopes that they, too, can improve their lives through the same investment opportunity. Consequently, he selflessly shares his experience, encourages others to participate, and even sacrifices his own interests by lending money to poorer villagers so that they can invest. Trusting his good intentions, many villagers invest their hard-earned savings, only to discover later that the organisation is fraudulent. As a result, they lose everything and end up in a worse position than before.

Throughout the process of persuading and assisting the other villagers, Jim's motivations and actions exhibit all the characteristics of altruism identified in the Guidelines. Nevertheless, the consequences of his actions ultimately harm rather than benefit others. Most people would be reluctant to regard his behaviour as morally valuable. Instead, they would likely consider it harmful, despite the fact that it displays all the defining properties associated with altruism.

Such counterexamples can be found everywhere, and they suggest that context can alter the value significance of an action. For instance, a person's self-sacrificial act of giving up their life to save another may be regarded as highly valuable from the perspective of the individual being saved. However, from the perspective of the rescuer's family, the same act may be viewed as a form of irresponsibility or even selfishness, resulting in negative value. These examples demonstrate that no single set of properties can represent a particular value consistently and unchangeably across all contexts.

IMPLICATIONS OF THE NON-STATIC NATURE OF VALUES FOR VBE

If the content and meaning of values are not static and unchanging but instead dynamic and context-dependent, what implications does this have for VBE? First, it means that the educational framework of VBE, which is based on the sequence of value definition, inculcation, internalization, and implementation, is no longer fully viable. When value definitions are detached from context, there is no guarantee that students' understanding of those definitions will enable them to make sound value judgments across all possible contexts.

For example, we may repeatedly teach students that they should be honest, provide them with numerous opportunities to learn about and practice honesty through various educational mechanisms, and encourage them to internalize this value. However, we still cannot be certain that students will know in which situations honesty is required and in which situations it may not be appropriate, particularly when being completely honest could result in harm. Since educational settings cannot exhaust all the possible circumstances in which values may need to be applied, VBE approach cannot remain committed to a presupposed conception of values. Instead, it must approach values from a dynamic perspective and recognize that their meanings and properties vary across contexts.

Accordingly, value education should shift from a process centered on the internalization and replication of static values to one that emphasizes the testing, interpretation, and creation of values in response to changing circumstances. Theoretically, such a dynamic form of VBE is possible. However, it would require a robust theoretical foundation and entirely new modes of value practice. Compared with conventional VBE based on static conceptions of values, this approach would be far more complex and challenging, demanding considerably greater time, effort, and commitment from the higher education community to develop and implement effectively.

CONCLUSIONS

People who advocate the VBE approach believe that, provided students are properly informed about and educated on the meaning and characteristics of the six core moral and ethical values, regularly exposed to these values, and shown how to practice them in different contexts, such values will become sufficiently embedded in their daily lives and, consequently, shape their character from within.

However, the analysis presented in this paper indicates that the content and meaning of values are not static or unchanging. The characteristics of the core values described in the Guideline do not necessarily constitute value-based actions in themselves, because different contexts can alter the value-related nature of an action. Moreover, even if students are continuously and extensively exposed to and educated about these values, this does not necessarily mean that they will be able to act in accordance with them. This is because students may not know how to determine the contexts in which these characteristics can genuinely constitute value-based actions. Given this, VBE must abandon its presupposed conception of values and instead regard values as dynamic in nature. From this starting point, value-based education should be re-examined and reconstructed.

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Pendidikan Liberal sebagai Medium Pembentukan Kesedaran Demokrasi dan Pemikiran Kritis dalam Kalangan Mahasiswa

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ABSTRAK

Kajian ini membincangkan peranan pendidikan liberal sebagai wahana penting dalam membentuk kesedaran demokrasi dan memperkukuh pemikiran kritis dalam kalangan mahasiswa. Permasalahan kajian berpusat pada kebimbangan terhadap sistem pendidikan tinggi yang cenderung menekankan kemahiran teknikal secara sempit, sehingga berpotensi meminggirkan pembangunan literasi sivil dan kapasiti analitikal yang kritikal. Objektif utama kajian ini adalah untuk menganalisis secara konseptual hubung kait antara kurikulum pendidikan liberal dengan pemantapan nilai demokratik dalam persekitaran akademik. Metodologi yang digunakan adalah pendekatan kualitatif melalui analisis sorotan literatur yang komprehensif terhadap pelbagai karya ilmiah, teori pendidikan, dan dokumen polisi berkaitan. Dapatan kajian menunjukkan bahawa integrasi elemen liberal dalam kurikulum mampu menyediakan kerangka intelektual yang diperlukan mahasiswa untuk menghargai pluralisme, mempersoalkan norma secara rasional, dan melibatkan diri secara bermakna sebagai warga negara. Kajian ini memberikan sumbangan penting dari segi teoretikal kepada institusi pendidikan tinggi dalam merangka strategi pembangunan sahsiah pelajar yang lebih holistik. Penemuan ini mencadangkan agar pendidikan liberal diperkukuh sebagai asas dalam usaha melahirkan graduan yang bukan sahaja mahir secara profesional, malah matang dalam menangani cabaran sosio politik masa kini.

Kata Kunci: Pendidikan Liberal, Kesedaran Demokrasi, Pemikiran Kritis, Mahasiswa.

PENGENALAN

Pendidikan liberal merupakan satu pendekatan pembelajaran yang menekankan kepada keluasan ilmu merentas pelbagai disiplin, bertujuan untuk melahirkan individu yang berfikiran terbuka, berdaya saing, dan mempunyai nilai kemanusiaan yang tinggi. Dalam konteks pendidikan tinggi di Malaysia, peranan pendidikan liberal menjadi semakin membimbangkan bukan sahaja untuk memenuhi keperluan pasaran kerja yang dinamik, malah untuk membentuk sahsiah sivik mahasiswa sebagai warga negara yang bertanggungjawab dalam sistem demokrasi yang matang.

Kesedaran demokrasi dalam kalangan mahasiswa sering dikaitkan dengan keupayaan individu untuk terlibat secara aktif dan bermakna dalam proses sosio politik negara (Ahrari et al. 2016). Walau bagaimanapun, penglibatan ini memerlukan sokongan kemahiran pemikiran kritikal yang kukuh agar mahasiswa tidak mudah terpengaruh oleh maklumat yang tidak tepat atau bersifat berat sebelah. Pendidikan liberal menyediakan platform bagi mahasiswa untuk menganalisis isu-isu kompleks daripada pelbagai aspek, sekali gus memperkukuh asas pemikiran demokratik dalam persekitaran akademik yang mencabar (Zhao & Bikar 2024).

Kajian ini dilaksanakan berikutan kebimbangan terhadap trend pendidikan tinggi masa kini yang sering memberikan penekanan berlebihan kepada pengkhususan teknikal dan profesional sehingga berisiko mengabaikan pembangunan pemikiran kritikal dan kesedaran sivik yang luas. Melalui pendekatan kualitatif yang berasaskan analisis sorotan literatur *(literature review),* kajian ini bertujuan untuk meneroka secara mendalam melalui karya-karya ilmiah dan dokumen polisi tentang sejauh mana integrasi elemen pendidikan liberal dapat berfungsi sebagai medium transformasi intelektual dan sosial.

HASIL DAN PERBINCANGAN

Berdasarkan analisis sorotan literatur, pendidikan liberal mempunyai hubungan dengan pembentukan pemikiran kritis, kesedaran demokrasi dan penglibatan sivik dalam kalangan mahasiswa. Pendidikan liberal tidak hanya berorientasikan penguasaan sesuatu bidang ilmu secara khusus, tetapi memberikan penekanan terhadap keluasan pengetahuan, kebebasan intelektual, kemampuan berhujah serta pendedahan kepada kepelbagaian disiplin

dan perspektif. Dalam konteks pendidikan tinggi, pendekatan ini menyediakan ruang kepada mahasiswa untuk memahami sesuatu persoalan melangkaui batas pengkhususan akademik dan profesional.

Hasil sintesis literatur dalam kajian ini mengenal pasti tiga tema utama yang menjelaskan hubungan tersebut, iaitu pendidikan liberal sebagai medium pembentukan pemikiran kritis, pendidikan liberal sebagai asas pembentukan kesedaran demokrasi, dan pendidikan liberal sebagai pemangkin penglibatan sivik mahasiswa. Ketiga-tiga tema ini saling berkaitan kerana kemampuan mahasiswa untuk mengambil bahagian dalam mewujudkan suasana demokrasi bergantung pada keupayaan individu menilai maklumat, memahami kepelbagaian pandangan dan membuat pertimbangan secara rasional.

Pendidikan Liberal dan Pembentukan Pemikiran Kritis

Hasil sorotan literatur menunjukkan bahawa pembentukan pemikiran kritis merupakan antara fungsi utama pendidikan liberal. Dewey (1916) melihat pendidikan sebagai suatu proses sosial yang menyediakan individu untuk mengambil bahagian secara aktif dalam kehidupan masyarakat. Dalam kerangka ini, pendidikan tidak seharusnya terbatas kepada proses pemindahan pengetahuan daripada pendidik kepada pelajar, sebaliknya perlu membangunkan keupayaan individu untuk berfikir, membuat pertimbangan dan menyelesaikan permasalahan yang dihadapi dalam kehidupan masyarakat.

Pandangan tersebut diperkukuh oleh Facione (1990) yang menjelaskan bahawa pemikiran kritis merangkumi beberapa keupayaan intelektual utama seperti interpretasi, analisis, penilaian, inferens dan penjelasan. Kemahiran tersebut membolehkan seseorang individu menilai sesuatu maklumat berdasarkan bukti dan pertimbangan yang munasabah sebelum menerima sesuatu dakwaan sebagai benar. Dalam konteks mahasiswa, kemampuan ini menjadi semakin penting apabila individu berhadapan dengan kepelbagaian sumber maklumat, khususnya dalam persekitaran digital.

Pendidikan liberal menyediakan ruang kepada mahasiswa untuk membangunkan keupayaan tersebut melalui pendedahan kepada pelbagai bidang seperti falsafah, sejarah, politik, sosiologi, kesusasteraan dan sains. Pengkaji Scheuer (2015) berhujah bahawa pendidikan liberal dan pemikiran kritis mempunyai hubungan yang rapat kerana pendidikan merentas disiplin membolehkan pelajar menghubungkan pengetahuan, mempersoalkan andaian dan mempertimbangkan sesuatu permasalahan daripada pelbagai perspektif. Kemahiran pemikiran kritis juga penting untuk melahirkan individu yang mampu menjadi warga yang terlibat secara aktif dalam kehidupan masyarakat.

Hal ini turut berkaitan dengan pemikiran Freire (2000) yang mengkritik pendekatan pendidikan berbentuk *banking education*, iaitu keadaan apabila pelajar hanya bertindak sebagai penerima maklumat secara pasif. Sebaliknya, pendidikan perlu membentuk kesedaran kritis yang membolehkan individu memahami dan mempersoalkan realiti sosial di sekeliling individu. Berdasarkan perspektif ini, pendidikan liberal dapat menjadi medium yang membolehkan mahasiswa bergerak daripada penerima ilmu secara pasif kepada individu yang mampu menilai dan mempersoalkan sesuatu isu secara rasional.

Dalam konteks semasa, kepentingan pemikiran kritis menjadi lebih ketara apabila mahasiswa berhadapan dengan penyebaran maklumat melalui media sosial dan platform digital. Keupayaan mengakses maklumat yang luas tidak semestinya menghasilkan masyarakat yang lebih berpengetahuan sekiranya individu tidak mempunyai kemampuan untuk menilai kesahihan dan kecenderungan sesuatu maklumat. Oleh itu, pendidikan liberal berpotensi membentuk mahasiswa yang bukan sahaja mampu memperoleh maklumat, tetapi juga mampu menilai sumber, membezakan fakta dengan pendapat serta mengenal pasti kecenderungan atau manipulasi dalam sesuatu naratif.

Pendidikan Liberal sebagai Asas Kesedaran Demokrasi

Tema kedua yang dikenal pasti ialah peranan pendidikan liberal dalam pembentukan kesedaran demokrasi. Demokrasi bukan sekadar sistem yang memberikan hak kepada rakyat untuk memilih pemerintah melalui pilihan raya, tetapi merupakan suatu budaya politik yang memerlukan penghormatan terhadap kebebasan, kepelbagaian pandangan, toleransi dan kesediaan untuk berdialog secara rasional.

Pengkaji Dewey (1916) menegaskan hubungan yang rapat antara pendidikan dan demokrasi dengan melihat demokrasi sebagai suatu bentuk kehidupan bersama yang memerlukan komunikasi dan perkongsian pengalaman dalam masyarakat. Berdasarkan perspektif tersebut, kelangsungan demokrasi memerlukan sistem pendidikan yang mampu melahirkan individu yang bersedia untuk berinteraksi dengan perbezaan dan mengambil bahagian dalam kehidupan masyarakat.

Menurut Nussbaum (1997) pula mengemukakan tiga kemampuan yang penting dalam pembentukan warga demokratik melalui pendidikan liberal, iaitu kemampuan melakukan pemeriksaan kritis terhadap diri dan tradisi, kemampuan melihat diri sebagai sebahagian daripada masyarakat dunia yang lebih luas serta kemampuan memahami pengalaman orang lain melalui imaginasi naratif. Ketiga-tiga elemen tersebut menunjukkan bahawa pendidikan liberal bukan sekadar proses memperoleh pengetahuan, tetapi merupakan proses pembentukan warga yang mampu memahami kepelbagaian manusia.

Dalam karya *Not for Profit: Why Democracy Needs the Humanities*, Nussbaum (2010) turut memberikan kritikan terhadap kecenderungan sistem pendidikan yang terlalu

berorientasikan pertumbuhan ekonomi dan kebolehpasaran graduan. Menurut beliau, pengurangan peranan bidang kemanusiaan dan pendidikan liberal boleh memberikan implikasi terhadap demokrasi kerana masyarakat demokratik memerlukan warga yang mampu berfikir secara kritis, memahami perspektif pihak lain dan menilai autoriti secara rasional. Hujah Nussbaum mengukuhkan dapatan kajian ini bahawa pendidikan tinggi tidak seharusnya hanya dinilai berdasarkan kemampuan menghasilkan tenaga kerja, tetapi turut berdasarkan keupayaannya membentuk warga demokratik.

Selain itu, Gutmann (1999) melihat pendidikan demokratik sebagai suatu proses yang penting untuk menyediakan masyarakat agar mampu mengambil bahagian dalam proses membuat keputusan kolektif. Pendidikan dalam masyarakat demokrasi perlu membentuk individu yang mampu membuat pertimbangan terhadap isu awam dan menghormati perbezaan pandangan. Oleh itu, pendidikan liberal menyediakan asas kepada pembentukan budaya demokrasi melalui persekitaran akademik yang menggalakkan pertukaran pandangan dan perbahasan secara terbuka.

Dekker (2023) pula menunjukkan bahawa pendidikan liberal boleh menyumbang kepada pembangunan beberapa nilai atau kebajikan demokratik seperti keberanian intelektual, pemikiran kritis, empati dan kesediaan untuk berinteraksi dengan perbezaan. Hal ini memperlihatkan bahawa hubungan pendidikan liberal dengan demokrasi bukan hanya berlaku melalui penyampaian pengetahuan politik, tetapi juga melalui pembentukan sikap dan kemampuan yang diperlukan untuk hidup dalam masyarakat yang pluralistik.

Pendidikan Liberal dan Penglibatan Sivik Mahasiswa

Tema ketiga ialah peranan pendidikan liberal dalam menggalakkan penglibatan sivik mahasiswa. Institusi pendidikan tinggi mempunyai tanggungjawab yang lebih luas daripada menyediakan graduan untuk memenuhi keperluan pasaran pekerjaan. Universiti turut menjadi ruang pembentukan warga yang mempunyai pengetahuan dan kemampuan untuk mengambil bahagian dalam kehidupan masyarakat.

Colby et al. (2007) menegaskan bahawa institusi pendidikan tinggi mempunyai peranan dalam menyediakan mahasiswa untuk terlibat secara bertanggungjawab dalam kehidupan politik dan sivik. Penglibatan politik yang bermakna memerlukan gabungan antara pengetahuan, kemahiran, nilai dan komitmen terhadap kepentingan masyarakat. Justeru, pendidikan yang hanya menekankan pengetahuan teknikal mungkin tidak mencukupi untuk menyediakan mahasiswa menghadapi kompleksiti kehidupan demokratik.

Bok (2006) turut berpandangan bahawa universiti mempunyai tanggungjawab terhadap pembangunan mahasiswa secara lebih menyeluruh, termasuk aspek kewarganegaraan, moral dan kemampuan berkomunikasi. Dari perspektif ini, pendidikan tinggi tidak seharusnya mengukur kejayaan graduan berdasarkan pencapaian akademik dan kebolehpasaran semata-mata. Sebaliknya, kemampuan graduan memahami persoalan masyarakat dan menyumbang kepada kepentingan awam turut menjadi sebahagian daripada hasil pendidikan tinggi.

Pendidikan liberal dapat menggalakkan penglibatan tersebut dengan menghubungkan pembelajaran akademik dengan persoalan sebenar yang berlaku dalam masyarakat. Pendedahan kepada isu seperti demokrasi, ketidaksamaan sosial, hak asasi manusia, alam sekitar dan tadbir urus dapat meningkatkan kesedaran mahasiswa terhadap tanggungjawab individu sebagai anggota masyarakat. Pendidikan kewarganegaraan di peringkat pendidikan tinggi juga dikaitkan dengan pembentukan sikap demokratik mahasiswa, sekali gus menyokong kepentingan pendidikan yang tidak hanya bersifat teknikal.

Walau bagaimanapun, hasil sorotan literatur menunjukkan bahawa kewujudan pendidikan liberal dalam kurikulum sahaja tidak mencukupi. Pendekatan pedagogi yang digunakan turut menentukan keberkesanannya. Pendidikan yang menggalakkan dialog, perdebatan, pembelajaran berasaskan masalah dan refleksi lebih berpotensi mengembangkan pemikiran kritis berbanding pendekatan pembelajaran yang bergantung kepada hafalan semata-mata. Dengan demikian, pendidikan liberal perlu difahami sebagai suatu pendekatan pendidikan yang melibatkan kandungan kurikulum serta budaya pembelajaran yang memberikan ruang kepada mahasiswa untuk bertanya, berhujah dan menilai pandangan secara terbuka.

Penulis	Fokus kajian	Relevansi dengan kajian
Dewey (1916)	Pendidikan dan demokrasi	Menjelaskan Pendidikan sebagai asas pembentukan warga demokratik
Facione (1990)	Pemikiran Kritis	Memberikan asas konseptual kepada pembentukan pemikiran kritis mahasiswa
Nassbaum (1997)	Pendidikan Liberal	Menghubungkan Pendidikan liberal dan keterbukaan dan pluralisme
Gutman (1991)	Pendidikan demokratik	Menjelaskan hubungan Pendidikan dengan kesedaran demokrasi
Freire (1999)	Peranan Pendidikan tinggi	Menyokong pembentukan mahasiswa yang mampu mempersoalkan realiti sosial

Bok (2006)	Penglibatan politik dan sivik	Memperluas fungsi university melangkaui kebolehpasaran graduan
Colby et al. (2007)	Kemanusiaan dan demokrasi	Menghubungkan proses pendidikan dengan penglibatan sivik mahasiswa
Naussbaum (2010)	Kemanusiaan dan demokrasi	Mengukuhkan kepentingan pendidikan liberal dalam demokrasi
Scheuer (2015)	Pendidikan liberal dan pemikiran kritis	Mengukuhkan hubungan antara kurikulum liberal dengan pemikiran kritis
Dekker (2023)	Pendidikan liberal dan nilai demokratik	Mengukuhkan hubungan pendidikan liberal dengan pembentukan warga demokratik

Jadual 1 : Sintesis sorotan literatur tentang pendidikan liberal, pemikiran kritis dan kesedaran demokrasi

Berdasarkan Jadual 1, sorotan literatur memperlihatkan perkembangan pemikiran yang konsisten mengenai hubungan antara pendidikan, pemikiran kritis dan pembentukan warga demokratik. Karya awal Dewey (1916) meletakkan pendidikan sebagai asas kehidupan demokrasi, manakala Facione (1990) dan Freire (2000) memberikan penekanan terhadap pembangunan keupayaan serta kesedaran kritis individu. Perbincangan ini kemudiannya diperkembangkan oleh Nussbaum (1997; 2010) yang secara lebih khusus menghubungkan pendidikan liberal dengan pembentukan warga yang mampu berfikir secara kritis, menghargai kepelbagaian dan memahami perspektif orang lain. Sementara itu, Colby et al. (2007) dan Dekker (2023) memperluas perbincangan kepada aspek penglibatan sivik dan pembentukan nilai demokratik. Sintesis ini menunjukkan bahawa pendidikan liberal dapat difahami sebagai suatu proses berperingkat yang membentuk pemikiran kritis, seterusnya meningkatkan kesedaran demokrasi, dan akhirnya mendorong penglibatan sivik mahasiswa.

KESIMPULAN

Secara keseluruhannya, kajian ini menunjukkan bahawa pendidikan liberal berperanan dalam membentuk mahasiswa yang mampu berfikir secara kritis, menghargai kepelbagaian pandangan dan memahami tanggungjawab sebagai warga dalam masyarakat demokratik. Pendidikan tinggi sewajarnya tidak hanya berorientasikan penguasaan kemahiran profesional, tetapi turut menyediakan ruang bagi pembangunan intelektual dan sivik secara seimbang. Oleh itu, elemen pendidikan liberal perlu diperkukuh melalui kurikulum dan pendekatan pembelajaran yang menggalakkan dialog, analisis serta keterbukaan terhadap perbezaan. Kajian lanjutan secara empirikal dicadangkan bagi menilai sejauh mana pendidikan liberal mempengaruhi tahap pemikiran kritis dan kesedaran demokrasi mahasiswa dalam konteks pendidikan tinggi di Malaysia.

PENGHARGAAN

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Keberkesanan Dan Cabaran Pelaksanaan Kursus Mata Pelajaran Pengajian Umum: Analisis Tematik Terhadap Falsafah Dan Isu Semasa Serta Penghayatan Etika Dan Peradaban

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ABSTRAK

Pelaksanaan kursus Mata Pelajaran Pengajian Umum (MPU), khususnya Falsafah dan Isu Semasa (FIS) serta Penghayatan Etika dan Peradaban (PEP), dirangka untuk membentuk sahsiah mahasiswa yang holistik, berpemikiran kritis, dan berintegriti tinggi berasaskan Falsafah Pendidikan Kebangsaan dan Rukun Negara. Kajian kualitatif ini mengaplikasikan pendekatan analisis tematik terhadap maklum balas soal selidik 838 orang pelajar Institusi Pengajian Tinggi Awam, Swasta dan Politeknik yang mengikuti kursus FIS dan PEP menerusi proses pengkodan dan pengkategorian. Kajian ini menghasilkan tiga dimensi tema utama: aspek paling bermanfaat dalam kursus FIS dan PEP, cabaran pembelajaran, serta Cadangan penambahbaikan. Hasil analisis menunjukkan bahawa kursus FIS dan PEP berjaya memperluas pengetahuan akademik-ilmiah, mengukuhkan nilai moral dan etika, serta memantapkan kemahiran insaniah. Walau bagaimanapun, proses pembelajaran berhadapan dengan isu kognitif dalam memahami konsep falsafah yang abstrak, gangguan teknikal capaian internet, dan cabaran pengurusan masa. Bagi mengoptimumkan impak kursus, pemerkasaan pedagogi teradun, penggunaan media interaktif, pentaksiran formatif dinamik, serta penyebatian modul kepimpinan dan analisis isu kontemporari amat diperlukan. Kajian ini menyimpulkan bahawa pemantapan kurikulum secara berterusan adalah penting bagi memastikan kursus MPU kekal relevan dengan dinamika persekitaran era digital.

Kata Kunci: Mata Pelajaran Pengajian Umum, Falsafah dan Isu Semasa, Penghayatan Etika dan Peradaban, Analisis Tematik, Inovasi Pedagogi.

PENGENALAN

Reformasi kurikulum pendidikan tinggi di Malaysia menyaksikan langkah strategik Kementerian Pengajian Tinggi dalam memantapkan struktur Mata Pelajaran Pengajian Umum (MPU) di semua Institusi Pengajian Tinggi Awam (IPTA) dan Swasta (IPTS) (JPT, 2019). Bermula sesi akademik 2019/2020, pengenalan kursus Falsafah dan Isu Semasa (FIS) serta Penghayatan Etika dan Peradaban (PEP) telah diwajibkan kepada semua pelajar prasiswazah sebagai syarat kelayakan bergraduasi (JPT, 2019; Muhammad Amirul & Muhammad Zulazizi, 2020). Penawaran kursus FIS menggantikan kursus Tamadun Islam dan Tamadun Asia (TITAS) terdahulu, manakala kursus PEP menggantikan struktur pengajian umum konvensional bertujuan untuk memberikan pendedahan yang lebih segar dan terasaskan acuan Malaysia (Zulkafali, 2022).

Langkah penggubalan semula MPU ini didorong oleh keperluan mendesak untuk melahirkan graduan yang tidak hanya mahir dalam bidang kognitif dan teknikal khusus, tetapi juga memiliki keupayaan berfikir secara kritis, rasional, serta beretika dalam mendepani pelbagai cabaran ideologi dan isu kontemporari (Zulkafali, 2022). Hakikat bahawa graduan tempatan kerap menerima kritikan akibat kelemahan dalam pemikiran kritis, kesedaran isu semasa yang rendah (Muhammad Amirul & Muhammad Zulazizi, 2020), serta penularan isu salah laku integriti dan rasuah dalam masyarakat menuntut intervensi pendidikan nilai yang bersifat holistik (Malaysian Anti-Corruption Commission [MACC], 2021; Ramli et al., 2023). Berlandaskan Falsafah Pendidikan Kebangsaan (FPK) dan Rukun Negara, FIS dan PEP direka untuk menyempurnakan potensi insan secara seimbang dari segi intelek, rohani, emosi, dan jasmani (Amin, 2021; JPT, 2019).

Secara terperinci, kursus FIS bermatlamat mendidik mahasiswa mengaplikasikan cabang-cabang ilmu falsafah seperti epistemologi, logik, dan metafizik bagi menganalisis realiti kehidupan serta isu-isu semasa (Amin, 2021; Zulkafali, 2022). Manakala, kursus PEP menumpukan kepada penghayatan etika, pembentukan peradaban majmuk, kesepaduan nasional, serta pemantapan tanggungjawab sosial dalam konteks kepelbagaian masyarakat Malaysia (Ramli et al., 2023). Penilaian menyeluruh terhadap keberkesanan pelaksanaan kedua-dua kursus MPU ini berasaskan pengalaman sebenar pelajar adalah amat penting bagi memastikan objektif pengajaran dan pemodelan watak mahasiswa dapat dicapai secara berkesan (Universiti Malaya, 2023).

SOROTAN LITERATUR

Kerangka kurikulum FIS dan PEP diselaraskan dengan Kerangka Kelayakan Malaysia (MQF) yang menekankan atribut Kemahiran Hasil Pembelajaran, termasuk Minda Ingin Tahu (KKM4), Komunikasi Sosial dan Tanggungjawab Sosial (KKM3C), serta Pembelajaran Berautonomi (KKM4) (Muhammad Amirul & Muhammad Zulazizi, 2020). Pembelajaran ilmu falsafah berasaskan Rukun Negara dan FPK terbukti menjadi pengikat kepada penghujahan rasional, di mana cabang epistemologi berperanan membangunkan pemikiran ilmiah manakala cabang logik melatih pelajar mengesan falasi dalam perdebatan isu semasa (Amin, 2021; JPT, 2019).

Dari sudut pembangunan sahsiah, kajian-kajian lepas menegaskan bahawa pendedahan terhadap etika dan sejarah peradaban berupaya membentuk identiti berintegriti dalam kalangan mahasiswa yang bakal mengisi jawatan kepimpinan di agensi awam dan swasta (Ramli et al., 2023). Pengintegrasian modul berkaitan pemantapan kesepaduan nasional, perlembagaan sebagai tapak integrasi, serta kesedaran membasmi rasuah merupakan elemen teras dalam memelihara kelestarian etika masyarakat (MACC, 2021; Ramli et al., 2023). Pelaksanaan aktiviti pembelajaran berasaskan pengalaman dan kemahiran insaniah (KI) juga didapati memberikan impak positif terhadap pencapaian akademik dan kemahiran bersosial pelajar (Che Husain et al., 2018).

Dalam aspek kaedah Pengajaran dan Pembelajaran (PdP), transisi daripada syarahan konvensional kepada Amalan Pendidikan Berimpak Tinggi (HIEPs) dan pembelajaran teradun (*blended learning*) semakin mendominasi pengajaran MPU (Abdul Ghani et al., 2019; Universiti Malaya, 2023). Cabaran penularan pandemik COVID-19 mempercepatkan adaptasi PdP dalam talian, namun dapatan kajian menunjukkan bahawa meskipun persekitaran digital diterima baik, interaksi bersemuka kekal dianggap lebih berkesan untuk memupuk perdebatan fikiran yang mendalam (Othman et al., 2021; Universiti Malaya, 2023). Perkembangan terkini turut menyaksikan penerokaan inovasi teknologi kecerdasan buatan (AI) seperti *chatbot* berasaskan Generative Pre-trained Transformer (GPT) bagi membantu pelajar memahami konsep falsafah yang abstrak secara interaktif (Suarifqi, 2023).

METODOLOGI

Analisis Kajian ini mengaplikasikan reka bentuk kualitatif menerusi pendekatan analisis tematik terhadap maklum balas soal selidik yang dikumpul daripada 838 orang pelajar Institusi Pengajian Tinggi Awam, Swasta dan Politeknik yang telah mengikuti kursus MPU FIS dan PEP. Analisis tematik dipilih kerana keupayaannya untuk mengenal pasti, menganalisis, dan mencerakinkan corak-corak utama (*themes*) yang terkandung dalam data jawapan terbuka pelajar secara sistematik (Mok, 2009).

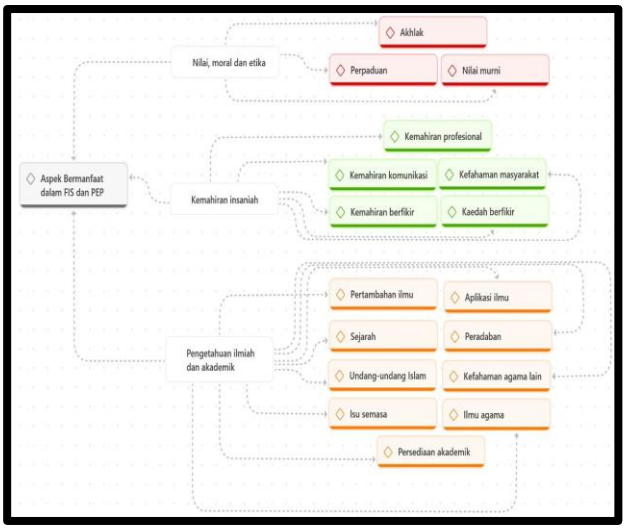
Proses penganalisisan data dilakukan berasaskan tiga dimensi fokus kajian, bermula dengan identifikasi aspek paling bermanfaat yang dialami pelajar sepanjang kursus dan penganalisisan cabaran utama yang menghalang kelancaran proses pembelajaran (Mok, 2009). Seterusnya, kajian ini mencerakinkan cadangan

penambahbaikan bagi kaedah PdP serta penilaian, di samping mengkaji keperluan penambahan atau pengayaan topik dalam kurikulum MPU (Muhammad Amirul & Muhammad Zulazizi, 2020).

Menerusi proses pengkodan dan pengelompokan tematik, data dianalisis secara terperinci bagi mengekstrak corak utama serta implikasi kognitif, pedagogi, dan teknikal yang dialami oleh pelajar. Pendekatan ini membolehkan penilaian menyeluruh dibuat mengenai sejauh mana objektif FPK dan kurikulum MPU menterjemah secara praktikal dalam pengalaman pembelajaran mahasiswa (Mok, 2009; Muhammad Amirul & Muhammad Zulazizi, 2020).

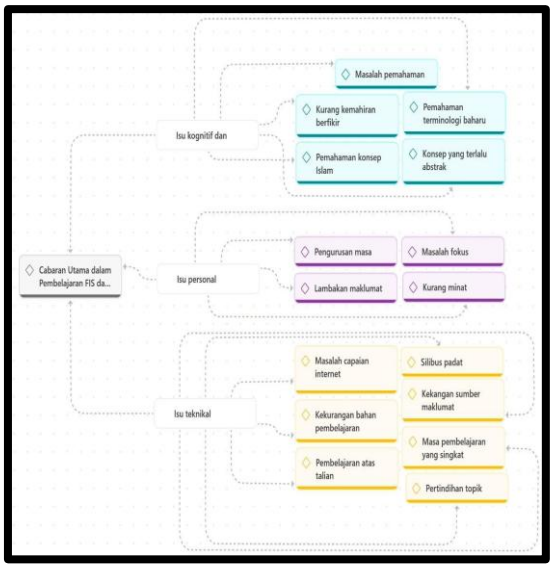
HASIL DAN PERBINCANGAN

Analisis tematik terhadap maklum balas pelajar mendedahkan dapatan komprehensif mengenai manfaat yang diperoleh, cabaran yang dihadapi, serta cadangan inovasi bagi kursus FIS dan PEP.



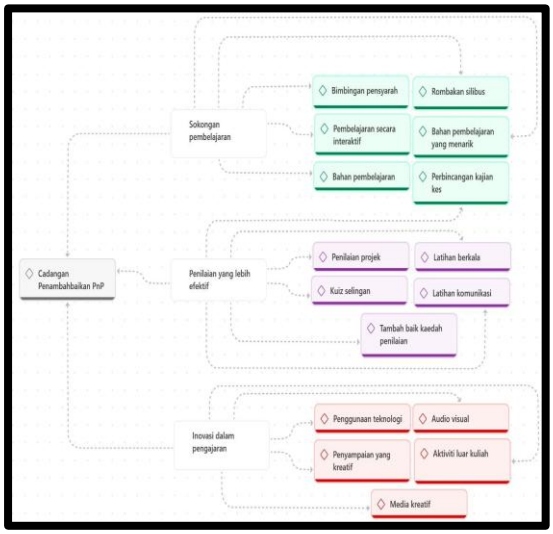
Rajah 1: Aspek bermanfaat dalam kursus FIS dan PEP

Analisis terhadap aspek paling bermanfaat menunjukkan bahawa kursus FIS dan PEP berjaya memberikan impak positif melalui tiga tema utama, iaitu peningkatan pengetahuan ilmiah dan akademik, pengukuhan nilai moral dan etika, serta pemantapan kemahiran insaniah. Pelajar melaporkan bahawa pendedahan kepada disiplin falsafah dan sejarah peradaban membuka minda mereka dalam memahami perkembangan fikiran manusia dan isu-isu kontemporari secara ilmiah. Selain itu, pemahaman terhadap etika dan undang-undang Islam/universal membantu mereka menghayati nilai murni dalam kehidupan bermasyarakat. Dari sudut kemahiran insaniah, kursus ini terbukti melatih pemikiran kritis, keupayaan membuat keputusan rasional, serta penyelesaian masalah berasaskan penaakulan logik.



Rajah 2: Cabaran dalam pembelajaran FIS dan PEP

Walau bagaimanapun, analisis cabaran pembelajaran mendedahkan tiga kekangan utama yang dihadapi oleh pelajar. Isu kognitif dan pemahaman merupakan cabaran terbesar, di mana pelajar bergelut untuk memahami istilah-istilah falsafah yang kompleks dan abstrak. Seterusnya, isu teknikal seperti ketidakstabilan capaian internet menjejaskan kelancaran pembelajaran, terutamanya bagi aktiviti yang dijalankan secara dalam talian. Isu personal berkaitan pengurusan masa turut menjadi halangan, memandangkan kandungan kursus MPU menuntut pembacaan yang luas dan komitmen masa yang tinggi di samping bebanan subjek teras lain.



Rajah 3: Cadangan penambahbaikan PdP

Bagi mengatasi cabaran tersebut, pelajar mengemukakan pelbagai cadangan penambahbaikan dari aspek pedagogi dan pentaksiran. Inovasi dalam pengajaran merupakan cadangan utama, di mana pelajar memohon penggunaan kaedah yang lebih dinamik seperti video interaktif, infografik, dan aktiviti berasaskan media visual. Pelajar

turut mencadangkan penilaian yang lebih efektif melalui kuiz berkala atas talian dan latihan interaktif yang bersifat formatif. Di samping itu, penyediaan sokongan pembelajaran tambahan seperti bahan rujukan modular yang mudah faham serta sesi bimbingan tutorial (*coaching*) amat diharapkan bagi membantu pelajar yang menghadapi kesukaran kognitif.

Mengenai cadangan pengayaan silibus, sebilangan pelajar mengesyorkan penyebatian modul kemahiran insaniah yang merangkumi pembangunan adab, etika berasaskan profesion, serta latihan kepimpinan komuniti. Topik kemahiran berfikir kritis seperti analisis isu kontemporari di media sosial dan pembongkaran falasi logik turut diusulkan bagi meningkatkan relevansi kursus. Walau bagaimanapun, terdapat juga kumpulan pelajar yang berpendapat bahawa kandungan silibus sedia ada sudah mencukupi dan komprehensif, justeru penekanan sepatutnya diberikan kepada kualiti penyampaian dan bukannya penambahan topik baharu.

Secara keseluruhannya, pandangan pelajar terhadap kursus FIS dan PEP adalah amat positif. Majoriti pelajar menilai kursus MPU ini sebagai program yang bermanfaat, relevan dengan dinamika semasa, serta berperanan penting dalam membina pemikiran kritis dan persediaan sahsiah untuk masa hadapan. Kumpulan pelajar yang tidak memberikan maklum balas khusus secara tidak langsung mencerminkan tahap kepuasan pasif terhadap pelaksanaan kursus sedia ada.

KESIMPULAN

Secara keseluruhannya, analisis tematik ini mengesahkan bahawa kursus Mata Pelajaran Pengajian Umum (MPU), terutamanya Falsafah dan Isu Semasa (FIS) serta Penghayatan Etika dan Peradaban (PEP), membawa kelebihan yang amat besar dalam memperkaya ilmu pengetahuan, mengukuhkan etika, dan membina kemahiran insaniah mahasiswa (Muhammad Amirul & Muhammad Zulazizi, 2020; Ramli et al., 2023). Walau bagaimanapun, keberkesanan pengajaran dan pembelajaran boleh terjejas sekiranya isu kognitif, kelemahan pedagogi konvensional, dan kekangan teknikal tidak ditangani secara sistematis (Othman et al., 2021).

Bagi memastikan kursus MPU kekal relevan dan berimpak tinggi, beberapa cadangan strategi dikemukakan untuk tindakan pihak pengurusan universiti dan gubalan dasar MPU. Pertama, pihak pengurusan wajar memperkasakan inovasi pedagogi berasaskan media interaktif, infografik visual, dan pemanfaatan teknologi AI untuk mempermudahkan pemahaman konsep falsafah yang abstrak (Suarifqi, 2023). Kedua, sistem pentaksiran perlu direkabentuk semula dengan mengutamakan penilaian formatif dinamik seperti kuiz berkala, latihan interaktif, dan analisis kes realistik berbanding tugasan bertulis yang membebankan (Che Husain et al., 2018). Di samping itu, kaedah penyampaian hendaklah diimbangi menerusi model Pembelajaran Teradun (Blended Learning), di mana aktiviti wacana kritis dan perdebatan etika dijalankan secara bersemuka (Abdul Ghani et al., 2019; Universiti Malaya, 2023). Akhir sekali, pengayaan kandungan silibus sedia ada perlu dilaksanakan dengan memberikan penekanan kepada etika amalan, kepimpinan komuniti, dan analisis falasi isu semasa tanpa menambah beban kredit pelajar (Amin, 2021; Zulkafali, 2022).Dengan mengadaptasi inovasi pedagogi dan penambahbaikan kurikulum secara berterusan, kursus FIS dan PEP akan terus menjadi pendorong utama dalam melahirkan graduan yang holistik, berintegriti, serta bersedia mendepani cabaran intelektual era globalisasi.

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Keberkesanan Pengajaran Pensyarah Kursus Falsafah Dan Isu Semasa Dalam Kursus Mata Pelajaran Pengajian Umum (MPU) Di Institut Pengajian Tinggi

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ABSTRAK

Kajian ini dijalankan bagi mengenal pasti tahap keberkesanan pengajaran pensyarah dalam kursus Falsafah dan Isu Semasa (FIS) dan mengenal pasti pendekatan pengajaran yang mempengaruhi keberkesanan kursus ini sebagai salah satu komponen Mata Pelajaran Pengajian Umum (MPU) yang diwajibkan oleh Kementerian Pendidikan Tinggi Malaysia kepada semua pelajar di Institusi Pengajian Tinggi Awam dan Swasta. FIS diperkenalkan sebagai usaha menyelaraskan kandungan kursus wajib terdahulu seperti Tamadun Islam dan Tamadun Asia (TITAS) dan Hubungan Etnik (HE) dalam rangka memperkukuh pembangunan nilai, pemikiran kritis, dan integrasi nasional. Kajian ini menggunakan reka bentuk kuantitatif dengan kaedah tinjauan, melibatkan 140 orang pensyarah MPU yang dipilih sebagai responden. Instrumen soal selidik diedarkan dan data yang diperoleh dianalisis menggunakan perisian Statistical Package for the Social Sciences (SPSS) versi 28 dengan kaedah analisis frekuensi, deskriptif, dan inferensi. Hasil analisis deskriptif menunjukkan bahawa pendekatan pengajaran dan pembelajaran mencatat skor min tertinggi (M = 4.13) pada tahap tinggi, diikuti keberkesanan FIS (M = 3.58) pada tahap sederhana. Analisis korelasi inferensi mendapati wujud hubungan signifikan namun lemah antara keberkesanan FIS dengan pendekatan pengajaran dan pembelajaran (r = 0.195, p = 0.021). Dapatan kajian ini memberi implikasi bahawa keberkesanan kursus FIS boleh dipertingkatkan melalui pengukuhan pendekatan pengajaran yang lebih inovatif dan interaktif, seterusnya menyumbang kepada pencapaian objektif pembangunan nilai dan pemikiran kritis pelajar di institusi pengajian tinggi.

Kata kunci: Falsafah dan Isu Semasa, Mata Pelajaran Pengajian Umum (MPU), Keberkesanan pengajaran, Institusi Pengajian Tinggi.

PENGENALAN

Kursus Falsafah dan Isu Semasa (FIS) merupakan salah satu komponen wajib Mata Pelajaran Pengajian Umum (MPU) dalam kelompok U1 yang dikuatkuasakan oleh Kementerian Pendidikan Tinggi Malaysia (KPT) untuk seluruh pelajar prasiswazah di Institusi Pengajian Tinggi Awam (IPTA) dan Swasta (IPTS). Dilaksanakan secara meluas sejak tahun 2017–2018 bagi menggantikan atau menyelaraskan kurikulum terdahulu seperti *Tamadun Islam dan Tamadun Asia (TITAS)* serta *Hubungan Etnik (HE)*, FIS dirangka berteraskan Falsafah Pendidikan Kebangsaan (FPK) dan Pelan Pembangunan Pendidikan Malaysia 2015–2025 (PPPM).

Tujuan utama kursus ini adalah untuk melahirkan graduan yang holistik menerusi pemupukan kemahiran pemikiran aras tinggi (HOTS), pemikiran rasional, etika, dan kesedaran sivik. Silibus FIS pimpinan Jabatan Pendidikan Tinggi (JPT) mendedahkan pelajar kepada cabang falsafah asas (epistemologi, etika, logik, dan metafizik), pemikiran tokoh tempatan dan sejagat, serta aplikasi prinsip falsafah dalam mendepani isu-isu kontemporari—seperti kemajuan kecerdasan buatan (AI), perubahan iklim, ketidaksamarataan sosial, dan krisis kemanusiaan. Oleh itu, penilaian terhadap keberkesanan penyampaian serta pendekatan pengajaran dan pembelajaran (PdP) kursus ini adalah amat krusial.

OBJEKTIF KAJIAN

Kajian ini dijalankan khusus bagi mencapai dua objektif utama:

1. Mengenal pasti tahap keberkesanan pengajaran pensyarah dalam kursus Falsafah dan Isu Semasa (FIS) di institusi pengajian tinggi.

2. Mengenal pasti pendekatan pengajaran pensyarah yang mempengaruhi keberkesanan kursus Falsafah dan Isu Semasa (FIS) sebagai komponen Mata Pelajaran Pengajian Umum (MPU).

SOROTAN LITERATUR

Pelbagai kajian lepas menyokong implikasi positif kursus FIS serta keperluan inovasi pedagogi:

- Pengukuhan Pemikiran Kritis & Kesedaran Sivik: Salleh & Zainal (2020) dan Hamdan & Fauzi (2021) mendapati FIS meningkatkan keupayaan analisis kritis dan pemahaman isu kenegaraan secara sistematik. Samsudin & Noraini (2023) turut mengesahkan FIS memupuk nilai patriotisme dan kesedaran sivik.

- Kepentingan Logik & Kerohanian: Hamid et al. (2022/2025) menekankan peranan ilmu logik sebagai penapis maklumat sahih. Ab Razak (2025) menerusi kerangka Model 3A (*Awareness, Awakening, Action*) membuktikan pengintegrasian elemen kerohanian (*qalb*) memperkaya domain kognitif dan sosial pelajar.

- Strategi & Pendekatan Pedagogi: Mohd Nasir et al. (2019) dan Ismail & Haron (2020) menekankan keberkesanan Pembelajaran Berasaskan Masalah (PBL) dan kajian kes, manakala Fazleen et al. (2020) menggariskan kepentingan integrasi multimedia. Walau bagaimanapun, Rohani & Ahmad (2018) mendapati masih wujud jurang pedagogi tradisional dalam kalangan sesetengah pensyarah.

METODOLOGI KAJIAN

Kajian ini mengguna pakai pendekatan kuantitatif menerusi reka bentuk tinjauan berasaskan soal selidik:

- Responden: Seramai N=140 orang pensyarah kursus MPU dari IPTA, IPTS, dan Politeknik di seluruh negara.

- Instrumen & Analisis Data: Data dianalisis menggunakan perisian *Statistical Package for the Social Sciences* (SPSS) versi 28.

    - Analisis Deskriptif: Mengukur frekuensi, peratusan, min (M), dan sisihan piawai (SD). Tahap skor min dibagikan kepada tiga julat: *Rendah* (1.00−2.33), *Sederhana* (2.34−3.67), dan *Tinggi* (3.68−5.00).

    - Analisis Inferensi: Ujian Korelasi Pearson (r) digunakan untuk mengenalpasti hubungan antara pendekatan PdP dan keberkesanan kursus FIS.

DAPATAN KAJIAN DAN PERBINCANGAN

A. Demografi Responden

Daripada 140 pensyarah yang terlibat:

- Institusi: 49.3% (n=69) dari IPTA, 43.6% (n=61) dari IPTS, dan 7.1% (n=10) dari Politeknik.

- Pengalaman Mengajar: Majoriti mempunyai pengalaman 1–3 tahun (25.0%) dan melebihi 15 tahun (24.3%).

- Pengajaran Kursus: 23.6% mengajar FIS sahaja, 43.6% mengajar Penghayatan Etika dan Peradaban (PEP), manakala 32.9% mengajar kedua-dua kursus (FIS & PEP).

B. Tahap Keberkesanan FIS dan Pendekatan PdP

- Pendekatan PdP Overall: Mencapai tahap Tinggi (M=4.13, SD=0.562). Item tertinggi ialah *interaksi pensyarah-pelajar menggalakkan pembelajaran aktif* (M=4.43, SD=0.815).

- Persepsi Keberkesanan FIS Overall: Berada pada tahap Sederhana/Tinggi (M=3.58, SD=0.782). Item seperti *kandungan membantu memahami falsafah/isu semasa*, *relevan dengan cabaran masyarakat*, dan *menggalakkan pemikiran kritis* masing-masing mencatatkan min bernilai M=3.69 (Tinggi). Walau bagaimanapun, kecukupan bahan pengajaran berada pada tahap sederhana (M=3.22).

- Jam Kredit & Mod Pelaksanaan:

    - 81.4% (n=114) responden bersetuju bahawa 2 jam kredit adalah tempoh pembelajaran yang paling sesuai dan padat untuk FIS berbanding 3 jam kredit (18.6%).

- 58.6% (n=82) responden memilih kaedah pelaksanaan secara hibrid, diikuti secara bersemuka (37.1%) dan dalam talian (4.3%).

C. Analisis Korelasi Pearson

- Ujian korelasi menunjukkan terdapat hubungan positif yang signifikan tetapi pada tahap yang rendah antara keberkesanan kursus FIS dengan pendekatan PdP (r=.195, p=.021<.05).
- Perbincangan: Walaupun pendekatan PdP menyumbang secara positif, kekuatan hubungan yang rendah ini menunjukkan bahawa keberkesanan FIS turut dipengaruhi oleh faktor-faktor luaran lain seperti latar belakang pelajar, tahap minat, kepelbagaian bahan bacaan, dan pentaksiran alternatif.

KESIMPULAN DAN CADANGAN

Secara keseluruhannya, kursus Falsafah dan Isu Semasa (FIS) telah berjaya mencapai matlamat utamanya dalam memupuk pemikiran kritis, rasional, dan beretika dalam kalangan pelajar IPT.

Implikasi & Cadangan:

1. Latihan Pedagogi Inovatif: Pihak universiti perlu menyediakan latihan berterusan kepada pensyarah, terutamanya dari sudut penguasaan pedagogi aktif (PBL, kajian kes) dan integrasi teknologi digital (simulasi, aplikasi interaktif).
2. Fleksibiliti Mod Pembelajaran: Meneruskan dan memperkemas model pembelajaran hibrid serta menstruktur semula jadual pengajaran kepada 2 jam kredit yang lebih terfokus.
3. Kepelbagaian Pentaksiran: Menggabungkan pentaksiran alternatif seperti penulisan reflektif, naratif, dan projek kemasyarakatan bagi mengukur penghayatan nilai secara holistik.

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THEME 2: CURRICULUM DESIGN IN LIBERAL, CITRA AND GENERAL STUDIES (MPU) EDUCATION

Generative AI Opportunities for Collaborative Learning in UKMFolio

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ABSTRACT

This study explores the potential of Generative Artificial Intelligence-driven learning support in enhancing collaborative learning within UKMFolio in the context of Industry 5.0 education. The advancement of Generative AI technologies has created new opportunities for transforming collaborative learning within higher education Learning Management Systems (LMS) towards more intelligent, adaptive, and human-centred digital learning environments. As universities continue to adopt blended and online learning approaches, there is an increasing need to strengthen collaborative learning support within LMS platforms beyond conventional content delivery and administrative functions. This study adopts a conceptual exploratory approach involving system walkthrough and feature analysis to identify current collaborative learning support limitations within the UKMFolio environment. The findings revealed several issues related to group coordination, learner engagement, communication flow, participation monitoring, personalised learning support, and learning analytics. The study further conducted literature and trend analysis on current developments in Generative AI applications for collaborative learning. The analysis indicates that Generative AI technologies such as conversational AI, adaptive learning assistants, intelligent feedback systems, and AI-supported analytics demonstrate strong potential in enhancing collaborative learning experiences through improved communication, engagement, personalisation, and learning support. Based on the identified limitations and Generative AI opportunities, the study proposes conceptual recommendations for integrating Generative AI-driven learning support within UKMFolio. The study contributes towards the growing discussion on human-centred AI integration and Industry 5.0 education by highlighting the potential of Generative AI in supporting more adaptive and collaborative digital learning environments in higher education.

Keywords: Generative Artificial Intelligence, Collaborative Learning, Learning Management System, UKMFolio, Industry 5.0 Education.

INTRODUCTION

The rapid advancement of Generative Artificial Intelligence (Gen-AI) technologies has significantly influenced the landscape of higher education, particularly in the transformation of digital teaching and learning environments. In the era of Industry 5.0, educational institutions are increasingly expected to develop human-centred, adaptive, and intelligent learning ecosystems that support collaboration, creativity, lifelong learning and smart education (Supriya et al., 2024). Learning Management Systems (LMS) such as UKMFolio play an important role in facilitating online and blended learning activities in higher education. However, many LMS platforms continue to function primarily as administrative and content delivery systems rather than intelligent learning environments that actively support collaborative and personalised learning experiences (Ikhsan, Hartanti & Lopo, 2025).

Collaborative learning has become an important pedagogical approach in higher education due to its ability to promote communication, teamwork, critical thinking, and active knowledge sharing among learners (Dick et al., 2022). Nevertheless, current collaborative learning support within LMS environments still faces several limitations. Based on the system walkthrough and feature analysis conducted on UKMFolio, several issues were identified, including dependency on manual group management and coordination processes, limited support for monitoring team dynamics and individual participation, limitations in communication flow and engagement support, minimal personalised learning support, and the lack of integrated analytics and predictive support features. These limitations may affect

the effectiveness of collaborative learning experiences, particularly in increasingly digital and flexible learning environments.

At the same time, recent developments in Gen-AI technologies have demonstrated strong potential in enhancing educational experiences through intelligent conversational support, automated content generation, adaptive learning assistance, discussion summarisation, and personalised learning interactions (Pingale et al., 2025; Sindhu, Raghav & Kundu, 2025; Sahu, 2024). Gen-AI technologies are increasingly being explored as learning assistants capable of supporting communication, collaboration, and student engagement in digital learning environments. However, the integration of Gen-AI within LMS platforms for collaborative learning support remains relatively underexplored, particularly within the context of higher education LMS environments such as UKMFolio.

Therefore, there is a need to explore how Generative AI-driven learning support may enhance collaborative learning within UKMFolio in supporting education in the era of Industry 5.0. This study aims to identify current limitations in collaborative learning support within UKMFolio and propose conceptual Gen-AI learning support recommendations that may contribute towards more intelligent, adaptive, and human-centred collaborative learning environments in higher education.

METHODOLOGY

This study adopts a conceptual exploratory approach to examine the potential of Generative AI-driven learning support in enhancing collaborative learning within UKMFolio. The first phase of the study involved a system walkthrough and feature analysis of UKMFolio to identify current limitations related to collaborative learning support. Existing collaborative learning functionalities such as discussion forums, group activities, communication tools, announcements, and interaction mechanisms were systematically reviewed to examine their effectiveness in supporting collaborative learning experiences.

The walkthrough process focused on identifying issues related to group coordination, student engagement, communication flow, participation monitoring, personalised learning support, and learning analytics within the LMS environment. Observational insights from the use of UKMFolio in higher education teaching and learning contexts were also considered to support the analysis.

The second phase involved literature and trend analysis related to the use of Gen-AI in education and collaborative learning environments. Relevant studies, recent educational technology discussions, and current developments in Gen-AI applications were reviewed to identify potential opportunities and capabilities of Gen-AI in supporting collaborative learning activities within LMS platforms.

The analysis focused on Gen-AI functionalities such as intelligent conversational support, discussion summarisation, adaptive learning assistance, automated feedback support, collaborative task facilitation, and personalised learning interactions.

Based on the identified collaborative learning limitations and the synthesis of literature and Gen-AI trends, conceptual recommendations for Generative AI-driven learning support within UKMFolio were developed. The recommendations were mapped according to the identified collaborative learning challenges and aligned with the principles of human-centred and adaptive learning in the era of Industry 5.0.

Findings from the system walkthrough, feature analysis, and literature synthesis were analysed using thematic analysis. Emerging themes related to collaborative learning limitations and Gen-AI support opportunities were identified and organised into proposed recommendation categories for enhancing collaborative learning support within UKMFolio.

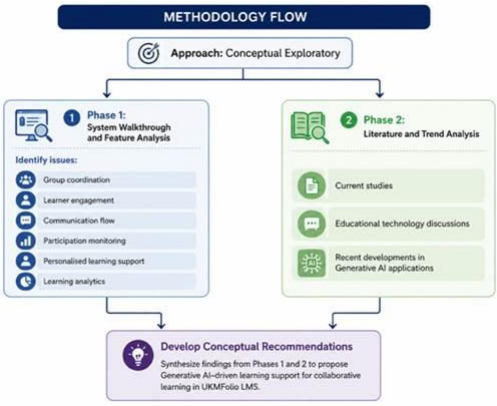

Figure 1 Methodological flow of the conceptual exploratory study

RESULTS AND DISCUSSION

The system walkthrough and feature analysis conducted on UKMFolio identified several limitations related to collaborative learning support within the current LMS environment. The analysis focused on existing collaborative learning functionalities, communication mechanisms, learner interaction support, and learning management processes that may influence the effectiveness of collaborative learning experiences in higher education. The findings indicate that while UKMFolio provides essential tools for online teaching and learning, several areas may benefit from more intelligent, adaptive, and human-centred support mechanisms, particularly through the integration of Gen-AI technologies.

Table 1. Identified collaborative learning support issues

Identified Issue	Description
Group Coordination	Collaborative group activities in UKMFolio still rely heavily on manual coordination by lecturers and students. Group formation, task delegation, reminders, and coordination processes are often managed through external communication platforms.
Student Engagement	Existing collaborative learning activities and discussion tools provide limited mechanisms to encourage sustained student engagement and active participation. Online discussions may become passive due to the absence of intelligent interaction facilitation or adaptive engagement support.
Communication Flow	Communication within collaborative activities is mainly dependent on static discussion forums and announcements. The current environment provides limited conversational support, discussion summarisation, or intelligent assistance that could facilitate smoother communication and interaction among students.
Participation Monitoring	Lecturers may face difficulties in monitoring team dynamics, identifying inactive members, and tracking individual participation within collaborative learning activities. Existing LMS features provide limited visibility into collaborative engagement patterns and contribution levels.
Personalised Learning Support	Collaborative learning experiences within UKMFolio are generally uniform for all students regardless of differences in learning preferences, participation styles, or engagement levels. The absence of adaptive learning assistance limits opportunities for more personalised collaborative learning experiences.
Learning Analytics	Current collaborative learning support within UKMFolio provides limited analytics and predictive insights related to student behaviour, participation trends, and collaborative performance. This may affect the ability of lecturers to provide early intervention or targeted support for students requiring additional assistance.

Current studies and educational technology discussions increasingly highlight the role of conversational AI, intelligent learning assistants, adaptive feedback systems, and AI-supported analytics in improving learner interaction, communication, engagement, and personalised learning support in higher education (Laney & Dewan, 2024). In LMS environments, Gen-AI is commonly positioned as a supportive learning companion that assists learners and lecturers in facilitating more adaptive, interactive, and human-centred collaborative learning experiences.

The literature and trend analysis also indicate that Gen-AI technologies are increasingly being integrated into collaborative learning activities through automated discussion support, brainstorming assistance, intelligent feedback generation, participation tracking, and personalised learning recommendations. Several studies have demonstrated the potential of Gen-AI tools such as ChatGPT and other Large Language Model (LLM)-based learning assistants in supporting discussion facilitation, reflective learning, collaborative annotation, and adaptive learner support within online learning environments (Razmerita, 2024; Liu, 2024; Honigsberg, Watkowski & Drechsler, 2025).

In the context of Industry 5.0 education, the integration of Gen-AI within LMS platforms is not solely intended to automate learning processes, but rather to augment human interaction, collaboration, and learner support. Current discussions in educational technology emphasise the importance of human-centred AI integration, where Gen-AI technologies function as intelligent support mechanisms that enhance communication, inclusivity, engagement, and collaborative learning experiences while maintaining the role of lecturers and human interaction in the learning process.

Table 2. Generative AI opportunities mapped to collaborative learning support limitations identified in UKMFolio

UKMFolio Limitation	Generative AI Opportunity	Supporting Trends from Literature
Group Coordination	AI collaborative assistants for task coordination, brainstorming, and workflow support	AI-supported brainstorming, collaborative workflows, intelligent task assistance
Student Engagement	AI-supported engagement facilitation through adaptive prompts and conversational support	Conversational AI, reflective questioning, adaptive student interaction
Communication Flow	AI discussion summarisation and intelligent communication support	Automated discussion replies, summarisation, conversational learning assistance

Participation Monitoring	AI-supported participation analytics and engagement tracking	Engagement monitoring, participation tracking, predictive monitoring
Personalised Learning Support	Adaptive AI learning assistants and personalised feedback support	Virtual tutoring, personalised prompts, adaptive feedback systems
Learning Analytics	Predictive AI analytics and intelligent learning insights	Recommender systems, predictive intervention, learning analytics support

Overall, the literature and trend analysis indicate that Gen-AI technologies have strong potential to enhance collaborative learning support within LMS environments. The identified opportunities demonstrate that Gen-AI may contribute towards more adaptive, interactive, and human-centred collaborative learning experiences by improving communication, student engagement, coordination processes, personalised support, and learning analytics capabilities. These findings provide the conceptual basis for proposing Generative AI-driven learning support recommendations for enhancing collaborative learning within UKMFolio in the context of Industry 5.0 education.

CONCLUSION

This study explored the potential of Generative AI-driven learning support in enhancing collaborative learning within UKMFolio in the context of Industry 5.0 education. Through system walkthrough and feature analysis, several collaborative learning support limitations were identified, including issues related to group coordination, student engagement, communication flow, participation monitoring, personalised learning support, and learning analytics. The study further analysed current literature and educational technology trends related to Gen-AI applications in collaborative learning environments and mapped these opportunities to the identified limitations within UKMFolio.

From a theoretical perspective, this study contributes to the growing discussion on the role of Gen-AI in collaborative learning. The study extends current understanding of how Gen-AI technologies may support more intelligent, adaptive, and human-centred collaborative learning experiences in higher education LMS environments. From a practical perspective, the findings provide useful insights for higher education institutions, LMS administrators, and educational technology developers in planning future AI integration initiatives.

The findings also suggest several important directions for higher education institutions in adapting to the era of Industry 5.0 education. Institutions may consider developing more human-centred AI integration strategies that position Gen-AI as a collaborative learning support mechanism rather than a replacement for human interaction and teaching roles. In addition, universities may strengthen institutional readiness through AI literacy initiatives, governance guidelines, and responsible AI implementation practices to support sustainable and ethical AI integration.

However, this study has two main limitations. First, the study adopted an exploratory conceptual approach to identify potential gaps and opportunities for enhancing collaborative learning. While this approach provides valuable preliminary insights and a foundation for future development, the study did not include direct empirical validation involving students or lecturers. Therefore, the findings should be interpreted as indicative insights that inform future research and system enhancement initiatives rather than definitive conclusions on user experience or learning effectiveness. Second, the study focused specifically on the UKMFolio, which may limit the generalisability of the findings to other institutional LMS contexts and learning environments.

Future studies may extend this work by conducting empirical investigations involving students, lecturers, and LMS administrators to evaluate perceptions, acceptance, and effectiveness of Generative AI-supported collaborative learning features. Future research may also explore the design, development, and evaluation of actual Gen-AI learning assistant prototypes integrated within higher education LMS platforms to examine their impact on learner engagement, collaboration quality, and learning outcomes.

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Amalan Pengajaran Terbeza dalam Subjek Pembangunan Jati Diri bagi Pelajar Pintar dan Berbakat: Suatu Refleksi Pedagogi

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ABSTRAK

Pelajar pintar dan berbakat memerlukan pendekatan pedagogi yang luwes dan memenuhi keperluan terhadap kepelbagaian keupayaan serta keperluan pembelajaran. Artikel ini bertujuan menghuraikan pengalaman mengaplikasikan pengajaran terbeza dalam subjek Pembangunan Jati Diri bagi Tema Penerokaan Kendiri. Pendekatan refleksi pedagogi digunakan berasaskan pengalaman pengajaran dan pemerhatian terhadap pelaksanaan aktiviti pembelajaran. Pengajaran terbeza dilaksanakan melalui tiga komponen, iaitu kandungan, proses dan produk, manakala persekitaran pembelajaran dikekalkan dalam konteks kelas yang sama. Kandungan disusun kepada *Core, Extended 1* dan *Extended 2*; proses dipelbagaikan melalui *Rally Robin, Talking Chips* dan *Public Speaking*, manakala produk pembelajaran melibatkan Refleksi Penerokaan Diri, kolaj dan *slide presentation*. Refleksi pelaksanaan menunjukkan kesepadanan antara kandungan, proses dan produk dapat membentuk pengalaman pembelajaran yang terancang dan luwes. Amalan ini menawarkan contoh praktikal pelaksanaan pengajaran terbeza dalam pembangunan jati diri pelajar pintar dan berbakat.

Kata Kunci: Pengajaran Terbeza, Pembangunan Jati Diri, Pelajar Pintar dan Berbakat, Pedagogi, Refleksi Pengajaran.

PENGENALAN

Pendidikan pelajar pintar dan berbakat menuntut pendekatan pedagogi yang mampu memenuhi keperluan pembelajaran yang kompleks serta pelbagai (VanTassel-Baska & Wood, 2010). Berbeza dengan pelajar arus perdana, golongan ini lazimnya menunjukkan keupayaan intelektual yang tinggi, kadar pembelajaran yang lebih pantas, pemikiran abstrak yang matang dan kecenderungan untuk meneroka sesuatu isu secara mendalam (Gagné, 2000). Oleh itu, penggunaan pendekatan pengajaran yang seragam sering kali tidak dapat memenuhi keperluan pembelajaran mereka secara optimum.

Dalam konteks pendidikan pintar dan berbakat, pembangunan pelajar tidak hanya tertumpu kepada kecemerlangan akademik, malah merangkumi pembentukan jati diri, nilai, kepimpinan, kesejahteraan emosi dan kemahiran sosial. Justeru, kursus Pembangunan Jati Diri memainkan peranan penting dalam membantu pelajar memahami potensi diri, membina identiti yang positif serta mengembangkan kemahiran insaniah yang diperlukan untuk menghadapi cabaran masa hadapan.

Bagi memastikan objektif kursus dapat dicapai, pendekatan pengajaran terbeza (*differentiated instruction*) merupakan antara strategi pedagogi yang sesuai diaplikasikan dalam pembelajaran. Pendekatan ini menekankan penyesuaian kandungan pembelajaran, proses pengajaran, hasil pembelajaran dan persekitaran bilik darjah berdasarkan keperluan, minat dan kesediaan pelajar (Tomlinson et al., 2003). Melalui pendekatan ini, setiap pelajar berpeluang belajar mengikut keupayaan masing-masing tanpa menjejaskan standard pembelajaran yang ditetapkan dalam pembelajaran (Goyibova et al., 2025).

Konsep pengajaran terbeza telah banyak dibincangkan dalam literatur pendidikan secara umum (Abu Hassan & Ajmain, 2022; Adnan et al., 2024). Walau bagaimanapun, pelaksanaannya dalam konteks subjek Pembangunan Jati Diri khususnya bagi pelajar pintar dan berbakat masih kurang didokumentasikan, terutama dalam konteks institusi pendidikan di Malaysia. Kebanyakan kajian memberi tumpuan kepada mata pelajaran akademik seperti Matematik, Sains atau Bahasa, sedangkan pembangunan sahsiah dan identiti merupakan aspek yang sama penting dalam pembangunan insan secara menyeluruh.

Sehubungan itu, artikel ini bertujuan menghuraikan pengalaman mengaplikasikan pengajaran terbeza dalam subjek Pembangunan Jati Diri kepada pelajar pintar dan berbakat. Selain menjelaskan strategi pengajaran yang digunakan, artikel ini turut membincangkan cabaran pelaksanaan, maklum balas pelajar dan implikasi terhadap amalan pedagogi bagi menyokong pembangunan potensi pelajar pintar dan berbakat secara holistik.

HASIL DAN PERBINCANGAN

Pelaksanaan Pengajaran Terbeza bagi Tema Penerokaan Kendiri

Pelaksanaan pengajaran terbeza bagi Tema 1: Penerokaan Kendiri dilakukan melalui tiga komponen utama, iaitu kandungan (*content*), proses (*process*) dan produk (*product*). Kandungan pembelajaran dibahagikan kepada tiga tahap, iaitu *Core*, *Extended 1* dan *Extended 2*. Setiap tahap kandungan dipadankan dengan proses pembelajaran dan produk pembelajaran yang berbeza. Walau bagaimanapun, pembezaan tidak dilaksanakan dari aspek persekitaran pembelajaran (learning environment) kerana keseluruhan proses pengajaran dan pembelajaran berlangsung dalam persekitaran kelas yang sama.

Pembezaan Kandungan: Core, *Extended 1* dan *Extended 2*

Dari aspek kandungan, pengajaran bagi Tema Penerokaan Kendiri disusun kepada tiga tahap, iaitu *Core, Extended 1* dan *Extended 2*. Penyusunan tersebut membolehkan kandungan pembelajaran dikembangkan secara bertahap daripada kandungan teras kepada kandungan yang mendalam.

Core merupakan kandungan teras yang menjadi asas kepada penerokaan kendiri. Pada tahap ini, pelajar memperoleh kandungan utama yang diperlukan untuk memahami aspek asas berkaitan diri sebelum meneruskan penerokaan kepada kandungan yang lebih mendalam.

Extended 1 merupakan pengembangan daripada kandungan *Core*. Kandungan pada tahap ini memberi ruang kepada pelajar memperluas penerokaan terhadap aspek diri berdasarkan kandungan teras yang telah dipelajari dalam kelas.

Extended 2 pula merupakan pengembangan selanjutnya daripada *Core* dan *Extended 1*. Pada tahap ini, kandungan pembelajaran diteruskan kepada penerokaan yang lebih lanjut terhadap topik berkaitan diri.

Penyusunan *Core–Extended 1–Extended 2* menunjukkan bahawa pembezaan kandungan dilakukan melalui pengembangan kandungan secara bertahap tanpa memisahkan pelajar daripada matlamat utama pembelajaran Tema Penerokaan Kendiri. Pendekatan ini membolehkan kandungan asas dikekalkan sebagai landasan bersama, manakala *Extended 1* dan *Extended 2* menyediakan ruang untuk memperluas pengalaman pembelajaran.

Pembezaan Proses melalui Aktiviti Pembelajaran Abad Ke-21

Pembezaan proses dilaksanakan melalui penggunaan tiga aktiviti Pembelajaran Abad Ke-21 (PAK21), iaitu *Rally Robin, Talking Chips* dan *Public Speaking*. Setiap aktiviti dipadankan dengan tahap kandungan yang berbeza.

Bagi tahap *Core*, proses pembelajaran dilaksanakan melalui aktiviti *Rally Robin*. Aktiviti ini memberi peluang kepada pelajar berkongsi maklum balas dan idea secara bergilir. Dalam konteks penerokaan kendiri, pendekatan tersebut menyediakan ruang kepada pelajar untuk mengemukakan pandangan dan pengalaman berkaitan diri dalam proses pembelajaran bersama rakan.

Bagi tahap *Extended 1*, aktiviti *Talking Chips* digunakan semasa pembelajaran. Aktiviti ini mewujudkan proses perbincangan yang lebih berstruktur dengan memberi ruang kepada pelajar untuk menyumbangkan pandangan dalam interaksi kumpulan. Penggunaan *Talking Chips* membolehkan pelajar bukan sahaja mengemukakan perspektif sendiri, tetapi turut mendengar dan mempertimbangkan perspektif rakan dalam mengembangkan pemahaman terhadap topik penerokaan kendiri.

Pada tahap *Extended 2*, proses pembelajaran dilaksanakan melalui Public Speaking. Aktiviti ini memberi peluang kepada pelajar menyusun idea dan menyampaikannya secara lisan kepada rakan-rakan di dalam kelas. Dalam konteks ini, proses pembelajaran berkembang daripada perkongsian idea melalui *Rally Robin* kepada perbincangan berstruktur melalui *Talking Chips* dan seterusnya kepada penyampaian idea secara lebih terbuka melalui *Public Speaking*.

Pembezaan Produk Pembelajaran

Selain kandungan dan proses, pembezaan turut dilaksanakan melalui produk pembelajaran. Produk yang dihasilkan oleh pelajar berbeza mengikut tahap kandungan dan proses pembelajaran yang dilaksanakan semasa sesi pembelajaran.

Bagi tahap *Core*, pelajar menghasilkan Refleksi Penerokaan Diri. Produk ini menyediakan ruang kepada pelajar untuk menghubungkan kandungan yang dipelajari dengan pemahaman terhadap diri sendiri. Refleksi tersebut menjadi bentuk bukti pembelajaran yang bersifat individual dan selaras dengan fokus utama Tema Penerokaan Kendiri.

Pada tahap *Extended 1*, produk pembelajaran adalah dalam bentuk kolaj. Penghasilan kolaj menyediakan medium visual kepada pelajar untuk menterjemahkan hasil penerokaan kendiri melalui penyusunan dan representasi idea dalam bentuk yang berbeza daripada refleksi bertulis.

Seterusnya, bagi tahap *Extended 2*, pelajar menghasilkan slide presentation. Produk ini digunakan untuk menyusun kandungan dan idea yang akan disampaikan melalui aktiviti *Public Speaking*. Dengan demikian, terdapat kesepadanan secara langsung antara proses pembelajaran pada tahap *Extended 2* dengan produk yang dihasilkan oleh pelajar.

Pembezaan produk tersebut menunjukkan bahawa pencapaian pembelajaran tidak diterjemahkan melalui satu bentuk hasil yang seragam. Sebaliknya, pelajar menghasilkan refleksi, persembahan visual dan persembahan slide mengikut tahap pembelajaran yang dilaksanakan oleh guru.

Persekitaran Pembelajaran

Berbeza dengan tiga komponen sebelumnya, pembezaan persekitaran pembelajaran tidak dilaksanakan secara khusus bagi Tema Penerokaan Kendiri. Keseluruhan aktiviti *Core, Extended 1* dan *Extended 2* dilaksanakan dalam persekitaran kelas pembelajaran yang sama.

Oleh itu, persekitaran pembelajaran tidak dikategorikan sebagai komponen yang dibezakan dalam pelaksanaan ini. Keputusan untuk melaporkan perkara ini secara jelas penting bagi memastikan analisis pengajaran terbeza menggambarkan amalan pedagogi sebenar. Dalam konteks pengalaman pengajaran ini, pengajaran terbeza dilaksanakan secara khusus melalui kandungan, proses dan produk, manakala persekitaran pembelajaran dikekalkan dalam konteks kelas yang sama.

Kesepadanan Kandungan, Proses dan Produk

Pelaksanaan pengajaran terbeza bagi Tema Penerokaan Kendiri dapat diringkaskan seperti berikut:

Jadual 1: Kesepadanan Kandungan, Proses dan Produk dalam Pengajaran Terbeza Tema Penerokaan Kendiri

Tahap	Kandungan	Proses PAK21	Produk
Core	Kandungan *Core*	*Rally Robin*	Refleksi Penerokaan Diri
Extended 1	Kandungan *Extended 1*	*Talking Chips*	Kolaj
Extended 2	Kandungan *Extended 2*	*Public Speaking*	*Slide Presentation*

Berdasarkan jadual 1, Persekitaran pembelajaran tiada pembezaan khusus yang mana semua tahap dilaksanakan dalam persekitaran kelas pembelajaran yang sama.

Pemetaan ini menunjukkan bahawa pelaksanaan pengajaran terbeza mempunyai hubungan antara apa yang dipelajari (*content*), bagaimana pembelajaran berlaku (*process*) dan bagaimana pembelajaran diterjemahkan dalam bentuk hasil (*product*). Pada tahap Core, kandungan teras diproses melalui *Rally Robin* dan diterjemahkan melalui Refleksi Penerokaan Diri. Pada *Extended 1*, kandungan yang diperluas diproses melalui *Talking Chips* dan diterjemahkan melalui kolaj. Pada *Extended 2* pula, kandungan lanjutan diproses melalui *Public Speaking* dengan *slide presentation* sebagai produk pembelajaran.

Kesepadanan antara kandungan, proses dan produk menunjukkan bahawa pengajaran terbeza tidak terhad kepada penyediaan bahan pada tahap yang berbeza, tetapi turut melibatkan kepelbagaian cara pelajar berinteraksi dengan kandungan dan menunjukkan hasil pembelajaran. Pelaksanaan ini selari dengan prinsip Tomlinson et al. (2003) yang menekankan pembezaan berdasarkan kesediaan, minat dan profil pembelajaran pelajar. Dalam konteks pelajar pintar dan berbakat, struktur *Core–Extended 1–Extended 2* turut menyediakan ruang pengembangan kandungan melangkaui pengetahuan teras tanpa mengubah matlamat pembelajaran utama. Pendekatan tersebut memperlihatkan bagaimana prinsip pengajaran terbeza boleh diterjemahkan secara praktikal dalam subjek pembangunan jati diri, yang masih kurang didokumentasikan dalam konteks pendidikan pintar dan berbakat di Malaysia.

Refleksi Pedagogi terhadap Tema Penerokaan Kendiri

Pengalaman pelaksanaan Tema Penerokaan Kendiri menunjukkan bahawa pengajaran terbeza tidak semestinya memerlukan pembezaan pada setiap komponen secara serentak. Dalam pengalaman ini, pembezaan memberi tumpuan kepada kandungan, proses dan produk, sedangkan persekitaran pembelajaran dikekalkan dalam konteks kelas yang sama.

Dari perspektif pedagogi, struktur *Core–Extended 1–Extended 2* menyediakan asas untuk mengembangkan kandungan secara bertahap. Pada masa yang sama, penggunaan *Rally Robin, Talking Chips* dan *Public Speaking* mempelbagaikan cara pelajar berinteraksi dengan kandungan, manakala Refleksi Penerokaan Diri, kolaj dan slide presentation menyediakan bentuk produk pembelajaran yang berbeza.

Pelaksanaan tersebut memperlihatkan bahawa pengajaran terbeza dalam Tema Penerokaan Kendiri bukan sekadar kepelbagaian aktiviti. Sebaliknya, terdapat pemetaan antara tahap kandungan, proses pembelajaran dan bentuk produk yang dihasilkan semasa pembelajaran. Dalam konteks pelajar pintar dan berbakat, struktur sedemikian menyediakan ruang untuk pembelajaran berkembang daripada penerokaan kandungan teras kepada pengembangan kandungan melalui pengalaman pembelajaran dan bentuk representasi hasil yang berbeza.

KESIMPULAN

Secara keseluruhannya, pengalaman pengajaran ini menunjukkan bahawa pengajaran terbeza boleh diaplikasikan secara terancang dalam subjek Pembangunan Jati Diri melalui kesepadanan antara kandungan, proses dan produk pembelajaran. Pelaksanaan pembezaan tidak semestinya melibatkan semua komponen secara serentak, seperti yang ditunjukkan apabila persekitaran pembelajaran dikekalkan dalam konteks kelas yang sama. Pendekatan ini memperlihatkan kepentingan perancangan pedagogi yang luwes bagi menyediakan perkembangan daripada

kandungan teras kepada penerokaan yang lebih luas. Amalan ini berpotensi menjadi panduan praktikal kepada pendidik yang mengajar pelajar pintar dan berbakat. Kajian seterusnya boleh menilai pengalaman dan hasil pembelajaran pelajar secara empirikal bagi menentukan keberkesanan pendekatan tersebut.

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The Effectiveness of Numbered Notation in Enhancing Music Learning Among Beginners

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ABSTRACT

This study explores the effectiveness of numbered notation systems in improving music learning among beginner students. Traditional staff notation is widely used in music education. However, many learners find it difficult to understand during the early stages of learning. Numbered notation systems, such as Jianpu and the Nashville Number System, provide a simpler alternative by representing musical pitches with numbers instead of notes on a staff. This paper discusses the advantages of numbered notation in terms of readability, memorization, and learner motivation. Previous studies indicate that beginners can recognize melodies and pitch relationships more easily through numeric systems. The discussion also highlights how numbered notation can support inclusive learning, especially for young learners and students with learning difficulties. Overall, numbered notation is shown to be an effective transitional tool that supports music literacy before students progress to traditional staff notation.

Keywords: Numbered notation, Music learning, Staff notation, Music pedagogy, Musical literacy.

INTRODUCTION

Music education plays an important role in developing creativity, cognitive abilities, and emotional well-being. Despite its many benefits, learning music can be challenging for beginners because traditional music education mainly relies on staff notation to represent pitch and rhythm. According to Hallam (2010), staff notation has long been the standard method of teaching music. However, McPherson and Gabrielsson (2002) explained that beginners often find this system difficult to understand due to its complex symbols and theoretical concepts. As a result, researchers have explored alternative notation systems that are easier for novice learners.

One such alternative is the Numbering Code System, which represents musical notes using numbers instead of traditional notation. This approach is commonly used in music traditions such as Jianpu in China and Sargam in Indian classical music, allowing learners to understand pitch relationships more easily (Wong, 2014; Sarrazin, 2016). Previous studies have shown that beginners who learn using number notation demonstrate better pitch recognition, higher retention, and greater motivation than those using staff notation (Burrows, 2012; Lee, 2018). Similarly, Yahya (2022) found that the numbering code system improved students' coordination, confidence, and learning efficiency when learning instruments such as the angklung and caklempong. However, Davidson and Scripp (1992) argued that relying solely on number notation may limit long-term musical development if learners are not eventually introduced to traditional staff notation. Therefore, many educators recommend using the Numbering Code System as a transitional tool before progressing to conventional notation.

Despite these findings, limited research has compared the Numbering Code System with traditional staff notation among gifted and talented beginner learners in Malaysia. Therefore, this study aims to investigate the effectiveness of the Numbering Code System in improving beginners' music learning. In addition, a music box based on the Numbering Code System will be developed to provide a more engaging and accessible learning experience. To provide a clearer understanding of numbered notation, Table 1 illustrates the relationship between scale degrees, solfege syllables, and their equivalent notes in traditional staff notation.

Table 1. Diagram of Numbered Notation System

Numbered Notation	Solfege	Staff Notation
1	Do	C
2	Re	D
3	Mi	E
4	Fa	F
5	Sol	G
6	La	A
7	Ti	B

METHODOLOGY

Research Design

This study employs a quantitative experimental research design using a pre-test and post-test control group design. It aims to compare the effectiveness of the Numbering Code System with traditional staff notation in improving beginners' music learning outcomes.

Participants

The participants will consist of 40 gifted and talented Muslim students aged 13–17 years from Kolej PERMATA Insan, USIM, with no prior formal music education. They will be randomly assigned into an experimental group (n = 20) using the Numbering Code System and a control group (n = 20) using traditional staff notation.

Instrument

The research instruments include 2 types of module based on the Traditional Notation and Numbering Code System, a set of kalimba as the musical instrument, pre-test and post-test assessments, an observation checklist, and a structured questionnaire. These instruments will measure students' musical performance, participation, confidence, and perceptions of the learning method.

Procedure

Participants will complete a pre-test before undergoing music lessons using their assigned notation system. The experimental group will use the Numbering Code System, while the control group will learn through traditional staff notation. After the intervention, all participants will complete a post-test and questionnaire, while observations will be conducted throughout the lessons.

Data Analysis

The collected data will be analysed using descriptive statistics (mean and standard deviation) and inferential statistics, including paired-samples and independent-samples t-tests, to compare the learning outcomes of both groups.

Ethical Considerations

Permission will be obtained from the relevant authorities, and informed consent will be collected from participants and their parents or guardians. Participation will be voluntary, and all personal information will remain confidential and used only for research purposes.

RESULTS AND DISCUSSION

Studies related to music education have found that numbered notation is easier for beginners to understand compared to traditional staff notation. Learners can identify melodies more quickly because the notation system is simpler and more direct. Research by Cheng et al. (2024) showed that numeric notation systems improve readability and learning efficiency among beginner students.

In addition, numbered notation increases learner motivation and confidence. Students who struggle with traditional notation often feel less intimidated when using numbers instead of complex musical symbols. Sparks (2023) also reported that students in elementary classrooms became more engaged in music activities when using Jianpu notation.

Another important advantage of numbered notation is accessibility. Systems such as MoSyNum and Figurenotes help students with learning difficulties participate more actively in music lessons. These systems reduce cognitive load and make music learning more inclusive.

However, numbered notation also has limitations. Traditional staff notation provides more detailed musical information, such as harmony, dynamics, and rhythm. Therefore, many researchers suggest that numbered notation should be used as a transitional tool before learners move to staff notation.

CONCLUSION

In conclusion, numbered notation is an effective method for improving beginner music learning. It simplifies musical concepts, increases motivation, and helps learners recognize melodies more easily. Numbered notation is also beneficial for inclusive education because it supports students with different learning abilities. Although it cannot fully replace traditional staff notation, it serves as a useful foundation for early music education. Educators may consider combining both notation systems to create a more effective and engaging learning experience.

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Persepsi Pelajar terhadap Pelaksanaan dan Keberkesanan Kursus Penghayatan Etika dan Peradaban di Institusi Pengajian Tinggi

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ABSTRAK

Jati diri anak bangsa merupakan tunjang utama dalam mendepani cabaran globalisasi, manakala pendidikan tinggi negara berperanan penting dalam mentransformasikan medium pembelajaran agar lebih relevan, berdaya saing, dan inovatif. Sehubungan itu, kajian ini dijalankan bagi meneliti persepsi pelajar terhadap kursus Penghayatan Etika dan Peradaban (PEP), iaitu salah satu komponen Mata Pelajaran Pengajian Umum (MPU) di Institusi Pengajian Tinggi (IPT) di Malaysia. Kajian kuantitatif ini menggunakan kaedah tinjauan soal selidik yang diedarkan menerusi *Google Form* kepada 838 orang pelajar daripada pelbagai semester dan institusi, merangkumi Institut Pengajian Tinggi Awam (IPTA), Institut Pengajian Tinggi Swasta (IPTS), dan politeknik. Instrumen kajian merangkumi aspek kefahaman terhadap nilai etika, kepentingan peradaban, dan kecukupan bahan pengajaran. Dapatan kajian menunjukkan keberkesanan kursus PEP berada pada tahap tinggi (M=4.48, SP=0.684), manakala pendekatan pengajaran dan pembelajaran (PdP) turut mencatatkan tahap tinggi (M=4.44, SP=0.729). Analisis korelasi menunjukkan hubungan yang signifikan, positif, dan tinggi antara kedua-dua konstruk ($r=0.586$, $p<0.01$). Interaksi aktif antara pensyarah dengan pelajar turut menyumbang kepada keberkesanan pembelajaran, manakala majoriti pelajar memilih mod hibrid sebagai kaedah penyampaian yang sesuai. Kesimpulannya, kursus PEP berperanan sebagai medium pengajaran berkesan dalam membentuk kefahaman etika dan nilai dalam kalangan pelajar secara menyeluruh.

Kata Kunci: Mata Pelajaran Pengajian Umum, persepsi pelajar, kursus Penghayatan Etika dan Peradaban, Institusi Pengajian Tinggi, pengajaran dan pembelajaran

PENGENALAN

Dalam era globalisasi yang semakin mencabar, pendidikan bukan sahaja berfungsi sebagai medium penyampaian ilmu, malah turut berperanan sebagai wahana pembentukan sahsiah dan nilai murni dalam kalangan pelajar (Mohd Nawi 2021). Justeru, Kementerian Pendidikan Tinggi (KPT) Malaysia menetapkan pelaksanaan Mata Pelajaran Pengajian Umum (MPU) di semua Institusi Pengajian Tinggi (IPT) bagi melahirkan graduan yang holistik, seimbang, dan berdaya saing (Kementerian Pendidikan Tinggi 2016). Salah satu komponen penting dalam MPU ialah kursus Penghayatan Etika dan Peradaban (PEP), yang dirangka khusus untuk memperkukuh kefahaman pelajar terhadap nilai etika, kepelbagaian budaya, tanggungjawab sosial, serta asas peradaban yang membentuk masyarakat Malaysia yang majmuk. Pelaksanaan kursus ini berpotensi melahirkan pelajar yang bukan sahaja cemerlang dari segi akademik, malah turut memiliki kepekaan terhadap isu moral, etika, dan integriti dalam kehidupan seharian.

Namun begitu, keberkesanan sesuatu kursus bukan sahaja bergantung pada kandungan kurikulum, malah turut dipengaruhi oleh persepsi dan pengalaman pelajar yang mengikutinya (Md Soh 2022; Mohamad Akhir et al. 2023). Sehubungan itu, kajian ini dijalankan bagi (i) mengenal pasti persepsi pelajar terhadap keberkesanan kursus PEP dari aspek kandungan, penyampaian, dan impak pembelajaran; (ii) menganalisis pendekatan pengajaran dan pembelajaran (PdP) yang diaplikasikan dalam kursus tersebut; (iii) menilai kecenderungan pelajar terhadap kaedah penyampaian kursus secara bersemuka, dalam talian, atau hibrid; dan (iv) mengenal pasti hubungan antara pendekatan PdP dengan keberkesanan keseluruhan kursus PEP.

Kursus MPU yang digariskan oleh KPT menerusi *Garis Panduan Mata Pelajaran Pengajian Umum* dibahagikan kepada empat kelompok, iaitu U1 (penghayatan falsafah, nilai, dan sejarah), U2 (penguasaan kemahiran insaniah),

U3 (perluasan ilmu pengetahuan tentang Malaysia), dan U4 (kemahiran pengurusan masyarakat secara praktikal) (Kementerian Pendidikan Tinggi 2016). Kursus PEP tergolong dalam kategori U1 dengan matlamat utama untuk membina kefahaman pelajar terhadap nilai etika sejagat dan sistem peradaban dunia, khususnya yang berkait rapat dengan konteks Malaysia. Selain itu, kursus ini turut bertujuan memupuk penghayatan nilai moral, tanggungjawab sosial, serta sikap toleransi antara kaum dan agama. Di peringkat institusi, seperti Universiti Kebangsaan Malaysia (UKM), transformasi kursus ini dilaksanakan menerusi konsep Pendidikan Citra yang menekankan pendekatan pembelajaran aktif dan reflektif bagi melahirkan graduan yang holistik, seimbang, dan berdaya saing.

Kajian-kajian lepas turut memberikan gambaran tentang pelaksanaan kursus MPU di Malaysia. Md Soh (2022) mendapati bahawa pensyarah menggunakan pelbagai kaedah bagi menyemai nilai afektif, kognitif, dan psikomotor dalam pengajaran MPU di UiTM. Sementara itu, Mohamad Akhir et al. (2023) mendapati bahawa pelajar UiTM Cawangan Kedah menganggap kursus Falsafah dan Isu Semasa (FIS), yang turut merupakan salah satu komponen MPU seperti PEP, sebagai mencabar, namun tetap mengiktiraf manfaatnya dalam memperluas pemikiran kritis dan meningkatkan pemahaman terhadap isu semasa. Selain itu, kajian Mak Din et al. (2017) terhadap pelaksanaan kursus Pengajian Malaysia, yang juga merupakan komponen MPU, di Universiti Islam Antarabangsa Selangor (UIA) mendapati bahawa kepelbagaian pendekatan pengajaran serta penglibatan aktif pelajar memainkan peranan penting dalam meningkatkan keberkesanan kursus tersebut. Seterusnya, kajian Mashudi et al. (2024) di beberapa IPTS mendapati bahawa penggunaan bahasa Melayu dalam pengajaran MPU membantu pelajar memahami kandungan kursus dengan lebih baik. Dapatan ini selaras dengan kajian Mohd Nasir et al. (2019) yang menegaskan peranan MPU dalam memperkukuh penggunaan bahasa Melayu serta memantapkan identiti kebangsaan dalam kalangan pelajar. Secara keseluruhan, sorotan ini menegaskan kepentingan pelaksanaan MPU yang berkesan dalam membentuk graduan yang holistik, berdaya saing, dan beridentiti kebangsaan.

HASIL DAN PERBINCANGAN

Kajian ini menggunakan pendekatan kuantitatif dengan kaedah tinjauan melalui soal selidik bagi mengumpul data daripada 838 orang pelajar IPT yang mengikuti kursus PEP, melibatkan pelajar IPTA, IPTS, dan politeknik daripada pelbagai semester. Soal selidik dibahagikan kepada empat bahagian, iaitu demografi pelajar, keberkesanan kursus, pendekatan PdP, serta kaedah penyampaian yang digemari. Data dianalisis secara deskriptif bagi memperoleh nilai min (M) dan sisihan piawai (SP), manakala skor min ditafsir berdasarkan tiga tahap, iaitu tinggi (3.68-5.00), sederhana (2.34-3.67), dan rendah (1.00-2.33) (Mohd Majid Konting 2000). Selain itu, ujian korelasi *Pearson* dijalankan bagi mengenal pasti hubungan antara pendekatan PdP dengan keberkesanan kursus PEP berdasarkan interpretasi pekali korelasi yang dikemukakan oleh Davis (1971).

Dapatan demografi menunjukkan bahawa majoriti responden terdiri daripada pelajar IPTA, iaitu seramai 690 orang (82.3%), diikuti oleh IPTS seramai 147 orang (17.5%) dan politeknik seramai seorang (0.1%). Dari aspek peringkat pengajian, majoriti responden merupakan pelajar Sarjana Muda, iaitu seramai 755 orang (90.1%), diikuti oleh pelajar diploma seramai 82 orang (9.8%) dan sijil seramai seorang (0.1%). Selain itu, sebahagian besar responden berada pada Semester 1, iaitu seramai 603 orang (72.0%), sebagaimana ditunjukkan dalam Jadual 1.

Jadual 1. Profil Demografi Responden (N=838)

Kategori	Frekuensi (N)	Peratus (%)
Jenis Institusi		
IPTA	690	82.3
IPTS	147	17.5
Politeknik	1	0.1
Peringkat Pengajian		
Sijil	1	0.1
Diploma	82	9.8
Sarjana Muda	755	90.1
Semester		
Semester 1	603	72.0
Semester 2	89	10.6
Semester 3	98	11.7
Semester 4	20	2.4
Semester 5	28	3.3

Analisis deskriptif menunjukkan bahawa kedua-dua konstruk kajian berada pada tahap yang tinggi. Keberkesanan kursus PEP mencatatkan nilai min tertinggi (M=4.48, SP=0.684), diikuti oleh pendekatan PdP (M=4.44, SP=0.729), seperti yang ditunjukkan dalam Jadual 2.

Jadual 2. Skor Deskriptif Pemboleh Ubah Kajian

Pemboleh Ubah	N	M	SP	Tahap
Keberkesanan PEP	838	4.48	.684	Tinggi
Pendekatan PdP	838	4.44	.729	Tinggi

Bagi konstruk keberkesanan kursus PEP, item yang mencatatkan skor min tertinggi ialah pemahaman pelajar terhadap kepentingan peradaban dalam pembentukan masyarakat (M=4.56, SP=0.693), diikuti oleh pemahaman terhadap nilai etika dalam kehidupan seharian serta kecukupan bahan pengajaran seperti nota, slaid, dan bahan bacaan tambahan (kedua-duanya M=4.52). Bagi konstruk pendekatan pengajaran dan pembelajaran (PdP), item yang mencatatkan skor min tertinggi ialah pensyarah menggalakkan interaksi dalam kelas (M=4.50, SP=0.774), diikuti oleh item peruntukan masa kuliah yang mencukupi bagi setiap topik (M=4.47, SP=0.793), kesesuaian pendekatan pengajaran seperti kuliah, perbincangan dan kajian kes (M=4.43, SP=0.826),

serta kesesuaian tugasan atau projek dengan topik yang dibincangkan (M=4.37, SP=0.851). Dari aspek struktur kredit, seramai 81.6% responden bersetuju bahawa dua jam kredit adalah sesuai bagi kursus ini. Dari aspek kaedah penyampaian pula, majoriti pelajar (58.0%) memilih mod hibrid sebagai kaedah yang paling sesuai, diikuti mod bersemuka (21.6%) dan mod dalam talian (20.4%).

Ujian korelasi *Pearson* antara pendekatan PdP dengan keberkesanan kursus PEP menunjukkan nilai korelasi yang signifikan dan positif ($r=0.586$, $p<0.01$), yang ditafsirkan berada pada tahap tinggi berdasarkan interpretasi pekali korelasi Davis (1971). Dapatan ini menunjukkan bahawa semakin berkesan pendekatan PdP yang dilaksanakan oleh pensyarah, semakin tinggi tahap keberkesanan kursus PEP yang dirasai oleh pelajar.

Secara keseluruhannya, dapatan kajian menunjukkan bahawa kursus PEP diterima dengan baik dalam kalangan pelajar IPT di Malaysia. Tahap keberkesanan kursus yang tinggi disokong oleh kefahaman pelajar terhadap nilai etika dan peradaban serta kecukupan bahan pengajaran yang disediakan, sekali gus menunjukkan bahawa kandungan kursus berjaya menyemai kesedaran terhadap kepelbagaian budaya dan tanggungjawab sosial, selaras dengan dapatan Md Soh (2022) dan Mak Din et al. (2017) yang turut menekankan kepentingan kepelbagaian pendekatan pengajaran dalam meningkatkan keberkesanan kursus MPU. Dari aspek PdP, interaksi aktif antara pensyarah dengan pelajar serta peruntukan masa kuliah yang mencukupi bagi setiap topik dikenal pasti sebagai faktor utama yang menyumbang kepada keberkesanan pembelajaran. Hubungan korelasi yang signifikan antara pendekatan PdP dengan keberkesanan kursus turut menunjukkan bahawa peningkatan kualiti pengajaran pensyarah mampu meningkatkan penerimaan dan kefahaman pelajar terhadap kursus ini. Selain itu, kecenderungan majoriti pelajar terhadap mod hibrid mencerminkan keperluan kepada fleksibiliti pembelajaran tanpa mengetepikan kepentingan interaksi secara bersemuka, sejajar dengan dapatan Siti Azura Abu Hassan et al. (2021) yang turut mencatatkan tahap keberkesanan yang tinggi bagi pembelajaran dalam talian dan hibrid di IPT tempatan. Dapatan ini memberi implikasi kepada IPT untuk terus memperkukuh pelaksanaan kaedah penyampaian hibrid dalam reka bentuk kursus MPU pada masa hadapan.

KESIMPULAN

Secara keseluruhannya, kajian ini menunjukkan bahawa pelajar institusi pengajian tinggi mempunyai persepsi yang positif terhadap pelaksanaan dan keberkesanan kursus PEP. Pendekatan pengajaran pensyarah yang menggalakkan interaksi, perbincangan aktif, serta pengurusan masa kuliah yang berkesan didapati menyokong keberkesanan penyampaian kursus ini, sekali gus mempengaruhi kecenderungan pelajar memilih mod hibrid sebagai kaedah pembelajaran yang paling sesuai. Hubungan yang positif dan signifikan antara pendekatan PdP dengan keberkesanan kursus PEP turut menunjukkan bahawa kualiti PdP pensyarah memainkan peranan penting dalam meningkatkan kefahaman dan penerimaan pelajar terhadap nilai etika dan peradaban. Dapatan kajian ini memberikan implikasi kepada institusi pengajian tinggi dan pembuat dasar untuk terus memperkukuh kompetensi pedagogi pensyarah serta memperluas pelaksanaan kaedah penyampaian hibrid dalam reka bentuk kursus MPU. Kajian lanjutan disarankan bagi meneroka pemboleh ubah lain, seperti latar belakang sosio-budaya pelajar, serta menilai kesan jangka panjang kursus PEP terhadap pembentukan sahsiah graduan.

PENGHARGAAN

Penulis merakamkan setinggi-tinggi penghargaan kepada semua pelajar yang terlibat sebagai responden dalam kajian ini, serta pihak institusi pengajian tinggi yang telah memberikan kerjasama sepanjang proses pengumpulan data. Penghargaan turut dirakamkan kepada Geran Translasi (TR-UKM) Kod UKM-TR2024-08 atas sokongan dan pembiayaan yang diberikan bagi menjayakan pelaksanaan kajian ini.

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Daripada Pengetahuan kepada Penghayatan: Penulisan Reflektif sebagai Pentaksiran Autentik dalam Kursus Penghayatan Etika dan Peradaban

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ABSTRAK

Kajian ini meneliti keupayaan penulisan reflektif individu berfungsi sebagai pentaksiran autentik bagi menilai penghayatan etika dalam Kursus LMCW2153 Penghayatan Etika dan Peradaban. Korpus terdiri daripada 74 refleksi mahasiswa daripada satu kumpulan Semester Dua Sesi 2025/2026 di Universiti Kebangsaan Malaysia. Analisis dokumen kualitatif dilaksanakan menggunakan analisis tematik hibrid deduktif-induktif melalui lapan kelompok pengekodan, pemurnian kerangka kod, perbandingan merentas kes, pemeriksaan kes menyimpang dan penilaian kecukupan tema. Lima tema dibangunkan: perubahan daripada teori kepada kerangka kehidupan; kesedaran afektif dan tanggungjawab moral; pembelajaran sosial melalui pengalaman autentik; kewarganegaraan beretika dalam masyarakat majmuk; serta penerjemahan nilai kepada tindakan harian dan digital. Refleksi memperlihatkan perkembangan empati, penghargaan terhadap keamanan, penghormatan terhadap kepelbagaian, amalan tabayyun, integriti dan tanggungjawab sosial. Namun, sebahagian teks kekal deskriptif, normatif atau umum, sekali gus membatasi kesahannya sebagai bukti perubahan sebenar. Kajian mencadangkan model perkembangan penghayatan etika daripada pendedahan ilmu kepada pengalaman autentik, refleksi kognitif-afektif, pemaknaan nilai, komitmen tindakan dan kewarganegaraan beretika. Dapatan menegaskan keperluan arahan bertingkat, rubrik aras refleksi, maklum balas formatif dan bukti proses.

Kata Kunci: penulisan reflektif, pentaksiran autentik, Penghayatan Etika dan Peradaban, domain afektif, kewarganegaraan beretika

PENGENALAN

Pendidikan tinggi tidak memadai sekiranya hanya memindahkan pengetahuan tanpa membentuk keupayaan mahasiswa membuat pertimbangan moral, berinteraksi secara beradab dan bertanggungjawab terhadap masyarakat. Dalam konteks Malaysia, Kursus Penghayatan Etika dan Peradaban (PEP) menghubungkan sejarah sosial, perlembagaan, integrasi, tanggungjawab sosial dan pembinaan negara bangsa dengan pengalaman mahasiswa. Kajian terdahulu menunjukkan potensi kursus ini dalam memperkukuh kesepaduan kaum dan domain afektif (Abdullah et al., 2022; Mohammed Zabidi et al., 2024). Namun, penilaian berasaskan penguasaan fakta atau soal selidik persepsi kurang menjelaskan bagaimana ilmu menjadi makna peribadi, pertimbangan moral dan kecenderungan bertindak.

Penulisan reflektif menawarkan akses kepada proses pemaknaan tersebut kerana mahasiswa perlu menghubungkan pengalaman dengan emosi, andaian dan tindakan. Sorotan penyelidikan menunjukkan bahawa amalan ini boleh menyokong metakognisi, empati dan hubungan teori-amalan, tetapi keberkesanannya bergantung pada literasi refleksi, bimbingan, masa dan maklum balas (Chan & Lee, 2021). Dari sudut pembelajaran transformatif, perubahan berlaku apabila individu menilai semula kerangka rujukan yang digunakan untuk memahami pengalaman (Mezirow, 1991). Oleh itu, refleksi berpotensi menjadi pentaksiran autentik apabila pelajar menjelaskan pilihan, menimbang pelbagai perspektif dan merancang tindakan dalam situasi sebenar (Miller & Konstantinou, 2022).

Namun, refleksi yang lancar tidak semestinya membuktikan penghayatan. Sebagai tugasan sumatif, penulisan boleh dipengaruhi jangkaan pensyarah dan kecenderungan menghasilkan jawapan normatif. Cabaran ini bertambah apabila AI generatif mampu menghasilkan teks reflektif yang tersusun tanpa pengalaman yang benar-benar dimiliki pengarang (Li et al., 2023). Persoalan terasnya ialah kesahan inferens: sejauh mana produk bertulis boleh menyokong dakwaan bahawa pembelajaran dan perubahan telah berlaku (Ali & Maroulis, 2026). Kajian ini meneliti bagaimana mahasiswa menggambarkan perubahan kognitif dan afektif, pengalaman yang mencetuskan penghayatan,

serta penerjemahan nilai kepada tindakan harian dan digital.

Kajian menggunakan analisis dokumen kualitatif terhadap 74 refleksi lengkap mahasiswa Kursus LMCW2153 daripada satu kumpulan kursus dalam Semester Dua Sesi 2025/2026. Refleksi menjawab tiga fokus: perubahan diri selepas kursus, aktiviti yang paling memberi kesan dan cara ilmu akan dilaksanakan. Unit analisis ialah ayat atau rangkaian ayat yang menyatakan perubahan pemahaman, emosi, pengalaman pencetus, nilai, tanggungjawab atau tindakan. Analisis tematik hibrid deduktif-induktif dilaksanakan melalui lapan kelompok dengan pembacaan berulang, pemurnian kod, perbandingan merentas kes, pemeriksaan kes menyimpang dan penilaian kecukupan tema, selaras dengan prinsip analisis tematik refleksif (Braun & Clarke, 2021). Semua dokumen dianonimkan menggunakan kod P001 hingga P074 dan keizinan termaklum diperoleh. Refleksi ditafsirkan sebagai representasi pengalaman dan niat, bukan ukuran langsung tingkah laku.

HASIL DAN PERBINCANGAN

Analisis menghasilkan lima tema yang menggambarkan perjalanan daripada pengetahuan kepada penghayatan dan komitmen tindakan. Tema dinilai berdasarkan koheren, keluasan merentas korpus, kekuatan contoh dan keupayaan menjawab persoalan kajian, bukan berdasarkan kekerapan semata-mata.

Jadual 1. Tema penghayatan etika dan makna pedagogi

Tema	Manifestasi dan makna
Teori kepada kerangka kehidupan	Etika berubah daripada kandungan kursus kepada panduan membuat keputusan dan menilai diri.
Kesedaran afektif dan moral	Empati, syukur, insaf dan penghargaan terhadap keamanan menghubungkan ilmu dengan tanggungjawab.
Pembelajaran sosial autentik	Kerja kumpulan, video dan kajian kes menguji toleransi, amanah, komunikasi dan keadilan.
Kewarganegaraan beretika	Penghormatan terhadap kepelbagaian, sensitiviti 3R dan usaha memelihara keharmonian dilihat sebagai kewajipan.
Tindakan harian dan digital	Tabayyun, komunikasi beradab, integriti akademik, penolakan rasuah dan khidmat sosial menjadi komitmen tindakan.

Tema pertama dan kedua memperlihatkan perubahan daripada memahami etika sebagai teori kepada menggunakannya sebagai kerangka kehidupan. Mahasiswa mula menilai keputusan, hubungan sosial dan keikhlasan amalan, bukan sekadar mengulang definisi. P053, misalnya, menyatakan bahawa beliau mula bermuhasabah sama ada nilai etika benar-benar dihayati atau sekadar difahami secara teori. Perubahan ini diperkukuh oleh emosi apabila mahasiswa berhadapan dengan kisah konflik, kemiskinan, gelandangan dan bantuan kemanusiaan. Empati menjadi bermakna apabila disertai kesedaran tentang kedudukan diri dan kewajipan membantu, menunjukkan bahawa emosi berfungsi sebagai jambatan antara ilmu dengan tanggungjawab moral.

Tema ketiga menunjukkan bahawa pembentangan, penghasilan video, kajian kes dan kerja kumpulan berfungsi sebagai makmal etika. Mahasiswa perlu membahagikan tugas, menyelaraskan masa, berunding dan mengurus perbezaan. Seorang peserta menyifatkan pertukaran pandangan secara matang sebagai pengalaman yang membantu ‘menghapuskan prejudis tidak sedar’ (P074). Konflik sumbangan yang tidak seimbang juga penting kerana menuntut pertimbangan tentang amanah, keadilan dan kawalan emosi. Dapatan ini mengesahkan bahawa pengalaman autentik hanya menjadi pembelajaran mendalam apabila diikuti refleksi yang meminta mahasiswa menjelaskan sebab, kesan dan perubahan andaian.

Tema keempat dan kelima memperluas penghayatan kepada kewarganegaraan dalam masyarakat majmuk dan ruang digital. Mahasiswa melihat perpaduan sebagai usaha yang perlu diperbaharui oleh setiap generasi, manakala penghormatan terhadap perbezaan dianggap tanggungjawab moral. Komitmen tindakan merangkumi komunikasi beradab, hubungan rentas etnik, kejujuran akademik, penolakan rasuah, kesukarelawanan dan semakan maklumat sebelum berkongsi. P071 merumuskan tindakan digitalnya melalui amalan tabayyun apabila menerima maklumat di media sosial. Walau bagaimanapun, sebahagian refleksi kekal umum, misalnya sekadar mahu ‘menjadi lebih baik’, tanpa konteks, alasan atau langkah pelaksanaan. Bahasa nilai sahaja tidak mencukupi untuk membuktikan penghayatan.

Rajah 1. Model perkembangan penghayatan etika melalui penulisan reflektif

Hubungan antara lima tema membentuk model enam tahap: pendedahan ilmu, pengalaman autentik, refleksi kognitif-afektif, pemaknaan nilai, komitmen tindakan dan kewarganegaraan beretika. Kepelbagaian, empati, integriti, etika digital dan tanggungjawab sosial merentas semua tahap. Model ini bersifat berulang kerana tindakan dan pengalaman baharu boleh mencetuskan refleksi seterusnya; ia merupakan heuristik konseptual daripada pola naratif, bukan urutan sebab-akibat yang telah diuji. Sumbangan utamanya ialah pemisahan antara mengetahui nilai, memberikan makna kepada nilai dan berkomitmen untuk bertindak.

Sebagai pentaksiran autentik, refleksi memerlukan reka bentuk yang menguatkan kesahan bukti. Pertama, arahan perlu bertingkat daripada 'apa yang berlaku' kepada sebab, andaian, pihak yang terkesan dan tindakan khusus; Arahan berpandu membantu pembentukan hubungan teori-amalan (Radović et al., 2023). Kedua, rubrik perlu membezakan deskripsi, analisis, pertimbangan pelbagai perspektif dan perubahan yang disokong bukti. Ketiga, maklum balas formatif dan contoh aras refleksi perlu digunakan untuk membangunkan literasi refleksi, bukan menghasilkan jawapan seragam.

Dalam era AI generatif, kelancaran bahasa tidak boleh dijadikan ukuran ketulenan. Pendekatan yang boleh dipertahankan ialah menggabungkan produk akhir dengan bukti proses seperti nota pengalaman, draf bertahap, pengisytiharan bantuan AI dan perbincangan lisan ringkas. Tujuannya bukan pengawasan berlebihan, tetapi memastikan wujud hubungan antara pengarang, pengalaman dan pemikiran yang dinilai. Refleksi juga tidak wajar memaksa pendedahan peribadi atau naratif perubahan dramatik; pandangan kritikal dan ambivalen perlu diterima jika disokong alasan.

Tafsiran dapatan perlu mengambil kira beberapa batasan. Data berasal daripada satu kumpulan kursus di sebuah universiti dan tidak mewakili semua pelaksanaan PEP. Refleksi ialah tugasan yang dinilai, maka jawapan mungkin dipengaruhi jangkaan pensyarah. Analisis menunjukkan perubahan dan niat yang dinyatakan, bukan tingkah laku jangka panjang, serta dilaksanakan oleh seorang penyelidik tanpa triangulasi pengekod. Model yang dicadangkan perlu diuji melalui data longitudinal, temu bual, pemerhatian dan perbandingan antara reka bentuk tugasan.

KESIMPULAN

Penulisan reflektif individu berpotensi menjadi pentaksiran autentik dalam Kursus Penghayatan Etika dan Peradaban apabila mahasiswa menghubungkan ilmu dengan pengalaman, emosi, hubungan sosial dan tindakan yang dirancang. Lima tema memperlihatkan perkembangan daripada perubahan pemahaman kepada kesedaran afektif, pembelajaran sosial, kewarganegaraan beretika dan penerjemahan nilai dalam kehidupan harian serta digital. Model enam tahap yang dibangunkan menjelaskan bahawa pengetahuan nilai tidak secara automatik menghasilkan amalan; pengalaman perlu diproses, dimaknai dan diterjemahkan kepada komitmen yang boleh dilaksanakan.

Namun, refleksi bukan bukti automatik bahawa perubahan telah berlaku. Kedalaman dan kesahannya bergantung pada arahan, rubrik, maklum balas, perlindungan etika dan bukti proses. Apabila unsur tersebut disepadukan, penulisan reflektif dapat mengalihkan PEP daripada ruang mengetahui nilai kepada ruang mengalami, menilai dan memilih untuk hidup berasaskan nilai tersebut, sambil menyediakan bukti pembelajaran yang lebih bernuansa untuk pendidikan Citra dan Mata Pelajaran Pengajian Umum.

PENGHARGAAN

Penulis merakamkan penghargaan kepada mahasiswa LMCW2153 Penghayatan Etika dan Peradaban Set 22, Semester Dua Sesi 2025/2026 yang menghasilkan refleksi pembelajaran sebagai sebahagian daripada pengalaman kursus.

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Pembangunan Bahan Pengajaran Interaktif Berbentuk Kuiz Aneka Pilihan dengan Menggunakan *Canva AI* bagi Kursus Penghayatan Etika dan Peradaban

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ABSTRAK

Kursus Mata Pelajaran Umum (MPU) seperti Penghayatan Etika dan Peradaban sering bergantung kepada kuliah dan nota yang kurang menarik minat pelajar generasi digital. Kajian ini bertujuan membangunkan satu bahan pengajaran interaktif berbentuk permainan kuiz aneka pilihan *(MCQ)* bagi kursus tersebut dengan memanfaatkan *Canva AI*, iaitu *Magic Design* dan *Magic Write*. Bahan bertajuk "Misi Merentas Zaman" dibangunkan melalui pemilihan soalan ujian akhir terdahulu yang berkaitan dengan beberapa topik asas dalam Penghayatan Etika dan Peradaban, disertai elemen interaktif seperti gambar, bunyi, animasi roket dan aktiviti bagi menggalakkan penglibatan aktif pelajar. Bahan ini diterbitkan sebagai laman web melalui *Canva Sites* dan boleh diakses terus dengan menggunakan pelayar telefon bimbit tanpa perlu memuat turun aplikasi tambahan. Kajian ini hanya memfokuskan kepada pembangunan bahan dan tidak melibatkan penilaian keberkesanan pembelajaran pelajar. Aspek keberkesanan penggunaan bahan terhadap hasil pembelajaran akan dinilai dalam penyelidikan susulan. Kajian ini menghasilkan satu bahan pengajaran interaktif yang visual, mesra mudah alih dan mudah diakses menggunakan *Canva AI*, sekali gus menunjukkan potensi platform tersebut sebagai medium pembangunan bahan PdP yang kreatif dan inovatif bagi kursus MPU di institusi pengajian tinggi.

Kata Kunci: *Canva AI*, bahan pengajaran interaktif, kuiz aneka pilihan, gamifikasi, pembelajaran mudah alih.

PENGENALAN

Kursus Mata Pelajaran Umum (MPU) seperti Penghayatan Etika dan Peradaban merupakan kursus wajib universiti yang bertujuan membentuk pelajar yang berilmu, beretika, berjati diri serta bertanggungjawab sebagai warganegara. Kursus ini membincangkan pelbagai aspek penting termasuk konsep negara bangsa, jiwa bangsa, integrasi nasional, kepelbagaian budaya serta kesan perkembangan Teknologi Maklumat dan Komunikasi (ICT) terhadap pembangunan tamadun dan kehidupan masyarakat. Melalui kursus ini, pelajar didedahkan kepada nilai-nilai murni, semangat perpaduan, toleransi dan tanggungjawab sosial sebagai persediaan untuk menghadapi cabaran masyarakat global yang semakin kompleks (Mohamed et al., 2022). Walau bagaimanapun, kandungan kursus ini sering disampaikan secara kuliah dan nota teks semata-mata, sehingga kurang menarik minat pelajar yang membesar dalam persekitaran digital (Zainal et al., 2023). Bahan pengajaran yang interaktif dengan menggabungkan unsur gambar, bunyi serta aktiviti dilihat mampu meningkatkan penglibatan dan tumpuan pelajar berbanding kaedah tradisional. Gamifikasi, iaitu penerapan unsur permainan seperti mata ganjaran, cabaran berperingkat dan maklum balas segera ke dalam konteks bukan permainan, terbukti dapat meningkatkan penglibatan, motivasi dan interaksi pelajar dengan kandungan pembelajaran (Qudsi, 2024; Park University, 2025).

Canva AI ialah rangkaian ciri kecerdasan buatan yang terdapat dalam platform reka bentuk grafik *Canva*, seperti *Magic Write* untuk menjana teks, *Magic Design* untuk mencadangkan reka letak automatik, dan penjana kuiz *AI* untuk menghasilkan aktiviti interaktif secara pantas daripada satu arahan ringkas (*Canva, t.t.*). Ciri-ciri ini membolehkan pensyarah yang tidak mempunyai kepakaran reka bentuk grafik atau pengaturcaraan tetap menghasilkan bahan pengajaran yang profesional dan menarik dalam masa yang singkat (*eCampusOntario*, 2024). Justeru, kajian pembangunan ini dijalankan bagi mencapai objektif berikut:

(i) Membangunkan bahan pengajaran interaktif berbentuk kuiz aneka pilihan bagi kursus Penghayatan Etika dan Peradaban menggunakan *Canva AI*.

(ii) Menggabungkan elemen gambar, bunyi dan aktiviti gamifikasi dalam pembangunan bahan pengajaran interaktif bagi kursus Penghayatan Etika dan Peradaban.

(iii) Menghasilkan bahan yang mudah diakses dan digunakan oleh pelajar melalui telefon bimbit tanpa keperluan pemasangan aplikasi tambahan.

HASIL DAN PERBINCANGAN

Bahan pengajaran interaktif bertajuk Misi Merentas Zaman dibangunkan menggunakan templat permainan bertemakan angkasa lepas. Ia berkonsepkan arked retro yang disediakan dalam *Canva AI*. Pembangunan bahan ini memanfaatkan pelbagai ciri berasaskan kecerdasan buatan *(AI)* yang disediakan oleh *Canva,* termasuk *Magic Design* untuk menghasilkan susun atur reka bentuk, dan *Magic Write* bagi menjana draf kandungan. *AI Quiz Generator* juga digunakan untuk membina soalan aneka pilihan *(MCQ)* secara automatik berdasarkan topik yang dimasukkan (*Canva, t.t.; eCampusOntario*, 2024). Kandungan soalan kemudiannya disesuaikan dengan hasil pembelajaran dan sukatan kursus Penghayatan Etika dan Peradaban. Bahan ini dibahagikan kepada lima peringkat *(stage)* yang merangkumi topik konsep negara, jiwa bangsa dan identiti kebangsaan, integrasi dan asimilasi masyarakat, serta kesan positif kemajuan Teknologi Maklumat dan Komunikasi (ICT) terhadap kehidupan manusia. Seperti yang ditunjukkan dalam Rajah 1, pelajar perlu menekan butang *Start* untuk memulakan permainan dan seterusnya memilih karakter sebelum meneruskan pengembaraan. Paparan permulaan ini berfungsi sebagaimuka utama yang membimbing pelajar memasuki permainan secara sistematik. Pendekatan ini turut mewujudkan pengalaman pembelajaran yang lebih menarik melalui penerapan elemen gamifikasi sebelum pelajar memulakan aktiviti kuiz.

Rajah 1 Skrin permulaan "Misi Merentas Zaman" dan pemilihan karakter

Berdasarkan Rajah 2, setiap soalan disertakan dengan gambar yang berkaitan dengan topik pembelajaran, bar kemajuan dan sistem pengumpulan mata bintang sebagai ganjaran bagi setiap jawapan yang betul. Sekiranya pelajar memberikan jawapan yang salah atau gagal melepasi sesuatu peringkat, mereka boleh mencuba semula sehingga berjaya, sekali gus menggalakkan pembelajaran secara kendiri dan berulang.

Rajah 2 Skrin contoh soalan MCQ.

Antara peringkat kuiz *MCQ*, satu peringkat bonus iaitu aktiviti "Tangkap Bintang" turut diselitkan (Rajah 3). Dalam aktiviti ini, pelajar perlu mengumpul bintang tambahan untuk menambah "minyak kapal", sekali gus menyediakan pengalaman pembelajaran yang lebih interaktif dan memberikan variasi daripada format soalan statik.

Rajah 3 Peringkat bonus tangkap Bintang.

Animasi roket serta kesan bunyi bagi setiap jawapan betul dan salah turut disediakan bagi menambah elemen audio-visual serta memberikan maklum balas segera kepada pelajar sepanjang permainan. Pada akhir permainan (Rajah 4), pelajar menerima jumlah mata dan gred sebagai maklum balas segera terhadap prestasi mereka. Ia ciri yang selari dengan dapatan bahawa maklum balas segera dan ganjaran dalam gamifikasi dapat meningkatkan penglibatan dan pengekalan maklumat pelajar (Qudsi, 2024).

Rajah 4 Skrin akhir "Misi Merentas Zaman".

Bahan ini diterbitkan sebagai laman web interaktif melalui *Canva Sites* dan boleh dicapai terus menerusi pautan berikut: *https://preview.canva.site/45bb4717-d62f-45f5-960e-b23e49b482dc/kembaramasapep.com/.* Oleh sebab ia berasaskan pelayar web, pelajar hanya perlu menekan pautan tersebut menggunakan telefon bimbit tanpa perlu memuat turun atau memasang sebarang aplikasi tambahan, sejajar dengan ciri pembelajaran mudah alih (*m-learning*) yang membolehkan capaian pada bila-bila masa dan di mana-mana sahaja *(EBSCO Information Services, t.t.; Mitr Media, 2025).* Walaupun bahan pengajaran interaktif ini berjaya dibangunkan, skop kajian hanya terhad kepada peringkat pembangunan. Sehubungan dengan itu, penilaian terhadap keberkesanan pembelajaran, kajian rintis, ujian kebolehgunaan (*usability*) serta perbandingan pencapaian pelajar tidak dijalankan dalam kajian ini. Kajian lanjutan dicadangkan bagi menilai aspek-aspek tersebut untuk mengesahkan keberkesanan bahan yang dibangunkan.

KESIMPULAN

Kesimpulannya, kajian ini telah berjaya membangunkan bahan pengajaran interaktif Misi Merentas Zaman berbentuk kuiz aneka pilihan *(MCQ)* bagi kursus Penghayatan Etika dan Peradaban menggunakan *Canva AI*. Penggunaan ciri seperti *Magic Design*, *Magic Write* dan elemen gamifikasi telah membantu menghasilkan bahan pembelajaran yang menggabungkan aspek visual, audio, interaktiviti serta kebolehcapaian melalui telefon pintar tanpa memerlukan pemasangan aplikasi tambahan. Penerapan elemen permainan seperti pemilihan karakter, sistem mata bintang, peringkat bonus dan maklum balas segera melalui kesan bunyi menjadikan bahan ini lebih menarik serta berpotensi menyokong penglibatan aktif pelajar.. Walau bagaimanapun, kajian ini hanya memfokuskan kepada pembangunan bahan dan tidak melibatkan penilaian keberkesanan pembelajaran, kebolehgunaan atau impak terhadap pencapaian pelajar. Oleh itu, kajian lanjutan dicadangkan bagi menilai keberkesanan bahan yang dibangunkan serta mendapatkan maklum balas pengguna bagi tujuan penambahbaikan pada masa hadapan.

PENGHARGAAN

Penulis ingin merakamkan penghargaan kepada pihak fakulti/institusi atas sokongan yang diberikan dalam pembangunan bahan pengajaran ini bagi kursus MPU Penghayatan Etika dan Peradaban.

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Reconceptualising National Identity Development in Malaysian Higher Education: A Developmental National Identity Calibration Framework for MPU Courses

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ABSTRACT

National identity development is a key mechanism for strengthening national integration in Malaysia's multiethnic society, particularly through educational experiences that promote common identities, intercultural understanding, and social cohesion. Rather than being fixed, identity develops dynamically through processes of exploration, reflection, reconsideration, integration, and commitment within particular social and educational contexts. Strengthening an inclusive Malaysian identity can therefore enhance students' capacity to engage with contemporary transformation associates with globalization, multiculturalism, Artificial Intelligence (AI), and digital media issues. This conceptual paper proposes reconceptualising national identity development in Malaysian higher education by examining the role of compulsory nationhood-related General Studies (MPU) Courses. Consistent with Malaysia's higher education aspirations, MPU courses provide a curricular platform for cultivating ethical values, civic responsibility, cultural appreciation, and national belonging among students. However, the realisation of these outcomes depends on the alignment of curriculum content, pedagogical approaches, assessment practices, and students' lived learning experiences. Drawing primarily on transformative learning theory and supported by experiential learning, the paper proposes the Developmental National Identity Calibration Framework (DNIC). Transformative learning explains how critical reflection and dialogic engagement can lead students to re-examine their existing assumptions and reconstruct their frames of reference, whereas experiential learning explains how knowledge and identity meanings are developed through the interpretation and reflection of experience. The framework further proposes continuous pedagogical calibration whereby educators use reflection, dialogue, formative assessment, feedback, and community engagement to respond to students' evolving identity-learning needs. The paper contributes a theoretically grounded and operationally oriented framework that connects identity transformations with responsive pedagogical practices to support civic understanding, intercultural appreciation, and reflective citizenship. also an inclusive sense of national belonging.

Keywords: National identity, Malaysian higher education, Mata Pelajaran Umum (MPU), Transformative Learning Theory, Identity development

INTRODUCTION

The strategic imperative of national identity in education is a manifestation of 'methodological nationalism ', which helps shape the identity of citizens through territoriality and visual signifiers. Thus, it helps to propagate nationalism and unity across the cultural and religious divides. In this context, Malaysian Higher Education (MHE) has been framed as a mould used to unite and shape the nation's character and help produce an ethical and patriotic generation prepared to contribute to national development1. Malaysian higher education needs to focus on producing knowledge, as stated under the National Education Philosophy (FPK). It also supports the idea of seeking to nurture holistic and balanced graduates that possess high moral standards and a strong sense of responsibility towards the nation2. As the instrument of the state in helping to develop nation-building, there are a few strategic imperatives that can be discussed in constructing the national identity by MHE.

Internal fundamentals that can be major contributions to the national identity are where the MHE serves as a platform for social building and social integration, helping to unite a diverse, multi-ethnic population in Malaysia3. Malaysia's experiences living as a multicultural make this phenomena as not as complex as it was because commonality has been developed over time. In the community, students usually interact with peers with various backgrounds; over time, they embrace differences and bring them to foster a common national identity and reduce ethnic stratification3. The MPU

course, like Malaysian Studies or The Aspirations of Building a Nation-State, is designed as a mandatory initiative to enhance students' awareness and skills to manage diversity towards a unified imagined community2. The content encourages more cognitive consciousness on how the community should be aware of the differences between each other and how to be tolerant of ambiguity or conflict within society. Malay language (Bahasa Melayu) plays a vital role as a main symbol of national identity in MHE. This manifestation starts as a unifying force and a symbol of post-colonial sovereignty4. The policy of MBMMBI (Upholding the Malay language and Strengthening the English language) can ensure the country's sustainability in preserving the national Language and carrying it through National identity, thus creating a distinct body of knowledge5. This can be a baseline for any agency or actor that can contribute to the needs of a guideline in handling literature in formal matters. Neglecting this linguistic pillar is warned to result in a nation "that has a face but no soul"6.

The Mata Pelajaran Umum (MPU), or General Studies, in Malaysia is to produce holistic, balanced, and future-proof graduates, and MHE invests in having not just academically knowledgeable students but also strong moral values and soft skills9. The role of MPU can be multifaceted in meeting a few needs in MHE. First, the main aims for MPU are to promote national identity, patriotism, and civic awareness to the young generation, especially those in the university. Through the learning process, students will not only understand the knowledge on nationhood studies that consists of the constitution, law, and national principles (Rukunegara). It also connects the students to the nation-building process and supports unity within society. The course has been constructed to provide students with a deep understanding of Malaysia's history, heritage, and social contract that form the foundations for the nation's10. The issues that occurred, such as political hatred involving racial segmentation and feelings of racial discrimination due to a lack of knowledge of our historical aspects, can be addressed throughout this course in their higher education learning. Despite the implementation of MPU across Malaysian higher education institutions, limited attention has been given to understanding how students construct their national identity through the curriculum's teaching and learning experiences.

The MPU structure standardizes and coordinates compulsory courses across all public and private higher education institutions in Malaysia2. This standardized framework ensures that all students, regardless of their institution or field of study, undertake the MPU curriculum as a compulsory component of their higher education journey. Through these courses, students are expected to achieve the prescribed learning outcomes, which emphasize the development of national identity, ethical values, civic responsibility, social cohesion, and holistic personal growth alongside their disciplinary knowledge. The problem arises when the process of constructing national identity through learning may be affected by the heavy use of AI by the students. Digital platforms and AI have fundamentally altered the "gatekeeping" process of information, moving it away from human editors to unconscious algorithms11. This may generate new insights into pedagogical innovation by identifying effective teaching approaches that enhance the role of MPU in facilitating the construction of national identity among higher education students. Moreover, the teaching methods and learning adaptation that have been used in teaching MPU in higher educations also moving the traditional term into High-Impact Educational Practices (HIEPS) and modern technology12, such as using interactive pedagogy and experiential learning. The learning context created through various pedagogical components of the MPU curriculum has the potential to influence the construction of national identity among students in Malaysian higher education. However, existing literature provides limited explanation of the developmental process through which national identity is formed and evolves throughout students' learning experiences. This theoretical gap highlights the need for a framework that explains how pedagogical experiences contribute to the progressive construction of national identity. Therefore, this paper introduces the "Developmental National Identity Calibration (DNIC) Framework", which conceptualizes national identity construction as a dynamic and developmental process shaped by students' engagement with the MPU curriculum, critical reflection, social interaction, and identity negotiation.

RESULTS AND DISCUSSION

Transformative learning theory, originally developed by Jack Mezirow, explains how adults transform their existing beliefs, assumptions, values and perspectives through critical reflection on their experiences.

Transformative Learning Theory (TLT), originally developed by Jack Mezirow (1978, 1991, 2000), explains how adults transform their existing beliefs, assumptions, values, and perspectives through critical reflection on their experiences. Rather than viewing learning as the simple acquisition of knowledge, the theory conceptualises learning as a process of meaning transformation in which individuals critically examine their previously held frames of reference and reconstruct them into more inclusive, reflective, and informed perspectives.

According to Mezirow, transformative learning is often initiated by a disorienting dilemma experience or situation that challenges an individual's existing assumptions or worldview. This is followed by a process of critical self-reflection, dialogue with others, exploration of alternative perspectives, and the eventual integration of new understandings into one's identity and behaviour. Through this process, learners develop transformed perspectives that guide future actions and decision-making.

In the context of Malaysian higher education, Transformative Learning Theory provides a valuable lens for understanding how students develop a stronger sense of national identity through compulsory General Studies (Mata Pelajaran Umum, MPU) courses. Learning activities such as reflective discussions, intercultural dialogue, collaborative projects, community engagement, and critical analysis of national issues encourage students to question preconceived beliefs, appreciate diverse cultural perspectives, and reconstruct their understanding of citizenship, national belonging, and social responsibility.

The proposed Development National Identity Calibration (DNIC) Framework builds upon Transformative Learning Theory by conceptualising national identity development as a continuous and iterative process rather than a single educational outcome. Through ongoing pedagogical calibration, students progressively move through the interconnected phases of identity awareness, identity reflection, identity negotiation, identity integration, and identity commitment. Each phase represents increasing levels of critical reflection, meaning-making, and internalisation of national identity, enabling students to develop a more inclusive, reflective, and enduring sense of belonging within Malaysia's multicultural society.

Accordingly, Transformative Learning Theory serves as the principal theoretical foundation of the DNIC Framework by explaining how carefully designed learning experiences can facilitate sustained identity transformation through reflection, dialogue, experiential learning, and continuous pedagogical adjustment.

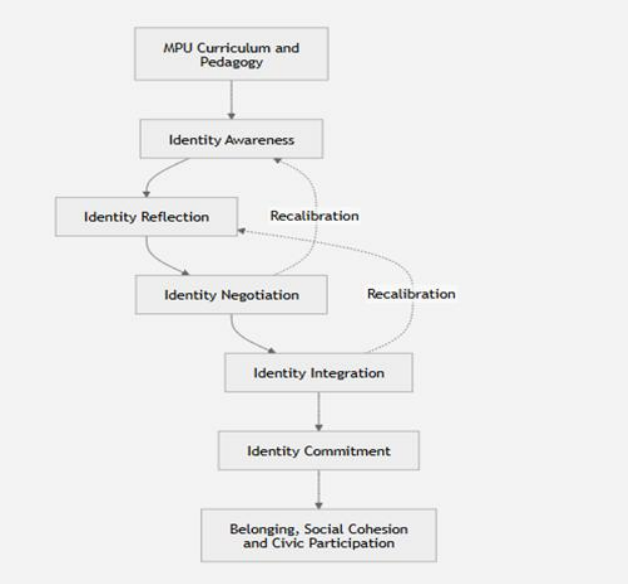

Figure 1: Developmental National Identity Calibration operates continuously across all stages.

CONCLUSION

This paper has argued that developmental calibration promotes national identity more effectively than content transmission. The MPU course is seen as compulsory in constructing holistic and balanced students in Malaysian higher education. Drawing on Mezirow's transformative theory, the development of identity is seen as progressive rather than linear. Reflective learning and community engagement strengthen identity integration and identity commitment. However, dialogue learning will enhance the identity negotiation between students. Future work should examine how the framework functions across context in seeing that it can apply to other curriculum aspects of MPU to construct national identity.

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Rekabentuk Masa Hadapan Kurikulum Kursus Mata Pelajaran Umum (MPU) di Institusi Pengajian Tinggi Malaysia

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ABSTRAK

Kurikulum Mata Pelajaran Umum (MPU) di institusi pengajian tinggi (IPT) perlu sentiasa relevan dengan perubahan sosial, teknologi dan dunia pekerjaan, tanpa mengabaikan pembentukan nilai, jati diri dan tanggungjawab kewarganegaraan. Kajian ini bertujuan merangka hala tuju baharu MPU bagi melahirkan graduan holistik yang menghayati patriotisme dan jati diri beracuan Malaysia serta menguasai kemahiran insaniah. Kajian dilaksanakan dalam dua fasa menggunakan pendekatan kaedah campuran: Fasa 1 meneliti amalan sedia ada melalui analisis silibus dan dokumen audit, tinjauan serta perbincangan kumpulan fokus; Fasa 2 memurnikan dapatan melalui bengkel, perbincangan pakar dan sesi libatsama. Hampir 13,000 peserta terlibat dalam keseluruhan kajian. Dapatan menunjukkan isu ketidakjelasan pemetaan hasil pembelajaran kepada MQF, dominasi syarahan dan pentaksiran konvensional, serta keperluan memperkukuh kompetensi pengajar, kemudahan, pemantauan dan pensejajaran pentaksiran dengan CLO. Kajian menghasilkan kerangka Modul Umum Insan Sejahtera (MUSt) berasaskan tiga tema: *knowing yourself*, *living in society* dan *living in a global world*. MUSt menawarkan hala tuju MPU yang lebih fleksibel, dinamik dan responsif terhadap pembangunan insan sejahtera.

Kata Kunci: Mata Pelajaran Umum (MPU), Modul Umum Insan Sejahtera (MUSt), kurikulum pendidikan tinggi, pendidikan holistik, jati diri Malaysia

PENGENALAN

Pendidikan tinggi Malaysia bukan sekadar bertanggungjawab menghasilkan graduan berpengetahuan dan berkemahiran, tetapi juga membentuk insan yang mempunyai nilai, adab, jati diri kebangsaan dan keupayaan hidup bersama dalam masyarakat majmuk. Pelan Pembangunan Pendidikan Malaysia 2015-2025 (Pendidikan Tinggi) menekankan kualiti graduan, institusi dan sistem, di samping pengalaman pembelajaran yang lebih bermakna, pembelajaran berasaskan pengalaman, pembelajaran berasaskan perkhidmatan serta hubungan yang lebih rapat dengan keperluan semasa (Kementerian Pendidikan Malaysia, 2015).

Walau bagaimanapun, perubahan teknologi, pola pekerjaan, bentuk interaksi sosial dan cabaran global menuntut penawaran MPU disemak semula. Generasi masa kini berhadapan dengan persoalan yang semakin kompleks seperti krisis ekonomi, konflik etnik, rasuah, salah guna kuasa dan pemanasan global. Justeru, graduan perlu memiliki bukan sahaja pengetahuan, tetapi juga ketahanan diri, pertimbangan etika, kebolehan berfikir secara kritis, pembelajaran sepanjang hayat dan keupayaan bertindak secara bertanggungjawab dalam komuniti. Pada peringkat antarabangsa, gagasan Citizenship Education dan Global Citizenship Education turut menegaskan pembangunan pengetahuan, kemahiran, nilai dan sikap bagi membentuk masyarakat yang aman, inklusif dan mampan. Hal ini memperkukuh keperluan untuk melihat MPU sebagai kurikulum pembentukan insan dan kewarganegaraan, bukan semata-mata sekumpulan kursus wajib. Kajian ini bertitik tolak daripada keperluan tersebut dengan objektif membangunkan hala tuju baharu MPU di IPT yang dapat melahirkan graduan holistik, menghayati nilai patriotisme dan jati diri beracuan Malaysia serta menguasai kemahiran insaniah ke arah kebolehpasaran graduan. Fokus kajian merangkumi kandungan, penyampaian, pentaksiran dan bentuk penawaran

MPU, serta bagaimana kesemua komponen ini boleh disusun semula secara lebih fleksibel dan relevan dengan keperluan kehidupan semasa.

METODOLOGI

Kajian dilaksanakan dalam dua fasa utama. Fasa 1 bertujuan mengumpul data asas, menyemak amalan sedia ada dan meneliti impak pelaksanaan MPU dari sudut kandungan, penyampaian serta pentaksiran. Fasa ini merangkumi analisis silibus MPU di sembilan universiti awam, politeknik dan IPTS serta analisis dokumen audit MPU di tujuh IPT terpilih. Pendekatan kuantitatif melalui tinjauan dilengkapi dengan pendekatan kualitatif melalui perbincangan kumpulan fokus. Instrumen temu bual berfokus dibangunkan daripada instrumen kajian kuantitatif untuk meneroka pengalaman, kesan, masalah dan cabaran pembelajaran MPU serta cadangan penambahbaikan jangka pendek dan jangka panjang.

Fasa 2 pula merupakan fasa pembangunan dan pemurnian kerangka. Aktiviti dilaksanakan secara teradun melalui bengkel, perbincangan pakar dan sesi libatsama bersama pihak pengurusan, pensyarah, penyelaras serta pelajar. Lima orang pakar bidang telah dijemput untuk memberikan pandangan dan cadangan penambahbaikan terhadap kerangka. Sesi libatsama melibatkan kira-kira 1,253 peserta dan dilaksanakan secara iteratif bagi menguji kefahaman, kebolehlaksanaan dan potensi kerangka. Secara keseluruhan hampir 13,000 peserta terlibat, merangkumi 11,574 peserta tinjauan serta peserta perbincangan dan libatsama. Reka bentuk ini membolehkan triangulasi antara dokumen, data tinjauan, pengalaman pemegang taruh dan pertimbangan pakar.

HASIL DAN PERBINCANGAN

Analisis Fasa 1 menunjukkan bahawa pelaksanaan MPU secara umum telah memenuhi keperluan asas pembangunan dan pelaksanaan kursus, namun beberapa ruang penambahbaikan masih ketara. Pertama, terdapat situasi hasil pembelajaran kursus yang belum dipetakan secara kemas dan jelas kepada kerangka MQF 2.0. Antara contoh yang dikenal pasti ialah hasil berkaitan keusahawanan atau interaksi sosial yang tidak dipadankan secara tepat dengan domain hasil pembelajaran yang sepatutnya. Ketidakselarasan ini penting kerana pemetaan hasil pembelajaran menjadi asas kepada kesepadanan kandungan, aktiviti pembelajaran dan pentaksiran. Kelemahan pada peringkat ini berpotensi mengurangkan ketepatan bukti pencapaian pelajar.

Kedua, kaedah penyampaian yang lazim masih tertumpu pada syarahan dan perbincangan, manakala pentaksiran pada banyak institusi cenderung bersifat konvensional. Walaupun terdapat institusi yang mula menggunakan pendekatan alternatif seperti portfolio, projek, e-folio, pembentangan video, pembelajaran berasaskan pengalaman, praktikum dan penulisan reflektif, amalan ini belum seragam. Dapatan tersebut menunjukkan bahawa transformasi MPU memerlukan peralihan daripada pemindahan kandungan kepada pengalaman pembelajaran yang membolehkan pelajar mengaplikasi nilai, membuat pertimbangan, berkomunikasi, bekerjasama dan menyelesaikan masalah dalam konteks autentik. Hal ini selari dengan keperluan pendidikan tinggi untuk memperkukuh pembelajaran aktif, pembelajaran berasaskan pengalaman dan penglibatan komuniti.

Ketiga, analisis dokumen audit MPU mengemukakan keperluan penambahbaikan pada empat dimensi: kandungan dan hasil pembelajaran, penyampaian, pentaksiran, serta penawaran dan pemantauan. Antara isu utama ialah pensejajaran pentaksiran dengan CLO, kepelbagaian dan nisbah tenaga pengajar, kemudahan dan infrastruktur, peningkatan kemahiran pensyarah termasuk dalam penyelidikan, analisis pencapaian CLO yang lebih sistematik, penyediaan panduan tugasan, semakan kursus secara berkala dan penglibatan pelajar serta alumni dalam penambahbaikan kursus. Kajian turut merekodkan kekurangan pengajar atau jurulatih dan fasiliti di sesetengah IPT serta isu kompetensi tenaga pengajar. Dapatan ini menegaskan bahawa pembaharuan kurikulum tidak boleh dibatasi pada kandungan; ia perlu disokong pembangunan kapasiti pengajar, sumber, tadbir urus, pemantauan dan CQI yang konsisten.

Berdasarkan sintesis pada Fasa 1, Fasa 2 menghasilkan satu kerangka penawaran baharu yang dinamakan Modul Umum Insan Sejahtera (MUSt). Kerangka ini dirancang sebagai struktur yang lebih fleksibel dan dinamik untuk membina insan sejahtera yang seimbang dan holistik. MUSt disusun melalui tiga tema utama yang komprehensif, iaitu *knowing yourself*, *living in society* dan *living in a global world*. Tema *knowing yourself* memusatkan pembentukan kesedaran diri, nilai, etika, kesejahteraan dan keupayaan mengurus kehidupan; *living in society* menekankan interaksi, tanggungjawab sosial, jati diri, kepelbagaian, kepimpinan dan kehidupan bermasyarakat; manakala *living in a global world* menghubungkan mahasiswa dengan isu, cabaran dan tanggungjawab pada skala serantau serta global. Ketiga-tiga tema ini membentuk aliran perkembangan daripada diri, kepada masyarakat, seterusnya dunia.

Kekuatan utama MUSt ialah fleksibiliti bentuk penawarannya yang sesuai dalam era Pendidikan fleksibel masa kini. Pembelajaran tidak semestinya

terikat kepada kursus berstruktur semata-mata, sebaliknya boleh dilaksanakan melalui kursus, mikrokredensial, seminar, pengalaman di luar kampus dan bentuk pembelajaran lain yang memenuhi domain di bawah tema yang ditetapkan. Pendekatan ini memberi ruang kepada IPT menyesuaikan pengalaman pembelajaran dengan konteks institusi dan perubahan semasa, pada masa yang sama mengekalkan matlamat bersama pembentukan graduan holistik. Dari perspektif reka bentuk kurikulum, MUSt mengalihkan fokus daripada struktur kelompok kursus yang statik kepada ekosistem pembelajaran umum yang berasaskan hasil, pengalaman dan keperluan kehidupan.

Walaupun kerangka ini menjanjikan fleksibiliti, pelaksanaannya memerlukan mekanisme jaminan kualiti yang jelas supaya kepelbagaian bentuk pembelajaran tidak menghasilkan ketidakseragaman standard. Garis panduan pelaksanaan perlu menetapkan hasil pembelajaran minimum, prinsip pemetaan kepada MQF, kriteria pentaksiran, rekod pencapaian, kaedah pemindahan atau pengiktirafan kredit serta proses CQI. Keperluan ini juga sejalan dengan dapatan audit yang menonjolkan isu pemetaan CLO, kompetensi pengajar dan pemantauan. Oleh itu, inovasi penawaran perlu bergerak serentak dengan pengukuhan tadbir urus akademik.

KESIMPULAN

Kajian ini menghasilkan hala tuju baharu bagi MPU melalui pembangunan kerangka Modul Umum Insan Sejahtera (MUSt). Dapatan menunjukkan bahawa MPU masih penting sebagai wahana pembangunan insan, nilai, patriotisme, jati diri dan kemahiran insaniah, tetapi struktur, penyampaian dan pentaksirannya perlu lebih fleksibel, autentik dan responsif terhadap perubahan. MUSt menyusun pengalaman pembelajaran melalui tiga tema - *knowing yourself*, *living in society* dan *living in a global world* - serta membolehkan pelbagai bentuk penawaran termasuk kursus, mikrokredensial, seminar dan pembelajaran di luar kampus. Pada peringkat dasar, kerangka ini berpotensi menjadi asas transformasi MPU daripada model kursus wajib yang relatif seragam kepada ekosistem pembelajaran umum yang lebih fleksibel, berpaksikan hasil dan berorientasikan pembentukan insan sejahtera.

PENGHARGAAN

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Efficacy of Reflection Video-Based Assessment in Enhancing Student Development and Soft Skills Among University Students

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ABSTRACT

This study evaluates the efficacy of reflection video-based assessment in enhancing holistic student development, digital literacy, and soft skills among undergraduate students at Universiti Kebangsaan Malaysia (UKM). Video-based assessment is increasingly adopted as an alternative instrument to traditional examinations for measuring reflective thinking as well as affective components. Utilizing an action research design and document analysis of coursework submitted by students enrolled in Emotional Management (LMCR2252) and Islam & Psychology (LMCP1612), twenty series of group reflection video presentations uploaded to digital platforms were analyzed using a mixed qualitative-quantitative approach. The findings indicate that 92.6% of students agreed that producing reflection videos significantly enhanced their cognitive mastery, emotional articulation skills, and teamwork collaboration. Furthermore, the integration of audio-visual elements enabled students to connect academic theory with real-world experiences authentically. Consequently, video-mediated reflective assessment promotes student empowerment and 21st-century digital literacy, positioning it as a fundamental component of modern Liberal Education curriculum.

Keywords: Video Assessment, Reflective Thinking, Soft Skills, Authentic Assessment, Liberal Education

INTRODUCTION

The paradigm shift in 21st-century higher education demands a transition from traditional assessment methods based on rote memorization toward authentic assessment that evaluates students' abilities in application, synthesis, and critical thinking (Ajjawi et al., 2020; Villarroel et al., 2018). In general elective and character development courses, such as Emotional Management (LMCR2252) and Islam & Psychology (LMCP1612) offered by the Center for Citra UKM (PPCU), UKM, students' capacity to articulate emotional understanding, psychological stability, and the practice of spiritual values cannot be comprehensively measured through written examinations alone (Boud & Dawson, 2023; Nieminen, 2022).

Accordingly, the Reflection Video assessment method was introduced as a project-based assessment instrument (Greene & Crespi, 2012). Through this approach, students are required to design, deliver, and upload reflective video group presentations to digital platforms such as YouTube (Fakhruddin et al., 2021). The processes of scriptwriting, video editing, and narrative delivery require students to simultaneously integrate cognitive faculties, affective domains, and technical skills (Hung et al., 2012; Orús et al., 2016).

This study aims to:

Analyze the implementation of reflection video-based assessment in group coursework assignments.

Evaluate the extent to which this assessment method enhances reflective thinking, teamwork, and presentation confidence among students.

Identify the advantages of video assessment in supporting student development and graduate readiness.

RESULTS AND DISCUSSION

Based on data analysis from the survey conducted among UKM students, student emotional profiles indicate that the primary sources of psychological stress stem from fear of academic failure and anxiety regarding future directions. These patterns of overthinking lead directly to pronounced mental fatigue and compromised daily sleep quality (Rianti et al., 2024).

Document analysis of the final course report series and digital media repositories for the courses LMCR2252 (Emotional Management) and LMCP1612 (Islam and Psychology) confirms that student engagement in producing digital reflection videos achieved a 100% completion rate. All nine student cohorts successfully conceptualized, edited, and uploaded reflective presentation video links that are publicly accessible on the YouTube platform. Compared to conventional written assessment methods, the implementation of this reflection video-based assessment demonstrated a significant impact on transforming students' cognitive, affective, and psychomotor domains (Kearney & Schuck, 2006).

Specifically, the process of preparing reflection videos compelled students to navigate a multi-tiered pedagogical process of theoretical translation. Students were required not only to master foundational psychological and Islamic psycho-spiritual concepts - such as Cognitive Appraisal Theory, emotional regulation, emotional burnout, as well as the practical application of *tawakkal* (trust in God) and *tazkiyah al-nafs* (purification of the soul) - but also to execute contextual mapping between these theoretical frameworks and real-world campus experiences. Through audio-visual reflection, students recorded self-experience narratives, analyzed conflict situations, and systematically restructured problem-solving strategies in an analytical manner. This process implicitly activated higher-order reflective thinking, transitioning students away from mere rote memorization of theoretical definitions toward translating concepts into authentic and meaningful applications (Ketonen et al., 2023).

In addition to cognitive enhancements, this video assessment method yielded a highly pronounced impact on the development of students' soft skills and emotional intelligence (EQ). The collaborative video production process demanded effective interpersonal communication skills, empathy, and the ability to manage peer conflict during task allocation. Furthermore, elements of media craftsmanship - such as narrative scriptwriting, discussion recordings, and audio-visual editing - enhanced students' digital literacy and technical creativity. This active engagement shifted students' roles from passive consumers of information into active creators of evidence-based scientific content (Orús et al., 2016).

Table 1 presents selected samples of reflection video elements in group assignments and the corresponding soft skill domains enhanced.

Assignment Code & Study Title	Digital Video Channel / Platform	Primary Assessment Domain	Soft Skills Assessed
LMCR2252 (K7): Emotional Management in Communication Conflict	YouTube (custom link)	Interpersonal & Cool-off Strategies	Communication & Empathy
LMCR2252 (K9): The Effect of Sleep Deprivation on Emotional Stability	YouTube (custom link)	Physiological & Cognitive Awareness	Time Management & Self-Regulation
LMCR2252 (K11):: Environment & Student Emotional Management	YouTube (custom link)	Environmental Analysis & Adaptation	Adaptability & Teamwork
LMCR2252 (K4): Social Media & University Student Stress	YouTube (custom link)	Digital Literacy & Digital Detox	Critical Thinking & Digital Ethics
LMCP1612 (K6): *Tawakal* (Trust in God) in Managing Depression	YouTube (custom link)	Islamic Psycho-Spiritual Integration	Resilience & Spirituality
LMCP1612 (K10): Emotional Stress & Social Media (Islamic Perspective)	YouTube (custom link)	Cognitive Appraisal & *Zikrullah*	Moral Judgment & Personal Integrity
LMCP1612 (K6): Factors of Student Insecurity	YouTube (custom link)	Self-Concept & Gratitude Therapy	Self-Confidence & Self-Love
LMCP1612 (K7): Overthinking & the Concept of *Tawakal*	YouTube (custom link)	Self-Efficacy vs. *Tawakal*	Cognitive Management & *Redha* (Acceptance)
LMCP1612 (K5): Western vs. Islamic Self-Motivation	YouTube (custom link)	Intrinsic Motivation & *Ikhlas* (Sincerity)	Personal Leadership & Orientation

Based on the qualitative reflection analysis, three key dominant themes emerged:

1. Deep Reflective Thinking: In contrast to rigid written responses, video presentations enabled students to translate theoretical frameworks (e.g., Cognitive Appraisal, *Tazkiyah al-Nafs,* and *Tawakal)* through narrative storytelling grounded in real campus experiences.
2. Strengthening of Soft and Digital Skills: Designing reflection videos fostered critical soft skills, including team leadership, verbal presentation abilities, audio-visual creativity, and proficiency in digital editing software.
3. Authentic Engagement and Self-Empowerment: Officially uploading and sharing videos fostered a sense of ownership over learned knowledge, subsequently boosting self-confidence and emotional intelligence.

CONCLUSION

Reflection video-based assessment proves to be a highly effective, rigorous, and relevant alternative assessment model aligned with the demands of the digital education era. It successfully bridges the gap between academic theory and students' emotional and psychological realities in an authentic manner. In addition to evaluating cognitive domains, video assessments empower affective elements, communication skills, technological literacy, and personal character development. Continued exposure to such digital project-based assessments should be scaled across higher education curricula to cultivate holistic, digitally literate, and highly competitive graduates.

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Empowering Adaptable Graduates Through Multidisciplinary Curriculum Design and Innovative Pedagogy

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ABSTRACT

This paper explores the implementation of a multidisciplinary curriculum approach paired with innovative pedagogy in higher education to prepare adaptable graduates for an evolving workforce. This study aims to examine the role of multidisciplinary curriculum design and innovative pedagogical approaches in enhancing graduate adaptability, critical reasoning, cognitive flexibility, and long-term career resilience, with particular emphasis on the Malaysian higher education context. A qualitative literature review was conducted by synthesizing relevant studies on multidisciplinary education, cognitive development, innovative pedagogy, experiential learning, and higher education policy. The review examined theoretical and empirical perspectives on broad-based education, Problem-Based Learning (PBL), Design Thinking, flipped classrooms, Work-Based Learning (WBL), Service Learning Malaysia (SULAM), and AI-assisted reflective assessment. The results indicate that multidisciplinary curriculum design promotes higher-order thinking by exposing students to diverse disciplinary perspectives, encouraging metacognition, epistemic switching, intellectual flexibility, and ethical reasoning. The findings further suggest that innovative pedagogies strengthen the impact of multidisciplinary learning by transforming theoretical knowledge into practical competencies, including collaboration, communication, adaptability, empathy, and problem-solving. The study concludes that an integrated multidisciplinary curriculum supported by innovative pedagogy can contribute to the development of adaptable, ethically grounded, and future-ready graduates.

Keywords: Multidisciplinary Curriculum, Innovative Pedagogy, Higher Education, Graduate Adaptability, Critical Reasoning, Cognitive Flexibility, Career Resilience

INTRODUCTION

The rapid transformation of the global economy demands higher education systems to move beyond traditional, single-major models. Conventional degree structures often separate knowledge into different academic fields, limiting graduates' ability to solve complex problems that require knowledge from multiple disciplines. To address this gap, integrating multidisciplinary curriculum design with innovative pedagogy has emerged as a crucial approach. By combining broad liberal and general studies with active teaching strategies, institutions can foster soft skills, critical reasoning, and ethical judgment alongside core technical capabilities.

The global higher education landscape is undergoing a paradigm shift driven by rapid technological acceleration and shifting economic requirements. Leading international universities recognize that single-major degrees isolating knowledge into narrow academic fields are insufficient for complex workplace environments. For example, in the United States institutions like Harvard, Stanford, and Pomona College utilize broad-based general education requiring cross-disciplinary coursework across natural sciences, humanities, and quantitative reasoning alongside primary majors. Similarly, in Singapore, universities such as the National University of Singapore (NUS) pioneered interdisciplinary common curricula through the Yale-NUS model and NUS College to cultivate critical thinking and versatility. In Europe, University College Utrecht and King's College London embed interdisciplinary liberal arts programs to foster ethical judgment. Empirical research confirms graduates from multidisciplinary environments exhibit higher cognitive flexibility, adaptability, and long-term career resilience compared to those educated under single-discipline paradigms (Baker et al. 2021; Tan & Miller 2023).

In Malaysia, the Ministry of Higher Education (MOHE) explicitly supports broad-based, holistic education through the Malaysia Education Blueprint (Higher Education) and mandated Mata Pelajaran Umum (MPU) and general studies courses. These frameworks aim to develop well-rounded graduates equipped with soft skills and moral ethics alongside technical expertise. However, a significant implementation gap remains across Malaysian Higher Education Institutions (HEIs). Most local public and private universities continue to operate within traditional single-major structures, treating general studies as secondary requirements. Consequently, many Malaysian graduates enter the job market with specialized knowledge that risks rapid obsolescence as industry demands evolve (Rahman et al. 2022; Che Amat et al. 2024).

To bridge this gap and align Malaysian HEIs with top-tier international standards, multidisciplinary curriculum redesign must be coupled with innovative pedagogical approaches. Simply offering subjects from different faculties is insufficient; delivery methods must actively transform passive learners into agile problem solvers. Key strategies include Problem-Based Learning (PBL) and Design Thinking, Flipped Classrooms paired with tech-mediated learning, Task-Based and Experiential Learning, and AI-Assisted Reflective Assessment. Integrating these frameworks into multidisciplinary syllable curricula enables Malaysian higher education to fulfill immediate workforce demands while ensuring relevance over the next five to ten years.

RESULTS AND DISCUSSION

Conventional higher education structures often isolate knowledge within specific faculties, restricting students' exposure to alternative analytical frameworks. Traditional disciplinary silos encourage students to solve problems using a singular, predetermined set of tools, which creates intellectual rigidity. A multidisciplinary curriculum directly addresses this limitation by forcing students to evaluate real-world challenges through multiple, intersecting lenses, integrating technological, ethical, social, environmental, and economic perspectives.

When students are limited to training in only one specific field, they may develop a narrow way of thinking, often referred to as cognitive “tunnel vision.” This can cause them to approach complex real-world problems using only the knowledge and methods from their own academic field. In contrast, exposing students to different academic disciplines encourages them to use different ways of thinking and change their approach depending on the problem they are solving (Mezirow 1997; Repko & Welch 2014). As highlighted by Baker et al. (2021), students exposed to broad-based common curricula demonstrate higher levels of critical reasoning, intellectual flexibility, and the ability to think from different perspectives compared to students who are limited to a single major. From a cognitive development perspective, learning across different disciplines can also reduce personal biases and the tendency to focus only on information that supports existing beliefs. This is because students are required to consider different methods, types of information, and viewpoints when addressing a problem (Facione 1990; Zhao & Bikar Singh 2024).

This process stimulates metacognition, the ability to monitor and evaluate one's own thinking processes, which is a foundational prerequisite for high-level problem solving (Flavell 1979; Dewey 1916). In the context of multidisciplinary courses and general education courses in Malaysian Higher Education Institutions (HEIs), this broad exposure prevents intellectual stagnation and passivity. By engaging with general studies beyond their core domain, students learn to challenge baseline assumptions, synthesize disparate information sources, and construct holistic, ethically sound solutions to complex societal and industrial problems.

Furthermore, this broad intellectual grounding cultivates intellectual humility, as students realize that technical expertise alone cannot resolve multifaceted real-world challenges without considering human behavior, policy, and ethics (Nussbaum 1997, 2010). Consequently, multidisciplinary curriculum design transitions the learner from a passive consumer of specialized facts into an adaptable, higher-order thinker capable of navigating highly ambiguous, rapidly evolving professional environments (Bok 2006; Tan & Miller 2023).

The Role of Innovative Pedagogy in Learning Transformation

Curriculum design alone is insufficient without corresponding innovation in delivery methods. Simply enrolling technical students in humanities courses or vice versa can yield minimal impact if information is delivered through traditional, passive lecture formats. To maximize the transformational potential of multidisciplinary education, passive instruction must be replaced with active, student-centered pedagogies that demand metacognition and active participation.

Implementing Problem-Based Learning (PBL) and Design Thinking forces students to navigate messy, authentic industry scenarios where answers are not readily available in textbooks. These frameworks require students to collaborate across academic backgrounds, mirroring modern interdisciplinary workplace teams. Furthermore, integrating technology-mediated delivery, such as flipped classrooms, interactive digital content, and AI-assisted reflective assessments. This is can fundamentally shifts the educator’s role from a primary information transmitter to a facilitator of high-level synthesis (Kasim et al. 2026; Zhao & Bikar Singh 2024).

Additionally, task-based experiential learning models, including Work-Based Learning (WBL) and Service Learning Malaysia (SULAM), bridge the divide between theoretical concepts and practical application. Immersing students in real-world community and industrial settings forces them to test cross-disciplinary theories in live environments, thereby solidifying both core technical competencies and essential soft skills such as empathy, communication, and adaptability (Ahrari et al. 2016; Rahman et al. 2022).

Author	Focus of Study	Relevance to Study
Ahrari et al. (2016)	Higher Education & Community Engagement	Demonstrates how experiential learning models (like Service Learning / SULAM) foster civic development, moral

		ethics, and social empathy in students.
Baker et al. (2021)	Higher Education & Cognitive Psychology	Empirical evidence showing that broad-based general education develops higher cognitive flexibility, intellectual agility, and long-term career resilience.
Bok (2006)	Educational Policy & Philosophy	Highlights the shortcomings of rigid, single-discipline higher education models and advocates for broad-based learning to foster higher-order thinking.
Dewey (1916)	Educational Philosophy & Metacognition	Provides foundational grounding on reflective thinking, showing how learning requires active mental synthesis rather than passive absorption.
Facione (1990)	Critical Thinking & Assessment	Defines core critical thinking frameworks and shows how reconciling competing ideas disrupts cognitive biases and rigid thinking habits.
Flavell (1979)	Developmental & Cognitive Psychology	Establishes the concept of *metacognition* (monitoring one's own thinking process), essential for complex problem-solving across disciplines.
Kasim et al. (2026)	Educational Technology & Pedagogy	Details how tech-mediated instruction—such as flipped classrooms and AI-assisted reflective assessment—enhances student engagement and self-evaluation.
Mezirow (1997)	Adult Education & Transformative Learning	Conceptualizes *transformative learning* and *epistemic switching*, where learners alter their core frames of reference when exposed to new perspectives.

Table 1: Synthesis of literature on multidisciplinary curriculum design, innovative pedagogy, and graduate adaptability.

The literature synthesized in Table 1 demonstrates a clear conceptual alignment across cognitive psychology, educational philosophy, and higher education policy regarding the necessity of multidisciplinary curriculum design and innovative pedagogy. Foundational theories of learning (Dewey 1916; Flavell 1979; Mezirow 1997) establish that higher-order problem-solving requires active mental synthesis, metacognition, and epistemic switching rather than passive knowledge absorption. Building upon these frameworks, empirical and contemporary studies (Facione 1990; Baker et al. 2021; Zhao & Bikar Singh 2024) confirm that exposing students to broad cross-disciplinary perspectives disrupts cognitive biases, builds intellectual humility, and fosters higher cognitive flexibility. Furthermore, pedagogical innovations, such as tech-mediated instruction and community-based experiential learning (Ahrari et al. 2016; Kasim et al. 2026) can serve as essential delivery mechanisms that transform theoretical exposure into practical, human-centered competencies. Within the Malaysian higher education system, where academic fields are often separated and students may focus too narrowly on technical skills, graduates may face the risk of having skills that become outdated (Rahman et al. 2022; Che Amat et al. 2024). Adopting this integrated approach can provide a sustainable way to develop ethical and adaptable graduates who are better prepared for long-term career success (Bok 2006; Nussbaum 2010; Tan & Miller 2023).

CONCLUSION

The rapid evolution of global industries demands an educational shift from rigid, single-major silos toward flexible, multidisciplinary learning models. As demonstrated by the literature synthesis, integrating broad-based liberal and general studies (Citra/MPU) with innovative pedagogical strategies, such as Problem-Based Learning, experiential SULAM models, and AI-assisted reflective tools can directly enhances graduate adaptability, critical reasoning, and long-term career resilience. While implementation challenges such as departmental boundaries and accreditation constraints persist within Malaysian higher education institutions, adopting a human-centered, multidisciplinary framework bridges the gap between academic policy and industry expectations. By equipping students with versatile cross-field competencies, higher education institutions can deliver immediate value to industry partners while ensuring graduates remain relevant over the next five years and beyond. Future research should focus on developing standardized assessment metrics to evaluate the long-term impact of multidisciplinary curricula across diverse academic disciplines.

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Kesediaan Tenaga Pengajar terhadap Pengukuhan Pengendalian Kursus Integriti dan Antirasuah (KIAR) dalam Kurikulum Pengajian Umum (MPU): Kajian Kes di Universiti Kebangsaan Malaysia

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ABSTRAK

Pengukuhan pelaksanaan Kursus Integriti dan Antirasuah (KIAR) sebagai komponen wajib Mata Pelajaran Pengajian Umum (MPU) di institusi pengajian tinggi Malaysia menuntut kesediaan tenaga pengajar yang menyeluruh merentas fakulti. Kajian ini bertujuan (i) menilai tahap penerimaan tenaga pengajar Universiti Kebangsaan Malaysia (UKM) terhadap penyelarasan pelaksanaan KIAR di bawah Fakulti Pengajian Sains Citra(FPSC), (ii) mengenal pasti cabaran kapasiti dan beban kerja yang dihadapi, dan (iii) mencadangkan strategi penyelarasan dan pengukuhan tadbir urus pelaksanaan. Kajian ini menggunakan reka bentuk tinjauan keratan rentas (cross-sectional survey) menerusi instrumen berstruktur dalam talian disertai satu item terbuka, yang ditadbir kepada 28 orang tenaga pengajar UKM daripada pelbagai fakulti melalui persampelan bertujuan. Dapatan menunjukkan lebih separuh responden (57.1%, n=16) menyatakan kesediaan penuh untuk terlibat dalam pengendalian KIAR sekiranya diselaraskan sepenuhnya di bawah FPSC, manakala 32.1% (n=9) bersedia secara bersyarat dan 10.7% (n=3) tidak bersedia; kadar penerimaan keseluruhan mencecah 89.2%. Majoriti turut menyokong pemusatan pelaksanaan di bawah FPSC kerana ia memudahkan penyelarasan, namun turut membangkitkan kebimbangan terhadap kekurangan pensyarah dan beban pengajaran sedia ada, terutamanya komitmen penyelidikan/tugas lain (39.3%) dan beban pengajaran semasa (32.1%). Responden turut mencadangkan penglibatan merentas fakulti, kerjasama dengan Suruhanjaya Pencegahan Rasuah Malaysia (SPRM) sebagai pensyarah jemputan, serta penambahbaikan berterusan melalui garis panduan dan pemantauan berkala. Dapatan kajian ini menyumbang kepada reka bentuk kurikulum dan tadbir urus MPU yang lebih mampan di institusi pengajian tinggi.

Kata Kunci: Kesediaan tenaga pengajar, Kursus Integriti dan Antirasuah, Kurikulum Pengajian Umum, Tadbir urus kurikulum, Universiti Kebangsaan Malaysia

PENGENALAN

Kursus Integriti dan Antirasuah (KIAR) telah diperkenalkan sebagai kursus wajib bagi semua pelajar yang memasuki institusi pengajian tinggi (IPT) di Malaysia bermula Oktober 2023, hasil kerjasama strategik antara Kementerian Pendidikan Tinggi (KPT) dan Suruhanjaya Pencegahan Rasuah Malaysia (SPRM), dengan setiap universiti diberikan autonomi dalam pengurusan pelaksanaannya (Norfazella Mohd Fariz et al., 2026). Inisiatif ini merupakan sebahagian daripada usaha mereformasi kurikulum Mata Pelajaran Pengajian Umum (MPU) ke arah melahirkan graduan yang beretika dan berintegriti (Samuni et al., 2025).

Di Universiti Kebangsaan Malaysia (UKM), pelaksanaan KIAR dicadangkan diselaraskan di bawah Fakulti Pengajian Sains Citra(FPSC) selaku pusat pentadbir kurikulum MPU. Peralihan ini menimbulkan persoalan penting berkaitan kesediaan tenaga pengajar merentas fakulti, khususnya dari aspek penerimaan, kapasiti, dan tadbir urus pelaksanaan. Justeru, kajian ini bertujuan untuk menilai tahap penerimaan tenaga pengajar UKM terhadap penyelarasan pelaksanaan KIAR di bawah FPSC, mengenal pasti cabaran kapasiti dan beban kerja tenaga pengajar dalam pelaksanaan KIAR, dan mencadangkan strategi penyelarasan serta pengukuhan tadbir urus bagi pelaksanaan KIAR yang lebih menyeluruh.

Kepentingan kajian ini terletak pada sumbangannya kepada tadbir urus kurikulum MPU pada tiga peringkat. Pertama, pada peringkat dasar institusi, peralihan KIAR ke bawah FPSC merupakan keputusan governans yang sedang dilaksanakan secara aktif, bukan sekadar cadangan teoretis; justeru bukti empirikal tentang kesediaan sebenar tenaga pengajar amat diperlukan bagi memaklumkan keputusan pihak pengurusan universiti sebelum peralihan struktur dilaksanakan sepenuhnya, bagi mengelakkan jurang antara dasar dan realiti pelaksanaan di peringkat operasi. Kedua, pada peringkat pelaksanaan, kursus wajib seperti KIAR hanya dapat mencapai matlamatnya sekiranya disampaikan oleh tenaga pengajar yang cukup bilangannya, mempunyai

kapasiti yang mampan, dan menerima perubahan struktur secara positif. Kegagalan menangani aspek kesediaan tenaga pengajar berisiko menjejaskan kualiti penyampaian kursus walaupun dasar pemusatan itu sendiri bertujuan baik. Ketiga, pada peringkat wacana kurikulum kebangsaan, dapatan kajian ini menyumbang model governans yang boleh dirujuk oleh IPT lain yang turut mempertimbangkan pemusatan pelaksanaan MPU di bawah pusat pengajian sepunya, sekali gus memperkukuh pelaksanaan agenda antirasuah kebangsaan (SDG 16) menerusi mekanisme tadbir urus kurikulum yang lebih tersusun dan mampan.

Theory of Planned Behavior (Ajzen, 1991) menjadi asas kepada rangka kajian ini, yang menjelaskan bahawa kesediaan tingkah laku individu ditentukan oleh sikap, norma subjektif, dan kawalan tingkah laku ditanggap. Bagi memperkukuh pemahaman terhadap konteks pelaksanaan pendidikan integriti di IPT, kajian ini turut merujuk Teori Pendidikan dan Perubahan Sosial (Dewey, 1937) serta Teori Pembelajaran Sosial (Bandura, 1977) yang digunakan oleh Mohammed et al. (2026) bagi membangunkan rangka kerja pendidikan antirasuah multiplatform, merangkumi pembelajaran formal (integrasi kurikulum), tidak formal (kerjasama dan aktiviti kokurikulum), dan informal (pemodelan peranan serta kepimpinan beretika). Dapatan awal kajian ini menunjukkan cadangan penglibatan SPRM sebagai pensyarah jemputan dan kerjasama merentas fakulti sejajar dengan platform tidak formal, manakala keperluan tenaga pengajar menjadi role model integriti sejajar dengan platform informal dalam rangka kerja tersebut.

Kajian ini menggunakan reka bentuk tinjauan keratan rentas (cross-sectional survey) bagi meneroka tahap kesediaan tenaga pengajar Universiti Kebangsaan Malaysia (UKM) terhadap pengukuhan pelaksanaan KIAR di bawah FPSC. Instrumen kajian berbentuk borang soal selidik dalam talian (Google Forms) yang merangkumi item berstruktur (skala kesediaan dan item semak pelbagai pilihan) serta satu item terbuka bagi mengumpul pandangan dan cadangan responden secara bebas. Responden kajian dipilih menggunakan kaedah persampelan bertujuan (purposive sampling), melibatkan tenaga pengajar UKM daripada pelbagai fakulti yang terlibat secara langsung atau berpotensi terlibat dalam pengendalian KIAR di bawah Fakulti Pengajian Sains Citra(FPSC). Sejumlah 28 orang tenaga pengajar memberikan respons lengkap. Jadual 1 menunjukkan profil responden mengikut jawatan akademik dan pengalaman mengajar KIAR.

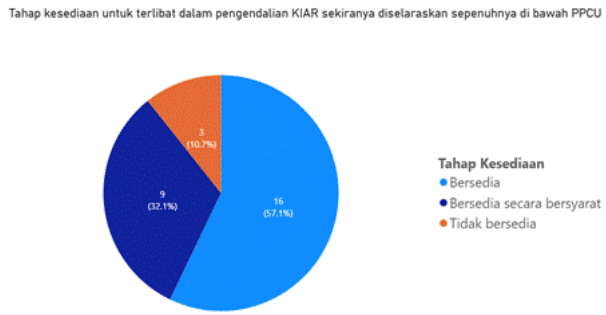
Jadual 1. Profil Responden Kajian (n = 28)

Ciri Responden	Kategori	n (%)
Jawatan Akademik	Profesor	1 (3.6%)
	Profesor Madya	3 (10.7%)
	Pensyarah Kanan	24 (85.7%)
Pengalaman Mengajar KIAR	Pernah	8 (28.6%)
	Tidak Pernah	20 (71.4%)
	Jumlah	28 (100%)

Data bagi item berstruktur dianalisis secara deskriptif dalam bentuk kekerapan dan peratusan bagi menggambarkan taburan jawatan akademik, pengalaman mengajar, tahap kesediaan, dan faktor kapasiti responden. Respons bagi item terbuka pula dianalisis menggunakan kaedah analisis tematik (Braun & Clarke, 2022) bagi mengenal pasti pola dan tema utama berkaitan kesediaan, cabaran, serta cadangan penambahbaikan pelaksanaan KIAR. Proses pengekodan dijalankan secara manual dan berulang sehingga tepu tema (thematic saturation) dicapai, menghasilkan empat tema utama seperti dibentangkan dalam Jadual 2. Gabungan dapatan deskriptif dan tematik ini membolehkan triangulasi antara corak berangka dan naratif kualitatif responden.

HASIL DAN PERBINCANGAN

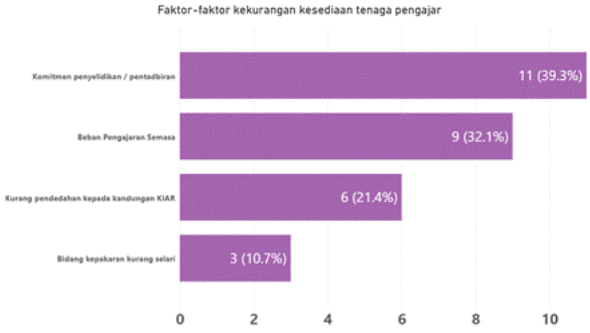
Penerimaan Tenaga Pengajar terhadap Penyelarasan KIAR di bawah FPSC. Dapatan tinjauan menunjukkan majoriti tenaga pengajar UKM (57.1%, n=16) menyatakan kesediaan penuh untuk terlibat dalam pengendalian KIAR sekiranya diselaraskan sepenuhnya di bawah FPSC, manakala 32.1% (n=9) bersedia secara bersyarat dan hanya 10.7% (n=3) menyatakan tidak bersedia, menjadikan kadar penerimaan keseluruhan (bersedia dan bersedia bersyarat) sebanyak 89.2%. Menariknya, majoriti responden (71.4%, n=20) belum pernah mengajar KIAR sebelum ini, menunjukkan penerimaan ini berlaku walaupun kebanyakan tenaga pengajar tiada pengalaman terdahulu dengan kursus ini. Respons terbuka turut menyokong dapatan ini, dengan responden bersetuju bahawa pemusatan di bawah FPSC dapat memudahkan pengurusan kursus, mengelakkan kekeliruan pentadbiran yang berlaku sebelum ini, dan selari dengan matlamat memperkasakan MPU di bawah struktur Citra. Dari perspektif Theory of Planned Behavior (Ajzen, 1991), penerimaan tinggi ini mencerminkan sikap positif dan norma subjektif yang menyokong pemusatan governans kurikulum, manakala kadar 10.7% yang tidak bersedia dan 32.1% yang bersedia secara bersyarat mengesahkan bahawa kawalan tingkah laku ditanggap (perceived behavioural control) turut dipengaruhi oleh faktor kapasiti



Rajah 1. Tahap Kesediaan Tenaga Pengajar untuk Terlibat dalam Pengendalian KIAR di Bawah FPSC

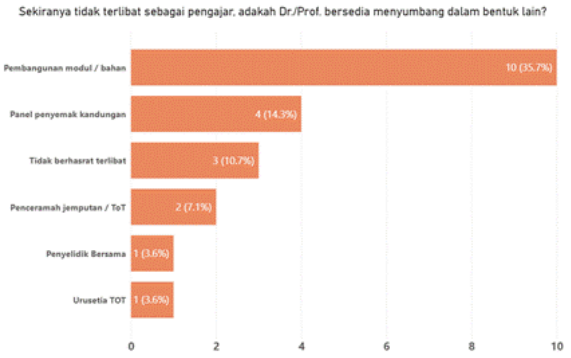
Bagi responden yang kurang atau tidak bersedia, faktor utama yang dikenal pasti ialah komitmen penyelidikan atau tugas rasmi lain (39.3%, n=11), beban pengajaran semasa (32.1%, n=9), kurang pendedahan kepada kandungan KIAR (21.4%, n=6), dan bidang kepakaran yang kurang sesuai (10.7%, n=3). Meskipun begitu, dari segi kapasiti sebenar, 60.7% (n=17) responden menyatakan bersedia mengambil sekurang-kurangnya satu set pengajaran dan 25% (n=7) bersedia secara bersyarat, menunjukkan sumber tenaga pengajar sebenarnya boleh dimobilisasi sekiranya cabaran struktur ditangani. Responden turut menyuarakan kebimbangan terhadap kekurangan bilangan pensyarah FPSC untuk menampung keperluan pengajaran KIAR merentas fakulti, serta keperluan pejabat Timbalan Dekan Akademik (TDA) di setiap fakulti meneliti semula beban pengajaran sedia ada sekiranya KIAR dikendalikan sepenuhnya oleh FPSC. Sebagai penyelesaian, responden mencadangkan agar setiap fakulti turut berkongsi tanggungjawab dengan menawarkan kursus Citra rentas fakulti bagi mengimbangi beban pengajaran subjek MPU yang diperuntukkan kepada FPSC. Dapatan berangka dan naratif ini selari dengan sorotan literatur berkaitan kefahaman nilai etika dan moral dalam kurikulum IPT, yang turut menekankan kepentingan struktur sokongan institusi bagi memastikan keberkesanan penyampaian kursus berteraskan nilai (Ruslan et al., 2020).

Jadual 2. Rumusan Tema Utama Dapatan Kajian



Rajah 2. Faktor Utama Kekurangan Kesediaan Tenaga Pengajar

Bagi responden yang tidak terlibat secara langsung sebagai pengajar, sebahagian besar tetap menyatakan kesediaan menyumbang dalam bentuk lain, iaitu pembangunan modul/bahan pengajaran (35.7%), menjadi panel penyemak kandungan (14.3%), dan menjadi penceramah jemputan atau jurulatih TOT (7.1%), menunjukkan potensi sumbangan tenaga pengajar boleh diperluas melangkaui bilik kuliah semata-mata. Dapatan turut menekankan keperluan penglibatan menyeluruh semua tenaga pengajar akademik daripada semua fakulti, termasuk guru bahasa dan pensyarah yang telah menghadiri Latihan untuk Jurulatih (TOT), memandangkan penglibatan merentas fakulti dilihat sebagai nilai tambah kepada pengalaman pembelajaran pelajar. Selain itu, dicadangkan penglibatan SPRM sebagai Pensyarah Jemputan serta pelaksanaan KIAR secara hibrid dan mass lecture bagi mengoptimumkan sumber pengajaran. Dari aspek pengukuhan program, responden mencadangkan agar pelaksanaan KIAR di bawah FPSC disertakan dengan garis panduan yang jelas, pemantauan berkala, penambahbaikan berterusan berdasarkan maklum balas, serta perancangan awal ke arah mengadakan persidangan peringkat kebangsaan berkaitan KIAR. Cadangan ini selari dengan dapatan Norfazella Mohd Fariz et al. (2026) yang turut menekankan kepentingan autonomi universiti diimbangi dengan garis panduan menyeluruh daripada peringkat kementerian.



Rajah 3. Kesediaan Menyumbang dalam Bentuk Lain Sekiranya Responden Tidak Terlibat Secara Langsung sebagai Pengajar

Tema	Deskripsi Ringkas
Sokongan Pelaksanaan di Bawah FPSC	Majoriti responden bersetuju KIAR diselaraskan sepenuhnya di bawah FPSC bagi memudahkan pengendalian dan mengelakkan kesulitan pentadbiran terdahulu.
Keperluan Tenaga Pengajar dan Beban Kerja	Kebimbangan terhadap kekurangan pensyarah FPSC dan keperluan semakan beban pengajaran oleh TDA; cadangan perkongsian tanggungjawab merentas fakulti.
Penglibatan Menyeluruh dan Penyelarasan	Keperluan kerjasama semua tenaga pengajar merentas fakulti, penglibatan SPRM sebagai pensyarah jemputan, serta pelaksanaan secara hibrid dan mass lecture.

Pengukuhan Program	Cadangan garis panduan jelas, pemantauan berkala, penambahbaikan berterusan berdasarkan maklum balas, dan perancangan awal persidangan kebangsaan berkaitan KIAR.

Rumusan tema pada Jadual 2 menunjukkan bahawa kesediaan tenaga pengajar UKM tidak terhad kepada penerimaan konsep semata-mata, tetapi turut dipengaruhi oleh faktor struktural seperti pengagihan beban kerja dan sokongan governans. Dapatan ini menyokong hujah Mohammed et al. (2026) bahawa keberkesanan pendidikan antirasuah bergantung kepada integrasi menyeluruh antara platform formal, tidak formal, dan informal, serta selari dengan andaian Theory of Planned Behavior (Ajzen, 1991) bahawa kawalan tingkah laku ditanggap (perceived behavioural control) - dalam hal ini, kapasiti dan sumber institusi - memainkan peranan penting dalam menentukan kesediaan sebenar tenaga pengajar untuk melaksanakan tanggungjawab baharu ini.

KESIMPULAN

Kajian ini menunjukkan bahawa kesediaan tenaga pengajar UKM terhadap pengukuhan pelaksanaan KIAR di bawah FPSC dipengaruhi oleh keseimbangan antara penerimaan konseptual terhadap penyelarasan kurikulum MPU dan kapasiti institusi untuk menampungnya. Walaupun terdapat sokongan majoriti terhadap pemusatan governans di bawah FPSC, keberkesanan pelaksanaannya bergantung kepada penambahbaikan struktur sokongan seperti pengagihan beban kerja yang adil, penglibatan merentas fakulti, dan garis panduan tadbir urus yang jelas. Dapatan ini menyumbang kepada wacana reka bentuk kurikulum dan tadbir urus MPU secara lebih luas, serta mencadangkan penerokaan lanjut terhadap model governans kurikulum integriti merentas institusi pengajian tinggi di Malaysia.

PENGHARGAAN

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Daripada Falsafah kepada Amalan: Pengalaman Mereka Bentuk Pembelajaran SULAM Berteraskan Kemanusiaan

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ABSTRAK

Service-Learning Malaysia–University for Society (SULAM) merupakan pendekatan pembelajaran berasaskan pengalaman autentik yang mengintegrasikan hasil pembelajaran kursus dengan keperluan komuniti melalui penglibatan aktif pelajar. Walaupun falsafah dan prinsip pelaksanaannya telah digariskan dalam *Playbook* SULAM Kementerian Pendidikan Tinggi (KPT), mereka bentuk pengalaman pembelajaran yang sistematik, responsif terhadap konteks komuniti dan menyokong penambahbaikan berterusan masih menjadi cabaran kepada pensyarah. Sehubungan itu, kertas ini bertujuan berkongsi bagaimana amalan refleksi menjadi pemangkin kepada penambahbaikan reka bentuk pembelajaran SULAM dalam kursus Fisiologi Haiwan dan Sains Alam Sekitar, yang seterusnya meningkatkan kompetensi pelajar serta menyokong pembangunan penyelidikan dan inovasi pendidikan. Kajian ini menggunakan pendekatan amalan reflektif yang disokong oleh analisis dokumen, pemerhatian pensyarah, soal selidik persepsi pelajar dan refleksi pelajar sepanjang pelaksanaan SULAM. Dapatan menunjukkan bahawa proses refleksi yang dilaksanakan secara berterusan mendorong pembangunan *Module for Animal Physiology Course* SULAM *Execution* (MAPSE) dan SULAM *for Environmental Science Module* (SEM) sebagai panduan pelaksanaan yang lebih sistematik. Penambahbaikan reka bentuk pembelajaran ini memperkukuh kompetensi pelajar dalam melaksanakan projek SULAM, memperluas kolaborasi bersama komuniti dan rakan antarabangsa, serta menjadi asas kepada pembangunan penyelidikan dan inovasi pendidikan. Kertas ini menunjukkan bahawa reka bentuk pembelajaran yang berkembang melalui refleksi berterusan berupaya menterjemahkan falsafah SULAM kepada amalan pembelajaran berteraskan kemanusiaan yang lebih bermakna, lestari dan boleh dijadikan amalan baik untuk diadaptasi dalam pelaksanaan SULAM merentas pelbagai disiplin.

Kata Kunci: SULAM, amalan reflektif, reka bentuk pembelajaran, pembelajaran berteraskan kemanusiaan, kompetensi pelajar.

PENGENALAN

Service-Learning Malaysia–University for Society (SULAM) merupakan pendekatan pembelajaran berasaskan pengalaman yang diperkenalkan oleh Kementerian Pendidikan Tinggi bagi mengintegrasikan hasil pembelajaran kursus dengan keperluan komuniti melalui aktiviti yang dirancang secara sistematik dalam sesuatu kursus (Kementerian Pendidikan Tinggi, 2019). Pendekatan ini menekankan pembelajaran autentik, penglibatan aktif pelajar bersama komuniti, proses refleksi dan penambahbaikan berterusan bagi memastikan pembelajaran memberi manfaat kepada pelajar serta masyarakat (Bringle & Hatcher, 1995; Kementerian Pendidikan Tinggi, 2019).

Pelaksanaan SULAM di institusi pengajian tinggi telah dilaporkan dapat meningkatkan penguasaan pengetahuan, kemahiran profesional, kemahiran insaniah dan tanggungjawab sosial pelajar melalui pengalaman pembelajaran dalam situasi sebenar (Eyler & Giles, 1999; Salam et al., 2019). Walau bagaimanapun, cabaran utama bukan lagi tertumpu kepada pemahaman konsep SULAM, sebaliknya bagaimana mereka bentuk pengalaman pembelajaran yang sistematik, selaras dengan hasil pembelajaran kursus dan responsif terhadap keperluan komuniti. Kajian literatur oleh Jamhari et al. (2024) turut menunjukkan bahawa walaupun pelaksanaan SULAM semakin meluas di institusi pengajian tinggi Malaysia, pendekatan pelaksanaannya masih berbeza antara institusi dan memerlukan kerangka pelaksanaan yang lebih tersusun bagi memastikan pengalaman pembelajaran benar-benar menyokong pencapaian hasil pembelajaran dan pembangunan komuniti.

Berbeza daripada kajian terdahulu yang banyak menumpukan kepada impak pelaksanaan SULAM terhadap pelajar dan komuniti, kertas ini memfokuskan kepada bagaimana amalan refleksi digunakan sebagai mekanisme penambahbaikan reka bentuk pembelajaran yang membawa kepada pembangunan kompetensi pelajar, penyelidikan dan inovasi pendidikan. Fokus ini memberi penekanan kepada proses penambahbaikan reka bentuk pembelajaran sebagai pemangkin kepada kesinambungan pelaksanaan SULAM, dan bukan sekadar menilai hasil pelaksanaannya.

Berdasarkan pengalaman melaksanakan SULAM dalam kursus Fisiologi Haiwan dan Sains Alam Sekitar, penulis mendapati bahawa refleksi selepas setiap kitaran pelaksanaan menjadi pemangkin kepada penambahbaikan reka bentuk pembelajaran. Selaras dengan pandangan Schön (1983) dan Kolb (1984), proses refleksi membolehkan pengalaman pembelajaran dinilai secara kritis untuk menambah baik pelaksanaan pada kitaran berikutnya. Dalam konteks ini, refleksi bukan sahaja memperkukuh reka bentuk pembelajaran, malah mewujudkan kesinambungan melalui pembangunan modul pelaksanaan, inovasi pembelajaran, kolaborasi strategik dan peluasan penglibatan komuniti. Sehubungan itu, kertas ini bertujuan berkongsi bagaimana amalan refleksi menjadi pemangkin kepada penambahbaikan reka bentuk pembelajaran SULAM dalam kursus Fisiologi Haiwan dan Sains Alam Sekitar, yang seterusnya meningkatkan kompetensi pelajar serta menyokong pembangunan penyelidikan dan inovasi pendidikan.

HASIL DAN PERBINCANGAN

2.1 Refleksi sebagai pemangkin penambahbaikan reka bentuk pembelajaran

Dapatan kajian menunjukkan bahawa amalan refleksi yang dilaksanakan secara berterusan sepanjang pelaksanaan SULAM menjadi pemangkin kepada penambahbaikan reka bentuk pembelajaran dalam kursus Fisiologi Haiwan dan Sains Alam Sekitar. Refleksi selepas setiap fasa pelaksanaan membolehkan pensyarah mengenal pasti kekuatan, cabaran dan keperluan baharu yang timbul daripada interaksi pelajar dengan komuniti. Maklumat tersebut seterusnya dimanfaatkan untuk memperkemas strategi pembelajaran, kaedah pelaksanaan, bentuk kolaborasi serta pentaksiran bagi pelaksanaan SULAM pada semester berikutnya.

Proses refleksi ini akhirnya membawa kepada pembangunan dua modul pelaksanaan, iaitu *Module for Animal Physiology Course* SULAM *Execution* (MAPSE) bagi kursus Fisiologi Haiwan dan SULAM *for Environmental Science Module* (SEM) bagi kursus Sains Alam Sekitar. Kedua-dua modul ini menyediakan panduan pelaksanaan yang lebih tersusun dan membantu menyeragamkan pelaksanaan SULAM mengikut hasil pembelajaran serta keperluan setiap kursus.

Penemuan ini sejajar dengan *Service-Learning Malaysia–University for Society* (SULAM) *Playbook* yang meletakkan refleksi sebagai komponen utama dalam menghubungkan pengalaman pembelajaran dengan penambahbaikan berterusan (Kementerian Pendidikan Tinggi, 2019). Dapatan ini juga selari dengan Jamhari et al. (2024) yang menegaskan bahawa pelaksanaan SULAM di institusi pengajian tinggi memerlukan kerangka pelaksanaan yang jelas dan sistematik bagi memastikan pengalaman pembelajaran dapat dilaksanakan secara konsisten. Di samping itu, Wahab (2024) menunjukkan bahawa pengalaman pembelajaran yang disokong oleh refleksi dan penilaian berterusan dapat meningkatkan keberkesanan pelaksanaan SULAM serta pencapaian hasil pembelajaran pelajar.

2.2 Penyesuaian reka bentuk pembelajaran meningkatkan kompetensi pelajar

Dapatan kajian menunjukkan bahawa penambahbaikan reka bentuk pembelajaran melalui MAPSE dan SEM membangunkan kompetensi pelajar dalam melaksanakan projek SULAM secara lebih tersusun dan bermakna.

Bagi kursus Fisiologi Haiwan, penggunaan MAPSE membolehkan pelajar melaksanakan projek SULAM secara lebih berdikari, konsisten dan kreatif kerana setiap fasa pelaksanaan dipandu melalui prosedur yang jelas. Pendekatan ini turut meningkatkan keyakinan pelajar untuk merancang program, membuat keputusan serta berkomunikasi dengan rakan kolaborasi dan komuniti. Pengalaman tersebut menunjukkan bahawa reka bentuk pembelajaran yang sistematik melalui MAPSE bukan sahaja membolehkan pelajar mengaplikasikan pengetahuan dalam konteks komuniti sebenar, malah meningkatkan keyakinan mereka untuk bekerjasama dalam persekitaran rentas budaya dan berkongsi amalan baik di peringkat antarabangsa. Keupayaan ini mencerminkan perkembangan kompetensi profesional, komunikasi dan kolaborasi yang menjadi matlamat utama pelaksanaan SULAM.

Bagi kursus Sains Alam Sekitar, pembangunan SEM menyediakan panduan pelaksanaan yang sistematik bagi membantu pelajar merancang, melaksanakan dan menilai projek SULAM mengikut konteks kursus serta keperluan komuniti. Melalui SEM, pelajar telah melaksanakan pelbagai program bersama komuniti sekolah, FELDA, kumpulan wanita dan kanak-kanak prasekolah. Pengalaman merentasi pelbagai latar komuniti ini meningkatkan keupayaan pelajar menyesuaikan strategi komunikasi dan pelaksanaan aktiviti mengikut kumpulan sasaran, sekali gus memperkukuh kompetensi mereka dalam menghubungkan pengetahuan akademik dengan penyelesaian isu alam sekitar.

Penemuan ini selari dengan Wahab (2024) yang menunjukkan bahawa pelaksanaan SULAM meningkatkan kefahaman pelajar, keyakinan mengaplikasikan ilmu serta penglibatan mereka dalam pembelajaran berasaskan pengalaman. Dapatan ini turut disokong oleh Wahab et al. (2025) yang melaporkan bahawa pembelajaran berasaskan SULAM memperkukuh kemahiran berfikir, komunikasi, penyelesaian masalah, tanggungjawab sosial dan pemindahan pengetahuan melalui penglibatan aktif bersama komuniti.

Secara keseluruhannya, pengalaman pelaksanaan MAPSE dan SEM menunjukkan bahawa kompetensi pelajar berkembang bukan semata-mata melalui penglibatan dalam aktiviti komuniti, tetapi melalui reka bentuk pembelajaran yang disusun secara sistematik dan diperhalusi secara berterusan melalui proses refleksi.

Pendekatan ini membolehkan pelajar menghubungkan pengetahuan disiplin dengan keperluan masyarakat, sekali gus melahirkan graduan yang lebih berdaya saing, berkeyakinan dan bersedia menyumbang kepada komuniti.

2.3 Kesinambungan pelaksanaan SULAM kepada penyelidikan dan inovasi

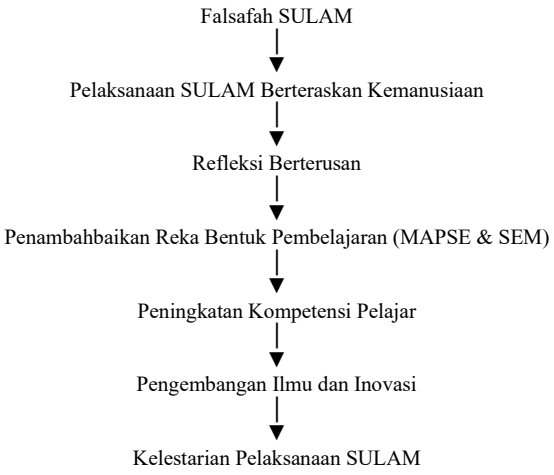
Dapatan kajian menunjukkan bahawa penambahbaikan reka bentuk pembelajaran melalui SULAM bukan sahaja memperkukuh keupayaan pelajar, malah mewujudkan kesinambungan kepada pembangunan penyelidikan dan inovasi pendidikan. Pengalaman yang diperoleh daripada setiap kitaran pelaksanaan menjadi sumber penambahbaikan berterusan yang memperluaskan impak SULAM daripada aktiviti pembelajaran kepada pembangunan ilmu, inovasi dan jaringan kolaborasi.

Bagi kursus Fisiologi Haiwan, penggunaan MAPSE menjadi asas kepada pelaksanaan beberapa program kesihatan komuniti, antaranya *Exclusive Breastfeeding* dan 1000 Hari Pertama Kehidupan. Pengalaman daripada pelaksanaan program ini kemudiannya dikembangkan kepada penyelidikan yang dibiayai melalui Geran Kementerian Pendidikan Tinggi (KPT), seterusnya menghasilkan Modul KASIH sebagai modul intervensi berasaskan penyelidikan. Perkembangan ini menunjukkan bahawa pengalaman pembelajaran melalui SULAM bukan sahaja menyokong pencapaian hasil pembelajaran kursus, malah berpotensi menjadi asas kepada penghasilan penyelidikan yang memberi manfaat kepada komuniti.

Bagi kursus Sains Alam Sekitar, pengalaman pelaksanaan SULAM melalui SEM turut menyumbang kepada pembangunan Bio-D *Fun Game*, iaitu inovasi pendidikan yang menggabungkan dua permainan pendidikan hasil aktiviti SULAM dan dua permainan yang dibangunkan melalui Projek Tahun Akhir (FYP) dengan memberi fokus kepada pemuliharaan biodiversiti. Inovasi ini dirancang untuk diperluaskan melalui program *outreach* yang melibatkan 200 sekolah di seluruh Malaysia sebagai usaha memperluaskan literasi biodiversiti dalam kalangan masyarakat.

Penemuan ini selari dengan Wahab et al. (2025) yang melaporkan bahawa pelaksanaan SULAM yang dirancang secara sistematik bukan sahaja memperkukuh pemindahan pengetahuan kepada komuniti, malah menyokong pembangunan inovasi dan kerjasama yang memberi manfaat kepada pelbagai pihak. Dapatan Wahab (2024) turut menunjukkan bahawa pengalaman pembelajaran berasaskan komuniti mampu menghasilkan impak yang berterusan kepada pelajar, institusi dan komuniti apabila pengalaman tersebut dimanfaatkan untuk penambahbaikan amalan dan pembangunan inisiatif baharu.

Secara keseluruhannya, dapatan ini menunjukkan bahawa proses refleksi yang menyokong penambahbaikan reka bentuk pembelajaran bukan sahaja memperkukuh pelaksanaan SULAM, malah mewujudkan ekosistem pembelajaran yang menghubungkan pengajaran, penyelidikan, inovasi dan pemindahan ilmu kepada komuniti. Kesinambungan ini memperlihatkan bagaimana falsafah SULAM dapat diterjemahkan kepada amalan yang lestari dan berimpak dalam pendidikan tinggi.



Rajah 1 Model Penambahbaikan Reka Bentuk Pembelajaran SULAM Berteraskan Refleksi

KESIMPULAN

Kajian ini menunjukkan bahawa pelaksanaan SULAM yang disokong oleh amalan refleksi berterusan telah menjadi pemangkin kepada penambahbaikan reka bentuk pembelajaran dalam kursus Fisiologi Haiwan dan Sains Alam Sekitar. Proses refleksi membolehkan pembangunan pendekatan yang lebih sistematik melalui MAPSE dan SEM, sekali gus memperkukuh pelaksanaan SULAM dalam pelbagai konteks komuniti. Penambahbaikan reka bentuk pembelajaran ini bukan sahaja membangunkan kompetensi pelajar, malah turut menyumbang kepada penghasilan penyelidikan dan inovasi pendidikan yang memperluaskan impak pembelajaran kepada masyarakat. Dapatan ini menunjukkan bahawa reka bentuk pembelajaran yang berteraskan refleksi berupaya menterjemahkan falsafah SULAM kepada amalan yang lebih bermakna, lestari dan berimpak, serta berpotensi dijadikan rujukan dalam mereka bentuk pelaksanaan SULAM bagi kursus lain di institusi pengajian tinggi.

PENGHARGAAN

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Enhancing Collaborative Learning in UKMFolio through AI-Driven Learning Support: Insights and Recommendations

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ABSTRACT

The increasing integration of Artificial Intelligence (AI) in higher education has created new opportunities for enhancing collaborative learning within Learning Management Systems (LMS). As universities continue to adopt digital learning environments, there is a growing need to transform conventional LMS platforms into more intelligent, adaptive, and human-centered learning ecosystems. This study explores the potential of AI-driven learning support in enhancing collaborative learning within UKMFolio. The study adopts an exploratory qualitative approach involving system walkthrough and feature analysis to identify current limitations in collaborative learning support within the LMS environment. The findings revealed several key limitations, including dependency on manual group management and coordination processes, limited support for monitoring team dynamics and individual participation, limitations in communication flow and engagement support, minimal personalized learning support, and the lack of integrated analytics and predictive support features. To strengthen the relevance and practicality of the proposed improvements, expert insight sessions were conducted with two senior academics experienced in LMS management and AI implementation in higher education. The insights obtained were synthesized to develop AI-driven recommendations aimed at enhancing collaborative learning experiences within UKMFolio. The study contributes towards the ongoing discussion on AI integration in higher education by highlighting opportunities for developing more intelligent and collaborative LMS environments that support human-centered and lifelong learning.

Keywords: Artificial Intelligence in Education, Collaborative Learning, Learning Management System, UKMFolio, Higher Education.

INTRODUCTION

The rapid advancement of AI technologies has significantly influenced the landscape of higher education, particularly in enhancing teaching, learning, and student engagement within digital learning environments (Lytras et al., 2024). LMS such as UKMFolio have become essential platforms in supporting online and blended learning in universities. However, despite the availability of collaborative learning features such as discussion forums, group activities, and online submissions, many LMS platforms still function primarily as content delivery and administrative tools rather than intelligent learning environments that actively support meaningful collaboration and personalised learning experiences (Thangavel, 2024; Veluvali & Surisetti, 2022).

In the context of collaborative learning, students often face challenges such as low engagement in online discussions, delayed feedback, unequal participation among group members, and limited support for personalised learning interactions. Existing LMS platforms generally rely heavily on manual facilitation by lecturers, which may become difficult to sustain in large or diverse learning environments (Asrida, Amanda & Fadilah, 2024). Furthermore, collaborative learning activities within LMS environments may lack intelligent mechanisms to monitor participation, encourage interaction, or provide adaptive support based on students' learning behaviour and needs (Annamalai et al., 2025).

At the same time, recent developments in AI technologies have demonstrated strong potential in transforming digital learning environments through intelligent tutoring, automated feedback, predictive analytics, learning recommendations, and AI-supported communication tools (Kaushica, 2026). Nevertheless, the integration of AI-driven learning support within LMS platforms in

higher education remains limited, particularly in the context of enhancing collaborative learning experiences. In many universities, including within the use of UKMFolio, AI functionalities are not yet systematically integrated to support collaborative engagement, learner interaction, and human-centred learning experiences.

Therefore, there is a need to explore how AI-driven learning support can be utilised to enhance collaborative learning within UKMFolio. This study aims to identify current limitations in collaborative learning support and propose AI-driven recommendations that may contribute towards a more intelligent, engaging, and human-centred LMS environment that supports lifelong learning in higher education.

METHODOLOGY

This study adopts an exploratory qualitative approach to examine the potential of AI-driven learning support in enhancing collaborative learning within UKMFolio. The study focuses on identifying current limitations in collaborative learning support and proposing suitable AI-driven recommendations for future enhancement.

The current limitations of collaborative learning support in UKMFolio were identified through a system walkthrough and feature analysis approach. Existing collaborative learning functionalities within the LMS, such as discussion forums, group activities, communication tools, and learning interaction mechanisms, were systematically reviewed to examine their effectiveness in supporting student engagement and collaborative learning experiences.

The walkthrough process focused on identifying issues related to interaction, participation, feedback support, communication flow, and learner engagement within the existing LMS environment. Observational insights derived from students' use and interaction with UKMFolio in higher education teaching and learning contexts were also considered to support the analysis.

The proposed AI-driven learning support recommendations were developed based on the identified limitations and current trends in AI applications for education. To strengthen the relevance and practicality of the recommendations, expert insight sessions were conducted with two senior academics experienced in LMS management and AI implementation in higher education. The expert review focused on evaluating the feasibility, relevance, and potential contribution of AI-driven features in improving collaborative learning experiences within UKMFolio. Suggestions and insights obtained from the expert session were synthesised to refine the proposed recommendations.

The findings from the system walkthrough, feature analysis, and expert insights were analysed using thematic analysis (Meduri et al., 2025). Emerging themes related to collaborative learning challenges and AI-supported enhancement opportunities were identified and organised into proposed recommendation categories for UKMFolio.

RESULTS AND DISCUSSION

The system walkthrough and feature analysis of UKMFolio revealed several limitations in supporting collaborative learning within the LMS environment. Although UKMFolio provides basic collaborative functionalities such as discussion forums, group assignments, announcements, and communication tools, the platform still relies heavily on conventional LMS structures that primarily support content delivery and course administration rather than intelligent collaborative engagement.

One of the main limitations identified was the dependency on manual group management and coordination processes. Group formation, task distribution, and monitoring of group progress were largely handled outside the LMS environment using external communication platforms such as WhatsApp, Telegram, or Google Workspace. This indicates that the existing collaborative features within UKMFolio may not sufficiently support seamless collaboration workflows among students.

In addition, limited support for monitoring team dynamics and individual participation was also observed. Lecturers may face difficulties in tracking student contributions, identifying inactive members, and monitoring overall collaborative engagement throughout group activities. The absence of intelligent monitoring mechanisms may reduce the effectiveness of collaborative learning management, particularly for large classes and blended learning environments.

The walkthrough analysis also identified limitations in communication flow and engagement support within collaborative activities. Existing discussion tools were found to function mainly as static communication spaces without adaptive or intelligent support mechanisms that could encourage active participation, provide timely feedback, or facilitate meaningful interaction among learners. As a result, online discussions may become passive and less engaging over time.

Furthermore, the current LMS environment provides minimal personalised learning support related to collaborative activities. Students with different learning preferences, participation patterns, or levels of engagement receive similar learning experiences without adaptive recommendations or intelligent assistance. The absence of AI-driven learning support may limit opportunities for personalised collaborative learning experiences and proactive learning intervention.

Another limitation identified relates to the lack of integrated analytics and predictive support features. Current collaborative learning activities in UKMFolio

provide limited visibility into learning patterns, participation trends, or potential collaboration risks. Without intelligent analytics support, lecturers may face challenges in identifying students who require additional guidance or intervention during collaborative tasks.

Figure 1 Current Limitations in Collaborative Learning Support within UKMFolio

The expert insight sessions generally supported the findings obtained from the system walkthrough and feature analysis of UKMFolio. Both experts agreed that current LMS environments still provide limited intelligent support for collaborative learning activities, particularly in areas related to group coordination, participation monitoring, communication flow, personalized learning support, and predictive analytics. The experts highlighted that many collaborative learning processes continue to rely heavily on manual coordination and monitoring by lecturers, which may become difficult to manage in large or diverse learning environments.

The experts further emphasized that AI-driven learning support has strong potential to improve collaborative learning experiences within UKMFolio. Suggested AI-supported enhancements include intelligent group formation, participation tracking, automated reminders, discussion summarization, personalized feedback, adaptive learning support, early warning alerts, and predictive analytics features. The experts also highlighted the importance of ensuring that AI technologies function as supportive and human-centered learning tools that complement lecturer facilitation and encourage more active student engagement within collaborative learning environments.

Based on the findings from the system walkthrough, feature analysis, and expert insight sessions, several AI-driven enhancements were identified as potential approaches to improve collaborative learning support within UKMFolio. The proposed recommendations focus on strengthening group coordination, participation monitoring, communication flow, personalized learning support, and predictive learning analytics to support more engaging and human-centered collaborative learning experiences in higher education.

Table 1. Recommended AI-Driven Enhancements for Collaborative Learning in UKMFolio

AI-Driven Enhancement	Key Purpose	Example of Support Features
Intelligent Group Formation	Improve group balance and coordination	AI-assisted grouping based on participation, skills, or learning progress
Participation Monitoring	Support lecturers in monitoring collaborative contribution	Participation tracking, inactive student alerts, group activity summaries
Communication and Engagement Support	Encourage more active interaction and discussion	Automated discussion prompts, reply reminders, unanswered question detection
Personalized Collaborative Learning Support	Provide adaptive and learner-centered support	Personalized feedback, resource recommendations, adaptive reminders
Analytics Dashboard and Predictive Support	Enable proactive intervention and collaborative monitoring	Group progress dashboards, predictive alerts, participation analytics
Automated Feedback and Notification Support	Improve communication flow and learning responsiveness	Real-time notifications, automated progress updates, feedback suggestions

CONCLUSION

This study explored the potential of AI-driven learning support in enhancing collaborative learning within UKMFolio. The findings from the system walkthrough and feature analysis revealed several limitations in the current collaborative learning support environment. These include dependency on manual group management and coordination processes, limited support for monitoring team dynamics and individual participation, limitations in communication flow and engagement support, minimal personalized learning support, and the lack of integrated analytics and predictive support features. The identified limitations indicate that while UKMFolio supports the operational aspects of collaborative learning, there are opportunities to further enhance the LMS environment through more intelligent and adaptive learning support mechanisms.

The expert insight sessions further supported these findings by highlighting the importance of integrating AI-supported features to strengthen collaborative learning experiences within UKMFolio. The experts emphasized that AI-driven support may help improve group coordination, participation monitoring, communication flow, personalized learning support, and early intervention through predictive analytics. Suggested enhancements include intelligent group formation,

participation tracking, automated reminders, personalized feedback, discussion summarization, and early warning mechanisms for inactive students. The experts also highlighted the importance of ensuring that AI technologies function as supportive and human-centered tools that complement lecturer facilitation and encourage more active student engagement within collaborative learning environments.

Overall, the study successfully achieved its objective of identifying current limitations in collaborative learning support within UKMFolio and exploring the potential of AI-driven approaches to improve collaborative learning experiences in higher education LMS environments. From a theoretical perspective, this study contributes to the growing discussion on the integration of Artificial Intelligence in collaborative learning and digital learning environments, particularly within the context of higher education LMS. The study also extends understanding of how AI-driven support may contribute towards more human-centered and adaptive collaborative learning experiences. From a practical perspective, the findings may provide useful insights for LMS administrators, higher education institutions, and system developers in planning future AI integration strategies and collaborative learning enhancement initiatives for UKMFolio and similar LMS platforms.

However, this study has several limitations. First, the study primarily relied on system walkthrough and feature analysis, which may not fully capture the actual experiences and perceptions of students and lecturers during collaborative learning activities. Second, the study is exploratory in nature and focused specifically on the UKMFolio environment, which may limit the generalizability of the findings to other institutional contexts.

Future studies may extend this work by involving larger groups of stakeholders, including students, lecturers, and LMS administrators, to obtain broader perspectives on AI-driven collaborative learning support. Future research may also explore the development and evaluation of actual AI-supported features or intelligent collaborative learning prototypes within LMS environments to examine their effectiveness in improving engagement, participation, and learning outcomes.

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Beyond One-Size-Fits-All: A Student-Centred Multidisciplinary Curriculum Design

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ABSTRACT

Twenty-first century higher education is increasingly expected to move beyond fixed, discipline-bound curricula toward models that cultivate learner autonomy, interdisciplinary competence, and readiness for unpredictable career trajectories. This paper reports on a student-centred multidisciplinary curriculum design of the Bachelor of Science in Liberal Studies (SmSn Citra) programme at Faculty of Liberal Science, UKM. Grounded in the tenets of liberal education — a broad multidisciplinary knowledge base, a general education core, and a set of transferable competencies — the programme is distinctive in being fully student-constructed in which each student builds his/her own area of concentration across four core knowledge domains — Science, Technology, Humanities, and Social Science. To examine the curriculum's viability, the study maps students' concentration choices against the National Education Code (NEC 2020) and QS World University Rankings by subject across the four core knowledge domains to test how curricula can be reorganised around learner agency without compromising academic rigour. The findings indicate that most students opted for the Social Science domain (411), followed by Humanities (192), while Technology and Science attracted far fewer students (90 and 84, respectively), suggesting that even under a fully flexible, student-constructed curriculum, students' concentration choices cluster unevenly across disciplinary domains rather than distributing evenly across the four core knowledge areas. This paper contributes a transferable reference point for institutions pursuing similar liberal-education reforms.

Keywords: Flexible curriculum, Multidisciplinary education, Student-centered learning, Concentration curriculum, Lifelong learning.

INTRODUCTION

Liberal education is commonly understood to comprise three interlocking elements: an interdisciplinary field of study spanning the social sciences, humanities, and sciences; a general education core of compulsory courses; and a suite of transferable skills encompassing written and oral communication, analysis and synthesis, problem-solving, quantitative and information literacy, critical thinking, creativity, ethics, civic and global competence, and holistic student development (Godwin, 2015). A more integrated and interdisciplinary approach — one that foregrounds intellectual engagement, ethical reasoning, and real-world application — has become pivotal for adapting liberal education to the pressures of globalisation, digital transformation, and lifelong learning (Fox, 2016).

Two converging trends motivate this shift. First, the rapid transformations associated with the Fourth Industrial Revolution (4IR) and broader global curriculum transformations have redefined the skills, knowledge, and competencies expected of graduates. Second, there is a growing global emphasis on learner-centred, flexible education models that align with personalised pathways and dynamic career trajectories. Yet traditional higher education structures continue to rely on rigid, discipline-based curricula that constrain student agency and limit cross-disciplinary exploration, leaving a gap between institutional design and the competencies the future workforce demands.

This study examines how flexible, multidisciplinary curriculum design — specifically within the Bachelor of Science in Liberal Studies (SmSn Citra) programme offered by the Faculty of Liberal Science, UKM — can accommodate diverse learning needs, enhance learner autonomy, and prepare students for complex future challenges. In doing so, it accentuates on positioning student-driven concentration design as a concrete mechanism through which multidisciplinarity and human-centredness are operationalised in curriculum practice, rather than remaining aspirational principles.

Personalised and Flexible Curriculum Design

The literature on personalised learning, self-directed curricula, and student agency underscores the value of allowing learners to shape their own academic trajectories rather than progressing through a single, predetermined

sequence of courses. This is complemented by a growing body of work on the importance of multidisciplinary education in addressing complex global problems — challenges such as sustainability, digital transformation, and social inequality rarely respect disciplinary boundaries, and curricula that mirror this reality are better positioned to prepare graduates for them. A further strand of literature highlights the benefits of integrating industry, community, and inter-institutional learning, arguing that curricular flexibility is strengthened when it extends beyond the walls of a single institution to include experiential and applied learning opportunities.

Features of the Programme

The SmSn Citra programme operationalises these principles through three central design features. First, it offers flexible learning pathways that allow students to curate courses across faculties, institutions, industries, and international organisations — a principle the programme terms its "Juke Box" approach — rather than confining them to a single academic unit. Second, it integrates liberal education, deliberately balancing breadth, depth, and flexibility so that students acquire both a wide-ranging knowledge base and sufficient depth within chosen areas of concentration. Third, it offers a Work-Based Learning experience through a 2u2i/3u1i model – two-to-three years on campus/one-to-two years in industry (companies/government agencies/community organisations) and is explicitly inclusive of diverse learner profiles, including students with disabilities.

Student Autonomy and Customisation

Central to the programme is a set of mechanisms that allow students to design individualised learning plans. Rather than being assigned a fixed track, students actively participate in constructing their academic pathway, selecting combinations of courses that reflect their interests, career aspirations, and evolving competency goals. This autonomy is not unstructured: it is scaffolded by a dedicated mentor assigned to each student, the Student Academic Advisory Committee and the SmSn Citra Programme Committee, together with curriculum mapping tools that help students make informed choices while still meeting programme-level learning outcomes. This governance structure allows the programme to remain genuinely student-driven while safeguarding academic coherence and rigour.

Curriculum Mapping and Modular Design

The programme is built on a modular structure that facilitates multidisciplinary combinations, allowing courses from different fields to be assembled into coherent, individualised study plans. These modules are competency-based, aligned with industry and societal needs, so that the flexibility afforded to students does not come at the expense of relevance to graduate employability and workforce demands.

RESULTS AND DISCUSSION

To examine the viability and positioning of this multidisciplinary design, the study maps students' subject preferences within the SmSn Citra programme against the National Education Code (NEC 2020) and QS World University Rankings by Subject, organised according to four core knowledge domains: Science, Social Science, Technology, and Humanities. This mapping exercise serves two purposes: it situates student-selected learning pathways within globally benchmarked disciplinary standards, and it provides a diagnostic tool for identifying which clusters students gravitate toward, informing future curriculum planning and resource allocation.

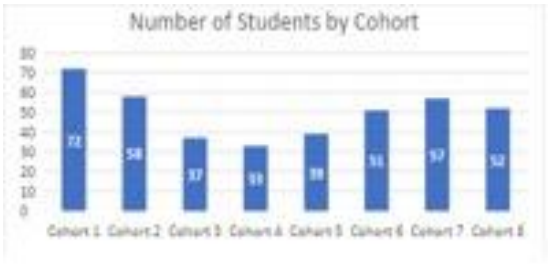

Figure 1 Number of Students by Cohort

Figure 1 shows the distribution of students by cohort, indicating variation in the number of students across the eight cohorts. Cohort 1 recorded the highest number of students, with 72 students, followed by Cohort 2 (58 students) and Cohort 7 (57 students). Meanwhile, Cohort 8 and Cohort 6 comprised 52 and 51 students, respectively. The number of students was lower in Cohort 5 (39 students) and Cohort 3 (37 students), while Cohort 4 recorded the smallest number, with 33 students. Overall, the number of students across the cohorts ranged from 33 to 72 students.

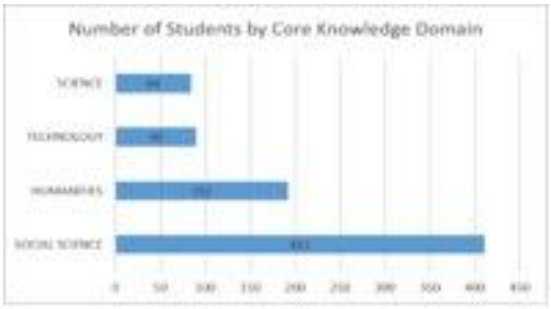

Figure 2 Number of Students by Core Knowledge Domains

Figure 2 shows the distribution of students' area of concentration across four core knowledge domains, where the majority of students opted for the Social Science, comprising 411 students. This was followed by the Humanities domain, with 192 students. In comparison, the Technology and Science domains recorded considerably lower numbers, with 90 and 84 students, respectively.

CONCLUSION

The SmSn Citra programme demonstrates a viable model for moving beyond one-size-fits-all education by fostering flexible, multidisciplinary, and experiential learning pathways that are constructed by, rather than merely offered to, students. Through alignment with national and global competency-based frameworks, and through mentor- and committee-supported student agency, the programme equips students with the autonomy, adaptability, and interdisciplinary competencies required for unpredictable future careers. In placing learner-constructed concentrations at the centre of curriculum design while embedding inclusivity, cross-institutional collaboration, and industry/community engagement, the SmSn Citra model offers a concrete, transferable illustration of multidisciplinary, human-centred education for lifelong learning and a reference point for institutions seeking to reform rigid, discipline-bound curricula into more responsive, learner-centred models.

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Menterjemah Penumpuan Pendidikan Khas dan Sukan Rekreasi melalui Projek *Capstone* dalam *Work-Based Learning* (WBL) di PERKASA UKM

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ABSTRAK

Program Sarjana Muda Sains Citra (SmSn Citra) memberi ruang kepada pelajar menggabungkan dua bidang penumpuan dan menterjemahkannya melalui projek *capstone* semasa *Work-Based Learning* (WBL). Artikel ini menghuraikan pengalaman sebenar seorang pelajar yang menjalani WBL di Pusat Pemerkasaan Remaja (PERKASA), UKM dengan mengintegrasikan Pendidikan Khas dan Sukan Rekreasi dalam program sukan rekreasi inklusif untuk remaja tipikal dan Murid Berkeperluan Khas (MBK) daripada komuniti Program Perumahan Rakyat (PPR). Seramai 80 peserta, termasuk lima MBK, terlibat dalam futsal kain pelikat, boling kelapa dan bom air yang diubah suai mengikut keperluan peserta. Data pra dan pasca serta temu bual berfokus digunakan sebagai maklum balas terhadap pelaksanaan program. Kesemua enam indikator menunjukkan kecenderungan peningkatan, khususnya pemahaman pendidikan inklusif dan kepercayaan terhadap potensi diri. Refleksi pelajar yang dibincangkan bersama pensyarah memperlihatkan bagaimana keputusan lapangan, adaptasi aktiviti dan interaksi dengan peserta membantu pelajar menghubungkan teori dengan amalan serta membina keyakinan dan identiti profesional. Pengalaman ini menunjukkan peranan projek capstone sebagai ruang translasi ilmu interdisiplin kepada amalan komuniti yang autentik dan responsif.

Kata Kunci: pendidikan khas, sukan rekreasi, pendidikan inklusif, projek *capstone*, *work-based learning*

PENGENALAN

Pendidikan inklusif bukan sekadar menempatkan individu dengan keupayaan berbeza dalam ruang yang sama, tetapi menyediakan peluang untuk berinteraksi, membina hubungan rakan sebaya dan merasai penerimaan sebagai sebahagian daripada kumpulan (Koster et al., 2009). Sukan dan rekreasi boleh menjadi ruang yang sesuai untuk tujuan tersebut kerana aktiviti bersama mewujudkan peluang kerjasama dan interaksi sosial. Namun, penyertaan sahaja tidak menjamin pengalaman yang inklusif. Hasil yang bermakna bergantung pada reka bentuk aktiviti, sokongan fasilitator, hubungan rakan sebaya dan pengubahsuaian persekitaran mengikut keperluan peserta (Grandisson et al., 2012; Holt et al., 2017).

Dalam konteks ini, seorang pelajar SmSn Citra yang menjalani WBL di Pusat Pemerkasaan Remaja (PERKASA), UKM telah melihat peluang untuk menggabungkan penumpuan Pendidikan Khas dan Sukan Rekreasi melalui projek *capstone*. PERKASA melaksanakan program pembangunan remaja dalam komuniti Program Perumahan Rakyat (PPR) di bawah Program PERMATA Remaja, Kementerian Pendidikan Malaysia (KPM). Berdasarkan pemerhatian semasa WBL, pelajar mendapati aktiviti sukan dan rekreasi boleh diperkukuh sebagai medium interaksi antara remaja tipikal dengan Murid Berkeperluan Pendidikan Khas (MBK). Idea tersebut diterjemahkan kepada program sukan rekreasi inklusif yang memberi perhatian kepada penyertaan, keselamatan, kerjasama dan penerimaan sosial.

Artikel ini berasaskan pengalaman sebenar pelajar semasa mereka bentuk, melaksanakan dan menilai projek *capstone*, disokong oleh rekod pelaksanaan, maklum balas peserta dan refleksi yang dibincangkan bersama pensyarah. Tujuannya ialah menghuraikan bagaimana dua penumpuan diterjemahkan kepada amalan lapangan serta bagaimana proses tersebut membentuk kefahaman dan perkembangan profesional pelajar.

HASIL DAN PERBINCANGAN

Menterjemah dua penumpuan kepada program sukan rekreasi inklusif

Penumpuan Pendidikan Khas membimbing pelajar melihat inklusiviti dari sudut akses, maruah dan penyertaan bermakna. Selaras dengan Model Sosial Ketidakupayaan, perhatian diberikan kepada halangan

yang boleh diwujudkan oleh arahan, ruang, peralatan, peraturan dan amalan sosial, bukannya meletakkan keterbatasan pada individu semata-mata (Oliver, 2013). Penumpuan Sukan Rekreasi pula menyediakan asas untuk memilih aktiviti, mengurus keselamatan, mengubah suai peraturan dan mengekalkan unsur keseronokan. Gabungan kedua-duanya membolehkan aktiviti direka sebagai ruang kerjasama dan hubungan antara peserta. Pembentukan kumpulan bercampur serta matlamat bersama turut selari dengan prinsip hubungan antara kumpulan yang menyokong pengurangan prejudis (Pettigrew & Tropp, 2006).

Penterjemahan dua penumpuan berlaku melalui empat keputusan praktikal, iaitu cara arahan diberikan, bentuk adaptasi, pembentukan kumpulan dan fokus penilaian. Jadual 1 di bawah menunjukkan bagaimana pengetahuan Pendidikan Khas dan Sukan Rekreasi saling melengkapi tanpa menjadikan satu bidang sekadar tambahan kepada bidang yang lain.

Jadual 1. Aplikasi gabungan penumpuan dalam projek

Komponen	Aplikasi gabungan penumpuan
Arahan	Pendidikan Khas: bahasa mudah, demonstrasi dan pengulangan. Sukan Rekreasi: teknik dan urutan permainan.
Adaptasi	Pendidikan Khas: sokongan mengikut keperluan. Sukan Rekreasi: pelarasan peraturan, alat dan cabaran.
Kumpulan	Pendidikan Khas: penyertaan setara. Sukan Rekreasi: kerjasama, peranan dan dinamika pasukan.
Penilaian	Pendidikan Khas: akses dan penerimaan. Sukan Rekreasi: penglibatan, kemahiran dan keselamatan.

Pelaksanaan dan penilaian projek

Projek dilaksanakan melalui lima fasa: reka bentuk program, pelaksanaan aktiviti, pengumpulan data pra dan pasca, temu bual berfokus dan refleksi selepas program. Seramai 80 peserta terlibat, termasuk lima MBK. Kesemua peserta terlibat secara aktif dalam aktiviti sukan rekreasi adaptif yang merangkumi permainan futsal kain pelikat, boling kelapa, dan bom air. Setiap aktiviti diubah suai dari segi arahan, peraturan, tahap cabaran dan peranan peserta supaya penglibatan dapat disesuaikan dengan keupayaan yang berbeza. Gambar-gambar aktiviti dikongsikan dalam Rajah 1, Rajah 2 dan Rajah 3.

Soal selidik diedarkan bagi pengumpulan data kuantitatif pra dan pasca program. Soal selidik menggunakan skala Likert bertujuan mengukur tiga domain utama iaitu (1) penglibatan remaja, (2) pendidikan inklusif sebagai medium interaksi sosial, dan (3) pembangunan diri. Bagaimanapun, bilangan respons soal selidik yang dikumpulkan adalah kurang daripada 80 orang ekoran kesukaran peserta untuk mengisi borang tersebut secara bertulis, di mana mereka didapati lebih cenderung untuk berkongsi pandangan secara lisan. Bagi mengatasi kekangan tersebut dan menyokong data kuantitatif, data kualitatif dikumpul melalui kaedah temu bual kumpulan fokus (FGD). Pendekatan berkumpulan ini diaplikasikan bagi mengelakkan rasa segan dalam kalangan informan, sekali gus membolehkan mereka bercerita dan mengekspresikan pengalaman secara santai. Skor pra dan pasca dihuraikan secara deskriptif, manakala respons temu bual digunakan untuk memahami pengalaman peserta. Persetujuan peserta dan penjaga, kerahsiaan identiti serta keselamatan semasa aktiviti turut diberi perhatian sepanjang pelaksanaan.

Rajah 1. Taklimat dan pengurusan peserta semasa aktiviti

Rajah 2. Penglibatan peserta dalam aktiviti rekreasi berkumpulan

Rajah 3. Futsal kain pelikat sebagai salah satu aktiviti sukan rekreasi adaptif

Dapatan soal selidik dan temubual

Kesemua enam indikator menunjukkan peningkatan deskriptif dalam skor min: keyakinan berinteraksi secara sosial (3.73 kepada 4.20), kepercayaan terhadap potensi diri (3.66 kepada 4.20), penghormatan terhadap perbezaan individu (4.13 kepada 4.40), pemahaman pendidikan inklusif (3.86 kepada 4.46), minat untuk melibatkan diri (4.00 kepada 4.20) dan kesedaran

tanggungjawab sosial (4.06 kepada 4.26). Perubahan terbesar ialah pada pemahaman pendidikan inklusif (Delta=0.60) dan kepercayaan terhadap potensi diri (Delta=0.54).

Temu bual memberikan konteks kepada perubahan skor. Peserta menggambarkan aktiviti sebagai peluang menguasai kemahiran, mengisi masa secara bermanfaat dan meningkatkan keberanian untuk berinteraksi. Pernyataan bahawa "tiada sesiapa pun yang rasa terpinggir" menunjukkan pengalaman penerimaan dalam sesi tertentu, manakala ungkapan "lebih berani nak tonjolkan diri" menggambarkan keyakinan subjektif peserta. Petikan ini selari dengan dimensi sosial inklusif yang menekankan interaksi, penerimaan dan hubungan rakan sebaya (Koster et al., 2009).

Refleksi pengalaman WBL dan pembentukan identiti profesional

Dalam sesi refleksi bersama pensyarah, pelajar menyedari bahawa kedua-dua penumpuan yang pada awal pengajian dipelajari secara berasingan sebenarnya saling melengkapi ketika berhadapan dengan situasi sebenar. Pendidikan Khas menjadi asas untuk memikirkan akses, komunikasi, maruah dan penyertaan, manakala Sukan Rekreasi menyediakan struktur aktiviti yang perlu disesuaikan supaya selamat, menyeronokkan dan memberi peluang kejayaan kepada semua. Proses menghubungkan pengalaman tempat kerja dengan konsep akademik inilah yang memberi nilai pendidikan kepada WBL (Billett, 2009).

Satu peristiwa semasa futsal kain pelikat menjadi titik refleksi penting untuk pelajar. Aktiviti yang pada asalnya direka bentuk untuk menghadkan pergerakan remaja tipikal demi mengimbangkan jurang fizikal dengan remaja MBK telah mencetuskan dinamika di luar jangkaan. Salah seorang peserta MBK dengan masalah pembelajaran lambat telah menunjukkan tanda-tanda keresahan melampau (*sensory overload*) akibat sorakan terlalu kuat dan corak permainan yang menjadi agresif. Peserta tersebut mula memencilkan diri di sudut gelanggan dan enggan berkomunikasi, manakala beberapa remaja tipikal mula berasa serba salah dan pasif kerana bimbang akan keselamatan rakan mereka. Situasi itu menuntut intervensi segera yang merangkumi aspek tenikal dan pertimbangan peribadi. Catatan refleksi pelajar menyatakan:

> "Saya menghentikan permainan seketika untuk mengubah suai peraturan (modifikasi struktur). Peraturan baharu diperkenalkan: bola tidak boleh disepak tinggi, dan sorakan hanya dibenarkan dalam bentuk tepukan tangan tanpa jeritan kuat demi mengurangkan stimulasi audio negatif dan mengganggu peserta lain. Selain itu, saya juga menggunakan komunikasi yang berbeza, saya mendekati peserta MBK tersebut menggunakan pendekatan komunikasi visual dan intonasi suara yang rendah serta tenang (rendah stimulasi). Seterusnya, saya menukar peranan beliau daripada pemain aktif kepada peniup wisel pengadil. Langkah ini memastikan aspek keselamatan emosi beliau terjaga tanpa mengetepikan penyertaan aktifnya dalam kumpulan."

Keputusan spontan ini mengekalkan penyertaan tanpa mengabaikan keselamatan emosi. Ketika dibincangkan semula bersama pensyarah, pelajar dapat menjelaskan bahawa adaptasi bukan bermaksud mengecualikan peserta daripada aktiviti, tetapi mengubah persekitaran dan peranan supaya penyertaan kekal bermakna.

Pengalaman tersebut turut membina keyakinan berkomunikasi dengan peserta berkeupayaan berbeza, mengurus risiko dan masa, menyelaras fasilitator, menerima maklum balas mentor serta mengubah rancangan apabila keadaan lapangan tidak seperti dijangka. Refleksi menunjukkan peralihan daripada pelajar yang melaksanakan arahan kepada pengamal baharu yang mampu membuat keputusan, menerangkan rasionalnya dan menilai implikasi tindakan. Perkembangan ini berkait dengan pembentukan identiti profesional melalui penyelarasan antara pengetahuan, nilai diri dan tuntutan amalan (Trede et al., 2012).

Batasan pengalaman dan penambahbaikan

Pengalaman ini terikat pada satu organisasi dan satu konteks komuniti, dengan tempoh intervensi yang terhad, respons soal selidik yang tidak lengkap, ketiadaan kumpulan perbandingan dan tiada penilaian susulan. Peranan pelajar sebagai perancang, fasilitator dan penilai juga boleh mempengaruhi pemerhatian serta respons peserta. Justeru, dapatan perlu dibaca sebagai bukti awal daripada sebuah projek *capstone*. Pada masa hadapan, pengalaman ini boleh dikembangkan kepada Modul Sukan Rekreasi Inklusif PERMATA Remaja yang mengandungi panduan adaptasi, keselamatan, pembentukan kumpulan dan senarai semak fasilitator, serta dinilai melalui pemerhatian berstruktur dan penglibatan bersama remaja, MBK, penjaga dan mentor.

KESIMPULAN

Projek *capstone* ini menunjukkan bahawa translasi ilmu dalam WBL berlaku apabila pengetahuan akademik digunakan untuk membuat keputusan terhadap masalah sebenar. Pendidikan Khas membantu pelajar mengenal pasti halangan dan menyediakan sokongan yang sesuai, manakala Sukan Rekreasi menyediakan medium aktiviti yang boleh diubah suai untuk menggalakkan kerjasama dan penyertaan. Dapatan peserta menunjukkan kecenderungan positif terhadap keyakinan, pemahaman inklusiviti dan penglibatan. Namun, pembelajaran paling bermakna bagi pelajar muncul melalui pengalaman mengurus situasi tidak dijangka, menilai semula tindakannya dan membincangkan pengalaman tersebut bersama pensyarah. Refleksi ini memperlihatkan bagaimana projek *capstone* boleh menjadi jambatan antara dua bidang penumpuan, konteks kerja dan pembentukan identiti profesional. Dalam erti kata lain, WBL bukan sekadar tempat mengaplikasikan teori, tetapi ruang untuk belajar membuat pertimbangan yang responsif, beretika dan relevan dengan komuniti.

PENGHARGAAN

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Faktor Sosial, Politik dan Ekonomi yang Mempengaruhi Tingkah Laku Rasuah dalam Pendidikan di Malaysia

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ABSTRAK

Kajian ini membincangkan fenomena rasuah dalam sektor pendidikan di Malaysia yang menjadi ancaman serius terhadap integriti institusi, kualiti penyampaian, serta kepercayaan masyarakat. Permasalahan kajian berpusat pada ketiadaan keberkesanan dasar dan penguatkuasaan sedia ada apabila tingkah laku rasuah masih berlaku secara berterusan disebabkan dorongan pelbagai faktor sosial, politik, dan ekonomi. Sehubungan itu, objektif utama kajian ini adalah untuk mengenal pasti serta menganalisis secara mendalam faktor-faktor sosiopolitik dan ekonomi yang mempengaruhi tingkah laku rasuah tersebut. Metodologi yang digunakan menerapkan pendekatan kualitatif menerusi kaedah kajian kepustakaan dengan menganalisis secara kritis sumber sekunder seperti artikel jurnal, dokumen dasar, dan laporan institusi berkaitan. Dapatan kajian menunjukkan bahawa kelemahan integriti, budaya materialistik, tekanan ekonomi, campur tangan politik, serta ketidakberkesanan tadbir urus merupakan pendorong utama yang menjejaskan ketelusan dan kredibiliti sistem pendidikan negara. Kajian ini memberikan sumbangan penting dari segi teoretikal dan praktikal dalam membantu pembuat dasar merangka strategi pencegahan rasuah yang lebih komprehensif. Penemuan ini mencadangkan agar pengukuhan tadbir urus dan pembudayaan nilai etika diperkasakan secara berterusan demi menjamin kelestarian sektor pendidikan di Malaysia.

Kata kunci: Rasuah; Faktor sosial, Faktor ekonomi, Faktor politik, Tadbir urus.

PENGENALAN

Rasuah merupakan penyalahgunaan kuasa, jawatan atau amanah yang diberikan untuk memperoleh kepentingan peribadi dan telah lama diiktiraf sebagai ancaman utama terhadap integriti, tadbir urus serta pembangunan mampan sesebuah negara (Nur Syakiran Akmal; Md Zawawi, 2004). Dalam konteks akademik, rasuah lazimnya ditakrifkan sebagai penyalahgunaan jawatan awam atau kedudukan yang diamanahkan bagi memperoleh manfaat peribadi melalui amalan seperti suapan, penyelewengan, penyalahgunaan kuasa, kronisme dan konflik kepentingan (Transparency International, 2024). Dalam sektor pendidikan, tingkah laku rasuah boleh berlaku dalam pelbagai bentuk seperti penyalahgunaan peruntukan kewangan, manipulasi proses perolehan, penyelewengan pengurusan institusi, amalan pilih kasih dalam pelantikan dan kenaikan pangkat, penyalahgunaan kuasa dalam pentadbiran serta ketidakadilan dalam urusan akademik.

Fenomena ini bukan sahaja menjejaskan integriti institusi pendidikan, malah menghakis kepercayaan masyarakat terhadap sistem pendidikan negara. Walaupun Malaysia telah memperkukuh kerangka perundangan melalui Akta Suruhanjaya Pencegahan Rasuah Malaysia (SPRM) 2009 serta memperkenalkan pelbagai inisiatif pemerkasaan integriti dalam sektor awam, isu rasuah masih berterusan dan melibatkan pelbagai sektor termasuk pendidikan. Keadaan ini turut tercermin dalam kedudukan Malaysia dalam Indeks Persepsi Rasuah yang meletakkan Malaysia di kedudukan ke-57 daripada 180 buah negara dengan skor 50 daripada 100 pada tahun 2023 (Transparency International, 2024). Di samping itu, peningkatan statistik tangkapan dan pertuduhan yang direkodkan oleh pihak berkuasa dalam tempoh beberapa tahun kebelakangan ini menunjukkan bahawa rasuah bukan sekadar berpunca daripada kelemahan penguatkuasaan, bahkan dipengaruhi oleh faktor sosial, politik dan ekonomi yang saling berkait.

Dalam sektor pendidikan, tingkah laku rasuah tidak berlaku secara bersendirian, sebaliknya dipengaruhi oleh

persekitaran sosial, budaya organisasi, struktur pentadbiran dan tekanan ekonomi yang membentuk kecenderungan individu untuk terlibat dalam perlakuan tidak beretika. Faktor sosial seperti kemerosotan nilai integriti, budaya, materialistik, normalisasi amalan penyalahgunaan kuasa dan pengaruh rakan sebaya boleh meningkatkan penerimaan terhadap perlakuan rasuah. Dari sudut ekonomi pula, tekanan kewangan, ketidakseimbangan agihan sumber, persaingan mendapatkan peluang serta insentif material yang tinggi boleh mendorong individu menyalahgunakan kuasa yang dimiliki. Sementara itu, faktor politik seperti campur tangan pihak berkepentingan, amalan patronage, kelemahan tadbir urus, ketelusan yang rendah dan akauntabiliti yang lemah turut mewujudkan persekitaran yang kondusif kepada berlakunya tingkah laku rasuah dalam institusi pendidikan.

Kajian terdahulu banyak membincangkan implikasi rasuah terhadap pembangunan ekonomi, sosial dan politik. Walau bagaimanapun, kajian yang meneliti secara khusus bagaimana faktor sosial, politik dan ekonomi mempengaruhi tingkah laku rasuah dalam sektor pendidikan masih terhad. Kebanyakan penyelidikan lebih memfokuskan kepada aspek penguatkuasaan undang-undang atau keberkesanan dasar antirasuah, sedangkan tingkah laku rasuah merupakan hasil interaksi pelbagai faktor struktur dan persekitaran (Enida Daud et al., 2019). Perspektif ini selaras dengan Formula Klitgaard yang menjelaskan bahawa rasuah berlaku apabila monopoli kuasa dan budi bicara yang tinggi tidak diseimbangkan dengan mekanisme akauntabiliti yang berkesan (Klitgaard, 1988). Oleh itu, usaha memahami tingkah laku rasuah memerlukan penelitian terhadap faktor-faktor sosial, politik dan ekonomi yang membentuk kecenderungan individu serta organisasi untuk melakukan penyalahgunaan kuasa.

Sehubungan itu, artikel ini bertujuan mengkaji faktor-faktor sosial, politik dan ekonomi yang mempengaruhi tingkah laku rasuah dalam sektor pendidikan di Malaysia. Penelitian ini diharapkan dapat memberikan pemahaman yang lebih komprehensif mengenai faktor-faktor yang mendorong berlakunya rasuah dalam institusi pendidikan, di samping menyumbang kepada pembangunan strategi pencegahan yang lebih holistik melalui pengukuhan integriti, tadbir urus yang telus, akauntabiliti institusi dan pembudayaan nilai etika dalam sistem pendidikan negara.

HASIL DAN PERBINCANGAN

i. Faktor Sosial

Dari perspektif sosial, tingkah laku rasuah dalam sektor pendidikan dipengaruhi oleh kelemahan penghayatan nilai integriti, budaya materialistik serta normalisasi penyalahgunaan kuasa dalam organisasi. Individu yang mempunyai tahap integriti yang rendah dan kurang penghayatan moral lebih cenderung menggunakan kedudukan atau jawatan untuk memperoleh kepentingan peribadi tanpa mengambil kira implikasi terhadap organisasi dan masyarakat (Nur Syakiran Akmal & Md Zawawi, 2004). Dalam konteks pendidikan, keadaan ini boleh diterjemahkan melalui penyalahgunaan kuasa dalam pengurusan kewangan sekolah atau institusi pengajian tinggi, manipulasi proses pelantikan, pemberian layanan istimewa kepada individu tertentu serta penyalahgunaan kemudahan institusi bagi kepentingan peribadi (Gottfredson & Hirschi, 1990). Selain itu, budaya materialistik dan tekanan sosial untuk mencapai status ekonomi yang lebih tinggi turut meningkatkan kecenderungan terhadap tingkah laku rasuah. Keinginan memperoleh keuntungan kewangan, pengiktirafan sosial atau mengekalkan gaya hidup tertentu mendorong sebahagian individu menyalahgunakan amanah yang diberikan (Enida Daud et al., 2019). Dalam sesetengah keadaan, budaya organisasi yang bertolak ansur terhadap salah laku serta kegagalan melaporkan penyelewengan menyebabkan perlakuan tersebut dianggap sebagai amalan biasa. Keadaan ini akhirnya mewujudkan budaya kerja yang tidak beretika dan melemahkan usaha membudayakan integriti dalam institusi pendidikan (Marpaung et al., 2023).

ii. Faktor Ekonomi

Analisis kajian turut menunjukkan bahawa faktor ekonomi merupakan antara pemangkin utama kepada tingkah laku rasuah dalam sektor pendidikan. Tekanan kewangan, peningkatan kos sara hidup serta keinginan memperoleh pendapatan tambahan boleh mendorong individu menyalahgunakan kuasa yang dimiliki (Enida Daud et al., 2019). Di samping itu, pengurusan peruntukan kewangan yang besar dalam sektor pendidikan membuka ruang kepada penyelewengan sekiranya kawalan dalaman dan mekanisme pemantauan tidak dilaksanakan secara berkesan (Cressey, 1953). Dalam konteks institusi pendidikan, risiko rasuah boleh berlaku dalam proses perolehan aset, pembinaan dan penyelenggaraan infrastruktur, pengurusan geran penyelidikan, pemberian biasiswa, bantuan kewangan serta pengagihan kontrak perkhidmatan (Handayani et al., 2024). Ketidakseimbangan pengagihan sumber dan peluang juga boleh meningkatkan kecenderungan terhadap amalan pilih kasih dan konflik kepentingan. Oleh itu, kelemahan sistem kewangan dan pengurusan sumber merupakan antara faktor yang meningkatkan risiko berlakunya tingkah laku rasuah dalam sektor pendidikan (Klitgaard, 1988).

iii. Faktor Politik

Faktor politik turut memainkan peranan penting dalam mempengaruhi tingkah laku rasuah dalam sektor pendidikan. Kelemahan tadbir urus, campur tangan pihak berkepentingan, amalan patronage serta tahap akauntabiliti yang rendah boleh mewujudkan ruang kepada penyalahgunaan kuasa (Acemoglu & Robinson, 2023). Dalam keadaan tertentu, keputusan berkaitan pelantikan jawatan pengurusan, pemberian projek pembangunan, pengagihan peruntukan atau pemilihan kontraktor mungkin dipengaruhi oleh

kepentingan politik berbanding prinsip ketelusan dan merit. Selain itu, kelemahan mekanisme semak dan imbang serta penguatkuasaan yang tidak konsisten mengurangkan keberkesanan usaha pencegahan rasuah. Apabila tindakan disiplin atau undang-undang tidak dilaksanakan secara adil dan telus, persepsi bahawa salah laku boleh dilakukan tanpa dikenakan tindakan akan meningkatkan kecenderungan terhadap tingkah laku rasuah dalam institusi pendidikan (Klitgaard, 1988). Situasi ini secara tidak langsung menjejaskan kredibiliti pentadbiran pendidikan dan menghakis kepercayaan warga institusi terhadap sistem pengurusan (Shah & Schacter, 2021).

iv. Implikasi Tingkah Laku Rasuah dalam Pendidikan

Tingkah laku rasuah dalam sektor pendidikan memberikan implikasi yang besar terhadap pembangunan modal insan dan kelestarian sistem pendidikan negara. Penyelewengan dana pendidikan mengurangkan keberkesanan penyampaian perkhidmatan, menjejaskan pembangunan infrastruktur, penyediaan kemudahan pembelajaran serta pelaksanaan program pembangunan pelajar (Olken, 2022). Selain itu, amalan kronisme dan nepotisme dalam pelantikan atau kenaikan pangkat boleh menjejaskan prinsip meritokrasi serta mengurangkan motivasi warga institusi. Rasuah juga menghakis kepercayaan masyarakat terhadap institusi pendidikan (Shah & Schacter, 2021). Apabila berlaku ketidakadilan dalam pengurusan sumber, pemilihan penerima bantuan, pelantikan kakitangan atau pemberian kontrak, masyarakat akan mempersoalkan ketelusan sistem pendidikan (Transparency International, 2024). Dalam jangka panjang, keadaan ini boleh menjejaskan reputasi institusi pendidikan, mengurangkan keyakinan pemegang taruh serta melemahkan usaha negara melahirkan graduan yang berintegriti dan beretika (Olken, 2022).

v. Cadangan Pencegahan

Berdasarkan dapatan kajian, usaha membendung tingkah laku rasuah dalam sektor pendidikan memerlukan pendekatan yang holistik. Pendidikan integriti perlu diperkasakan melalui penerapan nilai kejujuran, akauntabiliti dan amanah bermula di peringkat sekolah sehingga institusi pengajian tinggi (Marpaung et al., 2023). Program latihan etika kepada pentadbir, pensyarah, guru dan kakitangan sokongan juga perlu diperkukuh secara berterusan bagi membentuk budaya organisasi yang berintegriti (Nur Syakiran Akmal & Md Zawawi, 2004). Selain itu, institusi pendidikan perlu memperkukuh sistem tadbir urus melalui pelaksanaan prosedur operasi standard yang jelas, mekanisme audit dalaman yang berkesan, pengurusan kewangan yang telus serta sistem pelaporan salah laku yang melindungi pemberi maklumat (Klitgaard, 1988). Penggunaan teknologi digital seperti sistem e-perolehan, pendigitalan proses kewangan dan analitik data turut berpotensi mengurangkan campur tangan manusia serta meningkatkan ketelusan dalam pengurusan institusi pendidikan (Olken, 2022). Di samping itu, kerjasama antara institusi pendidikan, pihak berkuasa dan masyarakat perlu diperkukuh bagi membentuk ekosistem pendidikan yang bebas daripada amalan rasuah.jelas. Jadual dan rajah hendaklah diformat secara konsisten menggunakan templat ini.

KESIMPULAN

Secara keseluruhannya, dapatan kajian menunjukkan bahawa tingkah laku rasuah dalam sektor pendidikan di Malaysia merupakan hasil interaksi kompleks antara faktor sosial, politik dan ekonomi (Enida Daud et al., 2019). Faktor-faktor tersebut bukan sahaja meningkatkan kecenderungan individu melakukan rasuah, malah mempengaruhi budaya organisasi dan keberkesanan sistem tadbir urus institusi pendidikan (Acemoglu & Robinson, 2023). Oleh itu, usaha pencegahan tidak boleh hanya bergantung kepada penguatkuasaan undang-undang semata-mata, sebaliknya perlu disokong oleh pembentukan budaya integriti, penambahbaikan tadbir urus, pengukuhan sistem akauntabiliti dan pendidikan etika secara berterusan (Shah & Schacter, 2021). Pendekatan yang menyeluruh ini penting bagi memastikan sistem pendidikan Malaysia kekal telus, berintegriti dan mampu melahirkan modal insan yang berkualiti (Marpaung et al., 2023).

PENGHARGAAN

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THEME 3: LANGUAGE, LITERACY AND HUMANITY IN LIFELONG LEARNING

Beyond Biomedical Ageing: A Human-Centred Psychosocial Perspective on Middle Adulthood in Malaysia

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ABSTRACT

Dominant models of successful ageing continue to privilege disease avoidance, physical independence and sustained productivity, thereby offering an incomplete account of how individuals age within diverse social and cultural contexts. This conceptual paper aims to advance a human-centred psychosocial perspective that positions middle adulthood as a critical period for developing successful-ageing preparedness. A critical narrative synthesis was undertaken across influential biomedical, psychosocial, life-course and resilience scholarship, interpreted through the Selection, Optimisation, and Compensation (SOC) framework. The synthesis identifies three limitations in dominant discourse: its tendency to treat successful ageing as a fixed outcome, its reliance on individualised standards of autonomy and functioning, and its limited attention to culturally embedded adaptation. In response, the paper proposes a framework linking midlife challenges and psychosocial resources to SOC-based adaptation and multidimensional successful-ageing outcomes. The framework emphasises resilience, emotional regulation, adaptive coping, social connectedness and meaning-making, while recognising contextual influences such as family relationships, socioeconomic conditions and cultural norms. The paper contributes an inclusive, preventive and culturally responsive basis for ageing research, policy and psychosocial intervention in Malaysia.

Keywords: successful ageing, psychosocial ageing, resilience, middle adulthood, Malaysia

INTRODUCTION

Population ageing has intensified scholarly and policy interest in how people may maintain well-being across later life. Much of the successful-ageing literature, however, remains anchored in biomedical criteria. Rowe and Kahn's (1997) influential model defines successful ageing through a low probability of disease and disability, high physical and cognitive functioning, and active engagement with life. Although this approach challenged deterministic assumptions of inevitable decline, it also established a demanding standard that may classify those living meaningfully with illness, disability or dependency as ageing unsuccessfully (Martinson & Berridge, 2015).

Psychosocial perspectives broaden this discourse by recognising subjective well-being, resilience, social relationships, purpose and adaptive coping (Jeste et al., 2013; Martin et al., 2015). Life-course scholarship further demonstrates that later-life outcomes are shaped cumulatively through earlier opportunities, stressors and resources (George, 2010). Nevertheless, these perspectives do not always specify the adaptive mechanisms through which individuals negotiate ageing-related transitions, nor do they fully account for structural and cultural contexts. This limitation is especially relevant in Malaysia, where family obligations, intergenerational connectedness, spirituality and collectivist values may shape interpretations of ageing well (Liang & Luo, 2012).

Middle adulthood is particularly important because it combines preparation for later life with substantial occupational, financial, familial and caregiving demands. Yet gerontological research frequently concentrates on outcomes after individuals have entered older age. This paper therefore aims to: (1) critically examine the assumptions underlying dominant successful-ageing models; (2) position middle adulthood as a developmental window for psychosocial ageing preparedness; and (3) propose a human-centred framework integrating resilience, ageing adaptation and SOC principles within the Malaysian context. Methodologically, the paper employs a critical narrative synthesis of established theoretical and empirical scholarship. The synthesis is conceptual and interpretive rather than a systematic review, and its purpose is to compare theoretical assumptions, identify recurring limitations and integrate complementary concepts into a coherent framework.

RESULTS AND DISCUSSION

Limits of dominant successful-ageing models

The synthesis identifies a progression from biomedical outcomes towards more inclusive psychosocial and developmental explanations. Biomedical models foreground disease avoidance, independence and functional performance. Their principal limitation is not the recognition of physical health, which remains essential, but the elevation of optimal functioning into a normative standard of ageing success. This can obscure the agency, meaning and well-being of individuals who adapt positively while living with chronic illness or limitation. Successful ageing is consequently better understood as a negotiated process than as a binary status.

Psychosocial models address part of this limitation by incorporating life satisfaction, emotional well-being, social connectedness and subjective evaluation. However, they may remain overly individualistic when coping and positive attitudes are separated from unequal access to income, healthcare, supportive workplaces, family assistance and community resources. Life-course approaches correct this weakness by locating ageing within cumulative experience, but they can remain too broad unless the mechanisms connecting earlier experience with later-life adaptation are specified. Resilience and ageing adaptation provide this explanatory bridge: resilience represents resources for responding to adversity, while adaptation describes the adjustments through which those resources are translated into sustained functioning and meaning.

Middle adulthood as a window for preparedness

Middle adulthood should be recognised as an active stage of ageing rather than merely an interval preceding old age. During this period, individuals commonly balance occupational pressures, financial and retirement planning, care for children and ageing parents, changes in family roles, health maintenance and anticipatory concerns about their own ageing. These conditions may create cumulative strain, but they may also stimulate coping, emotional maturation, generativity and purposeful reprioritisation. The psychosocial resources established or strengthened during midlife can therefore influence how later gains, losses and transitions are interpreted and managed.

A preparedness perspective shifts intervention from late-life reaction towards prevention across the life course. It asks not only whether an older person currently satisfies predefined criteria, but whether adults possess the psychological, relational and contextual resources needed to adapt as circumstances change. This approach does not imply that ageing outcomes are determined exclusively by individual preparation. Preparedness remains shaped by workplace conditions, socioeconomic security, family relationships, gendered expectations, community resources and access to supportive institutions.

A human-centred psychosocial framework

The proposed framework begins with the realities of middle adulthood, including occupational demands, caregiving responsibilities, financial uncertainty, work–life strain, changing family dynamics and anticipatory health concerns. These pressures interact with psychosocial resources such as resilience, emotional regulation, adaptive coping, social connectedness, self-efficacy, lifelong learning and meaning-making. The framework does not treat these resources as fixed personal attributes; they may be strengthened or constrained by social and institutional environments.

SOC theory supplies the central adaptive mechanism (Baltes & Baltes, 1990). Selection involves prioritising attainable and meaningful goals; optimisation concerns investing available resources to maintain or improve valued capacities; and compensation involves using alternative strategies or supports when previous means become constrained. Applied to middle adulthood, SOC explains how individuals convert psychosocial resources into adaptive responses. A person may select fewer but more meaningful responsibilities, optimise health and social resources, or compensate for emerging limitations through assistance, technology or revised routines. Successful ageing is thus conceptualised as flexible self-regulation amid changing gains and losses rather than the permanent preservation of ideal functioning.

The anticipated outcomes are multidimensional: psychological well-being, relational continuity, social inclusion, purpose, adaptive functioning, holistic health, engagement and generativity. These outcomes remain embedded within contextual foundations, including collectivist norms, intergenerational relationships, socioeconomic conditions, gender roles, workplace practices, community resources and healthcare systems. The resulting framework combines individual agency with contextual opportunity and thereby avoids attributing ageing success or failure solely to personal behaviour. It also accommodates culturally meaningful forms of interdependence rather than treating autonomy as the only desirable endpoint.

Implications for research, policy and practice

The framework supports three practical directions. First, research should evaluate successful-ageing preparedness during middle adulthood and test how resilience and specific adaptive processes influence later outcomes through longitudinal and culturally diverse designs. Second, workplaces can incorporate midlife well-being, caregiving support, mental-health promotion, financial preparedness and flexible career planning into healthy-ageing strategies. Third, public policy should integrate psychosocial prevention with biomedical care rather than treating them as competing priorities. Such integration is relevant to SDG 3 through mental well-being, SDG 8 through sustainable work participation and SDG 10 through attention to unequal access to adaptive resources.

CONCLUSION

Successful ageing cannot be adequately reduced to disease avoidance, independence or productivity. The conceptual synthesis indicates that ageing well is better understood as a dynamic, psychosocial and culturally embedded process through which individuals negotiate changing capacities, relationships and meanings across the life course. Middle adulthood is a critical intervention point because adaptive resources and later-life preparedness are developed while individuals confront substantial work, family, financial and caregiving demands. By integrating resilience and contextual resources through SOC-based processes of selection, optimisation and compensation, the proposed framework offers a more inclusive account of successful ageing. Future empirical research should operationalise and validate the framework across occupational, socioeconomic and cultural groups in Malaysia.

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Aim, Throw, Speak: Examining Student Engagement through a Dart-Based Gamified English Activity

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ABSTRACT

The integration of digital gamification in higher education, including English as a Second Language (ESL) contexts, has surged in recent years. However, the dominance of screen-bound digital tools often limits language practice to passive interactions, leaving opportunities for physical, hands-on language engagement underexplored. Addressing the gap, this study examines undergraduates' emotional, behavioural, and cognitive engagement when participating in a dart-based, gamified English activity at a language carnival booth. It also identifies the game elements participants perceive as contributing most to sustaining engagement. Conducted through a three-station dart booth, participants completed spontaneous language tasks determined by where their dart landed. Using a quantitative research design, data were collected from 371 local and international undergraduates across disciplines, years of study, and language proficiency levels through a post-task online survey. Descriptive statistical analysis revealed strong positive emotional, behavioural, and cognitive engagement. Among the gamified elements, dart throwing was rated the most engaging, followed by the inviting booth atmosphere and rewards. These findings demonstrate the non-digital gamification potential in promoting hands-on English language learning. They also contribute to the literature on multidimensional student engagement while expanding research on non-digital gamification as a human-centred approach in higher education ESL contexts.

Keywords: multidimensional student engagement, non-digital gamification, spontaneous language tasks, English as a second language

INTRODUCTION

Gamification, defined as the use of game elements such as badges, points, levels, and progress bars in non-game contexts, has been recognised as a prominent, innovative pedagogical approach in education (Mercado & Birkner, 2026; Ülker & Yangın Ekşi, 2026). According to Kamaruddin et al. (2025), in English as a Second Language (ESL) contexts, the integration of game elements allows educators to create a stress-free, low-anxiety environment that encourages students to practice the language directly and interact with one another.

However, the current trend of educational gamification relies heavily on its implementation through digital platforms and mobile applications. While these digital tools are engaging, they often restrict ESL learners to passive, screen-bound interactions (Mercado & Birkner, 2026). This risks students missing out on the physical, face-to-face communication practice that is vital for language fluency (Kamaruddin et al., 2025). This situation creates a distinct challenge especially in tertiary education where classroom instruction is often dominated by lecture-based formats, thus allowing fewer low-stakes opportunities for students to experiment with the language and reduce their language anxiety (Anggraini et al., 2025).

In contrast, non-digital gamification, where game elements and mechanics are integrated into activities without the reliance on digital technology, directly addresses screen fatigue and language anxiety by stimulating cognitive processing, memory consolidation and emotional involvement (Kahar et al., 2025). It can also be considered as a low-threshold pedagogical approach since it is easily adopted, cost-effective, requires less technological

expertise and is highly transferable (Qiao et al., 2022). Despite its potential to tackle passive tertiary learning environments, literature related to non-digital gamification in ESL university settings remains underexplored.

To address this gap, this study examines undergraduates' emotional, behavioural, and cognitive engagement when participating in a dart-based, gamified English activity named Shoot it Right at a Malaysian university language carnival booth. It also identifies the game elements participants perceive as contributing most to sustaining engagement. Data were gathered from 371 local and international undergraduates across disciplines, years of study, and language proficiency levels through a post-task online survey.

Shoot it Right consisted of three scaffolded stations of increasing difficulty (Station A: Easy Peasy, Station B: Mind Twister, and Station C: The Big Dare). Participants threw darts at dedicated boards and the number where their dart landed determined the specific spontaneous language task they needed to perform. Participants had to complete each station sequentially and those who successfully completed all three stations were rewarded a token at the end of the activity.

The booth activity is aligned with the Self-Determination Theory (SDT), which stresses on the fulfilment of three basic psychological needs, namely autonomy, competence, and relatedness, to drive human motivation and engagement (Deci & Ryan, 2000). Autonomy was fostered as the language tasks were determined based on the participants' own actions (dart-throwing) and the element of randomness instead of pre-determined by the booth facilitators. Besides, spontaneous engagement was encouraged since participants voluntarily approached the booth and participated in the activity. Meanwhile, the competence needs of participants was supported through the increased difficulty level across the stations, accommodating their varying English language proficiency levels. Besides, the quick wins through short-form language challenges gave participants an immediate sense of success, boosting their confidence in their language competence. Finally, the language carnival environment provided a strong sense of community and shared fun, cultivating relatedness of the setting to participants. It also moved language tasks away from strict classroom settings to a low-stake, interactive space that also served as a social tool for connecting with other language users.

By satisfying the three basic psychological needs, the incorporation of non-digital gamification through the Shoot it Right booth activity created a holistic approach for encouraging active language participation. The subsequent section illustrates how these design principles translated into measurable participant engagement and gamification element preferences.

RESULTS AND DISCUSSION

Table 1. Undergraduates' engagement levels by dimension

Engagement Dimension	Mean Score (*M*)	Standard Deviation (*SD*)
Emotional engagement	4.52	0.52
Behavioural engagement	4.45	0.53
Cognitive engagement	4.33	0.59

The quantitative findings revealed exceptionally high levels of multidimensional student engagement across all measured dimensions during the Shoot it Right activity. Descriptive statistical analysis showed that participants experienced the highest level of engagement emotionally ($M = 4.52$, $SD = 0.52$), followed closely by behavioural engagement ($M = 4.45$, $SD = 0.53$) and cognitive engagement ($M = 4.33$, $SD = 0.59$).

The uniform high scores across diverse academic backgrounds, study years, and proficiency levels highlight the universal appeal of kinaesthetic gamification mechanics in an ESL learning context. These results suggest that non-digital, tactile gamification offers a compelling solution to the passive interaction patterns often fostered by conventional, screen-bound digital tools. The pronounced emotional and behavioural scores demonstrate that low-stakes, physical activity can significantly mitigate language anxiety, creating a welcoming environment where learners comfortably attempt spontaneous oral tasks. Furthermore, the strong cognitive engagement scores confirm that tactile mechanics do not substitute for learning rigour; rather, the excitement of physical participation actively supports the mental effort required for spontaneous target language production. Ultimately, these findings contribute to multidimensional engagement literature by proving that human-centred, non-digital gamification can effectively boost student agency and active communication in higher education ESL environments.

Table 2. Undergraduates' perceived engagement impact of game elements

Gamified Element	Mean Score (*M*)	Standard Deviation (*SD*)
The dart-throwing element	4.59	0.57
The inviting booth atmosphere	4.55	0.59
The game rewards	4.54	0.62
Unpredictability of tasks	4.40	0.65
Spontaneous task execution	4.38	0.69
The difficulty levels of tasks	4.27	0.70

As shown in Table 2, the participants rated all six gamified elements highly, with mean scores ranging from 4.27 to 4.59 on the perceived engagement scale, indicating that students generally found the game elements effective in stimulating engagement. The dart-throwing element received the highest mean rating (M = 4.59, SD = 0.57), followed closely by the inviting booth atmosphere (M = 4.55, SD = 0.59) and the game rewards (M = 4.54, SD = 0.62). The unpredictability of tasks (M = 4.40, SD = 0.65) and spontaneous task execution (M = 4.38, SD = 0.69) were rated slightly lower but still fell within a similarly strong range, while the difficulty levels of tasks received the lowest mean score among the elements (M = 4.27, SD = 0.70), though this still reflects a favourable perception. Notably, the top three elements also produced the smallest standard deviations, suggesting more consistent agreement among respondents regarding their engaging value, whereas the comparatively higher SD for difficulty levels of tasks points to more varied student experiences with this element.

The consistently high mean scores across all gamified elements affirm that gamification, as a pedagogical strategy, successfully fostered emotional, behavioural, and cognitive engagement among undergraduates in this context. The prominence of the dart-throwing element as the most engaging component suggests that hands-on, physically interactive activities may hold particular appeal for learners, possibly because such elements introduce novelty, an element of skill or chance, and a break from passive learning routines. Similarly, the strong ratings for the inviting booth atmosphere and game rewards underscore the importance of environmental design and extrinsic incentives in sustaining student motivation. In contrast, the comparatively lower (though still positive) rating for task difficulty, paired with its higher variability, may indicate that students had more mixed reactions to the different levels of activities, with some possibly finding the difficulty appropriately stimulating, while others may have found it a source of frustration or anxiety. This suggests that while unpredictability and challenge are valuable gamification mechanics, their calibration may require more careful, individualised attention to avoid disengaging students who perceive tasks as too difficult or too easy.

CONCLUSION

Non-digital gamification in language learning through hands-on activities has been shown to foster high engagement across behavioural, emotional and cognitive dimensions among undergraduates. The findings demonstrate that students who participate in physically interactive activities are able to break away from passive learning routines typical of conventional classrooms. The consistently high mean scores across engagement dimensions and specific game elements show that human-centred, non-digital approaches are able to sustain undergraduates' motivation and active language use. Ultimately, this study adds to the literature on multidimensional student engagement while addressing the gap in research on non-digital gamification as a human-centred approach in higher education ESL contexts. Further research could build on this study by comparing engagement levels of undergraduates through digital and non-digital gamification formats in a tertiary English language learning atmosphere.

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Pemupukan Bahasa Melayu di Peringkat Global melalui Pendekatan Tanggungjawab Sosial Korporat (CSR): Kajian Kes di Sekolah Tinggi Kano, Jepun

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ABSTRAK

Kajian ini memfokuskan pelaksanaan inisiatif Tanggungjawab Sosial Korporat (CSR) yang berteraskan pengajaran Bahasa Melayu di Sekolah Tinggi Kano, Jepun, dikendalikan oleh mahasiswa Fakulti Sains dan Teknologi (FST), Universiti Kebangsaan Malaysia (UKM) yang tertumpu kepada penilaian peranan mahasiswa universiti dalam memacu penggunaan Bahasa Melayu di arena global, cabaran dalam pengajaran Bahasa Melayu kepada pelajar Jepun, serta impak modul CSR terhadap pelajar dan mahasiswa yang terlibat. Pengumpulan data dilaksanakan melalui kaedah pemerhatian dan tinjauan, menggunakan borang soal selidik yang merangkumi aspek keberkesanan dan isu-isu pelaksanaan modul CSR. Hasil kajian menunjukkan inisiatif CSR ini berjaya meningkatkan kesedaran dan minat pelajar Jepun terhadap penggunaan bahasa Melayu melalui pendekatan pengajaran yang interaktif dan berasaskan konteks budaya, sekali gus menegaskan peranan mahasiswa sebagai pemangkin pemerkasaan bahasa di peringkat antarabangsa adalah signifikan. Meskipun kekangan masa dan perbezaan struktur linguistik dikenal pasti sebagai cabaran utama, penggunaan strategi pengajaran yang anjal serta integrasi elemen budaya Malaysia terbukti berupaya meningkatkan penglibatan pelajar secara efektif. Dari perspektif impak, modul CSR ini bukan sahaja memudahkan penguasaan asas komunikasi bahasa Melayu dalam kalangan pelajar, malah turut dapat mempertingkat kefahaman silang budaya serta minat berterusan terhadap bahasa tersebut. Tambahan pula, penyertaan mahasiswa dalam program ini memberikan kesan positif terhadap pembangunan kemahiran komunikasi, kepimpinan dan saingan global. Secara keseluruhannya, kajian ini membuktikan bahawa inisiatif berskala mikro seperti CSR mempunyai potensi besar untuk menjadi pemangkin kepada usaha pengantarabangsaan Bahasa Melayu, di samping membuka peluang kepada pengukuhan kerjasama akademik antara institusi pengajian tinggi (IPT) di Malaysia dan sekolah di Jepun.

Kata Kunci: CSR, Bahasa Melayu, mahasiswa universiti, pelajar sekolah tinggi, Sekolah Tinggi Kano.

PENGENALAN

Bahasa Melayu merupakan salah satu bahasa utama di rantau Nusantara yang berfungsi sebagai medium komunikasi, bahasa ilmu serta wahana pembentukan identiti dan perpaduan masyarakat sejak dahulu (Nazarina, 2012). Seiring dengan arus globalisasi, usaha memperkukuh kedudukan Bahasa Melayu tidak lagi terhad kepada pelaksanaan dasar dalam negara, malah memerlukan jaringan kerjasama antarabangsa yang melibatkan institusi pendidikan tinggi (IPT), pertukaran akademik dan diplomasi budaya bagi memperluas penggunaannya di peringkat global (Awang Sariyan, 2022). Sejajar itu, Universiti Kebangsaan Malaysia (UKM) mempunyai kedudukan yang signifikan kerana penubuhannya berasaskan aspirasi menjadikan Bahasa Melayu sebagai bahasa ilmu dan bahasa pengantar pendidikan tinggi di Malaysia. Legasi tersebut terus diperkasa melalui pelbagai inisiatif akademik, penyelidikan, mobiliti antarabangsa dan program Tanggungjawab Sosial Korporat (CSR) yang memanfaatkan Bahasa Melayu sebagai medium perkongsian ilmu dan pemerkasaan hubungan antara budaya.

Selaras dengan aspirasi tersebut, mahasiswa Persatuan Mahasiswa Fakulti Sains dan Teknologi (PMFST) mengambil prakarsa sebagai duta kecil bahasa dan budaya Malaysia melalui penganjuran program mobiliti antarabangsa PMFST-INSPIRE (*International Network for Sustainable Progress, Innovation, Research and Exchange*). Melalui program ini, aktiviti CSR berasaskan pengajaran Bahasa Melayu yang dibangunkan sendiri oleh mahasiswa PMFST telah dilaksanakan di Sekolah Tinggi Kano (KHS), Jepun sebagai medium pertukaran ilmu, budaya dan penyelidikan. Modul interaktif yang

dihasilkan berbeza dengan kebanyakan modul terdahulu yang hanya memfokuskan pengajaran Bahasa Melayu di IPT luar negara. Hal ini kerana modul yang dibangunkan oleh PMFST ini mengintegrasikan elemen budaya Malaysia bagi memperkenalkan asas komunikasi Bahasa Melayu dalam suasana pembelajaran yang autentik dan komunikatif, sekali gus memperlihatkan potensi mahasiswa sebagai agen pengantarabangsaan Bahasa Melayu melalui diplomasi pendidikan dan perkongsian budaya (Nazarina, 2012).

Walau bagaimanapun, usaha memperkenalkan Bahasa Melayu kepada penutur asing masih berhadapan beberapa cabaran seperti kekangan masa pengajaran dan pembelajaran (PdP), perbezaan struktur linguistik antara Bahasa Jepun dan Bahasa Melayu serta kesesuaian bahan pengajaran mengikut konteks budaya tempatan. Justeru, berlandaskan data yang diperoleh daripada pelaksanaan program CSR, kajian ini bertujuan untuk meneliti peranan mahasiswa UKM dalam memupuk penggunaan Bahasa Melayu di peringkat global melalui pelaksanaan program CSR, di samping mengenal pasti cabaran pelaksanaan modul serta menganalisis impaknya terhadap pelajar Jepun dan mahasiswa yang terlibat sebagai pemudah cara. Dapatan kajian ini diharapkan dapat menyumbang kepada pembangunan strategi pengantarabangsaan Bahasa Melayu yang lebih sistematik melalui pendekatan pembelajaran berasaskan komuniti dan kerjasama antarabangsa.

HASIL DAN PERBINCANGAN

Pelaksanaan modul CSR Bahasa Melayu di KHS menunjukkan bahawa pendekatan pembelajaran berasaskan pengalaman (experiential learning) berupaya meningkatkan penglibatan pelajar sekolah menengah Jepun dalam mempelajari Bahasa Melayu sebagai bahasa asing. Modul tersebut menggabungkan aktiviti komunikasi asas melalui sesi Pengenalan Diri dan Suai Padan yang mengintegrasikan elemen budaya Malaysia seperti makanan tradisional, pakaian kebangsaan serta budaya popular. Pendekatan ini membolehkan pelajar menghubungkan kosa kata baharu dengan pengalaman visual dan budaya yang lebih dekat dengan kehidupan, sekali gus memudahkan proses pembelajaran dalam tempoh yang singkat. Pemerhatian sepanjang aktiviti menunjukkan bahawa majoriti pelajar mampu memperkenalkan diri menggunakan frasa asas Bahasa Melayu serta menyelesaikan aktiviti padanan ayat dengan baik. Berdasarkan pemerhatian sepanjang pelaksanaan modul, dapatan seterusnya dianalisis secara tematik dengan mengelompokkan pemerhatian kepada tema utama dan subtema seperti yang ditunjukkan dalam Jadual 1.

Jadual 1. Analisis Tematik Pemerhatian Mengikut Tema Utama dan Subtema

Tema Utama	Subtema
Tema 1: Peranan Mahasiswa dalam Pengantarabangsaan Bahasa dan Persilangan Budaya	(i) Pemudah cara pembelajaran bahasa Melayu (ii) Pertukaran dan persilangan budaya (iii) Mahasiswa sebagai penghubung antarabangsa
Tema 2: Cabaran dan Adaptasi Pengajaran Bahasa Melayu	(i) Kekangan masa dan pelaksanaan (ii) Halangan bahasa dan komunikasi (iii) Perbezaan linguistik (iv) Kesesuaian modul dan bahan (v) Adaptasi strategi pengajaran
Tema 3: Impak Modul terhadap Pembelajaran Pelajar	(i) Peningkatan minat (ii) Penguasaan komunikasi asas (iii) Aplikasi pembelajaran (iv) Penglibatan positif

Pelaksanaan modul CSR Bahasa Melayu di KHS menunjukkan bahawa pendekatan pembelajaran berasaskan pengalaman (experiential learning) berupaya meningkatkan penglibatan pelajar sekolah menengah Jepun dalam mempelajari Bahasa Melayu sebagai bahasa asing. Modul tersebut menggabungkan aktiviti komunikasi asas melalui sesi Pengenalan Diri dan Suai Padan yang mengintegrasikan elemen budaya Malaysia seperti makanan tradisional, pakaian kebangsaan serta budaya popular. Pendekatan ini membolehkan pelajar menghubungkan kosa kata baharu dengan pengalaman visual dan budaya yang lebih dekat dengan kehidupan, sekali gus memudahkan proses pembelajaran dalam tempoh yang singkat. Pemerhatian sepanjang aktiviti menunjukkan bahawa majoriti pelajar mampu memperkenalkan diri menggunakan frasa asas Bahasa Melayu serta menyelesaikan aktiviti padanan ayat dengan baik. Berdasarkan pemerhatian sepanjang pelaksanaan modul, dapatan seterusnya dianalisis secara tematik dengan mengelompokkan pemerhatian kepada subtema dan tema utama seperti yang ditunjukkan dalam Jadual 1.

Jadual 2. Nilai Cabaran yang Dihadapi oleh Pemudah Cara dalam Mengendalikan Bengkel Bahasa Melayu di Sekolah Tinggi Kano, Jepun.

Soalan/Skala	1	2	3	4	5	Skala Purata	Sisihan Piawai
Saya sukar untuk memperkenalkan Bahasa Melayu kepada pelajar sekolah di Jepun	1	4	1	3	1	2.9	1.29
Saya melihat pelajar sekolah sangat tertarik dan terlihat aktif dengan sesi CSR yang dijalankan	0	0	0	4	6	4.6	0.52
Saya yakin pengisian aktiviti yang dijalankan adalah sesuai untuk memperkenalkan Bahasa Melayu kepada pelajar sekolah di Jepun	0	0	4	3	3	3.9	0.88
Saya sukar untuk mengendalikan dan menjalankan aktiviti CSR mengikut modul yang telah ditetapkan	4	4	0	2	0	2.0	1.15
Saya percaya aktiviti CSR yang dijalankan adalah sangat berkesan untuk meningkatkan pemahaman dan penguasaan Bahasa Melayu pelajar sekolah di Jepun	0	0	5	3	2	3.7	0.82

Keberkesanan modul turut disokong oleh maklum balas pemudah cara yang menunjukkan tahap penglibatan pelajar berada pada tahap yang tinggi seperti dalam Jadual 2. Berdasarkan analisis skala Likert, item yang menilai keterlibatan pelajar memperoleh nilai min tertinggi iaitu 4.6, manakala keyakinan terhadap kesesuaian aktiviti mencatatkan nilai min 3.9. Sebaliknya, item yang menilai kesukaran mengendalikan modul hanya memperoleh nilai min 2.0. Ini menunjukkan bahawa modul yang dibangunkan oleh mahasiswa mudah dilaksanakan walaupun tanpa latihan pedagogi formal. Dapatan ini menggambarkan bahawa reka bentuk modul yang ringkas, fleksibel dan berorientasikan komunikasi berjaya meningkatkan keberkesanan penyampaian serta memudahkan proses interaksi antara pemudah cara dan pelajar.

Namun, beberapa cabaran utama dikenal pasti sepanjang pelaksanaan program. Kekangan masa merupakan faktor paling dominan kerana sesi pengajaran perlu disesuaikan dengan jadual persekolahan di Jepun serta tanggungjawab mahasiswa yang lain sepanjang program mobiliti. Tempoh pembelajaran yang singkat menyebabkan pemudah cara tidak berpeluang menerangkan struktur tatabahasa dan sebutan secara lebih mendalam. Selain itu, perbezaan struktur linguistik antara bahasa Jepun yang menggunakan pola Subjek–Objek–Kata Kerja (SOV) dengan Bahasa Melayu yang menggunakan pola Subjek–Kata Kerja–Objek (SVO) menyebabkan sebahagian pelajar mengalami kekeliruan ketika membina ayat mudah. Keadaan ini sejajar dengan dapatan Kadir dan Kuroda (2018) yang menyatakan bahawa perbezaan struktur sintaksis merupakan antara cabaran utama dalam pemerolehan Bahasa Melayu oleh pelajar Jepun. Di samping itu, tahap penguasaan bahasa Inggeris yang sederhana dalam kalangan sebahagian pelajar turut mengehadkan komunikasi dua hala, sekali gus memerlukan pemudah cara menggunakan strategi alternatif seperti isyarat tangan, bahan visual dan sistem rakan (buddy system) bagi memastikan objektif pembelajaran dapat dicapai.

Walau bagaimanapun, usaha memperkenalkan Bahasa Melayu kepada penutur asing masih berhadapan beberapa cabaran seperti kekangan masa pengajaran dan pembelajaran (PdP), perbezaan struktur linguistik antara bahasa Jepun dan Bahasa Melayu serta kesesuaian bahan pengajaran mengikut konteks budaya tempatan. Justeru itu, berlandaskan data yang diperoleh daripada pelaksanaan program tersebut, kajian ini bertujuan untuk meneliti peranan mahasiswa UKM dalam memupuk penggunaan Bahasa Melayu di peringkat global melalui pelaksanaan program CSR, di samping mengenal pasti cabaran pelaksanaan modul serta menganalisis impaknya terhadap pelajar Jepun dan mahasiswa yang terlibat sebagai pemudah cara. Dapatan kajian ini diharapkan dapat menyumbang kepada pembangunan strategi pengantarabangsaan Bahasa Melayu yang lebih sistematik melalui pendekatan pembelajaran berasaskan komuniti dan kerjasama antarabangsa.

KESIMPULAN

Secara keseluruhannya, kajian ini membuktikan bahawa pelaksanaan program mobiliti antarabangsa yang mengintegrasikan aktiviti CSR berasaskan pengajaran Bahasa Melayu berpotensi menjadi pendekatan strategik dalam menyokong usaha pengantarabangsaan Bahasa Melayu. Bagi objektif pertama, kajian ini menunjukkan bahawa mahasiswa universiti berupaya memainkan peranan sebagai ejen pengantarabangsaan Bahasa Melayu dan duta kecil bahasa serta budaya Malaysia melalui pelaksanaan modul pengajaran yang mengintegrasikan elemen bahasa dan budaya secara serentak. Bagi objektif kedua, kajian telah mengenal pasti bahawa kekangan masa pengajaran dan pembelajaran, perbezaan struktur linguistik antara bahasa Jepun dan Bahasa Melayu serta keperluan menyesuaikan kaedah penyampaian mengikut latar belakang peserta merupakan cabaran utama sepanjang pelaksanaan modul. Walau bagaimanapun, cabaran tersebut berjaya diatasi melalui penggunaan pendekatan pembelajaran yang fleksibel, interaktif dan berpusatkan peserta. Bagi objektif ketiga pula, analisis menunjukkan bahawa modul pengajaran CSR

memberikan impak positif terhadap pelajar sekolah melalui peningkatan minat untuk mempelajari Bahasa Melayu serta pendedahan kepada budaya Malaysia dalam suasana pembelajaran yang menyeronokkan. Pada masa yang sama, mahasiswa UKM turut memperoleh manfaat daripada aspek pembangunan kemahiran insaniah seperti komunikasi antara budaya, kepimpinan, penyelesaian masalah dan pembangunan modul yang lebih responsif terhadap keperluan peserta.

Kajian ini menyumbang kepada penerapan modul Bahasa Melayu berasaskan CSR melalui program mobiliti antarabangsa boleh dijadikan sebuah platform pertukaran akademik dan medium penyelidikan lapangan dan diplomasi bahasa yang mampu menyokong agenda pengantarabangsaan Bahasa Melayu. Sebagai tambahan, kajian lanjutan disarankan melibatkan lebih banyak institusi pendidikan di negara yang berbeza, tempoh pelaksanaan program yang lebih panjang serta penilaian keberkesanan modul secara membujur bagi menghasilkan model pengajaran Bahasa Melayu kepada penutur asing yang lebih komprehensif dan lestari.

PENGHARGAAN

Setinggi-tinggi penghargaan diucapkan kepada UKM serta FST atas peluang serta sokongan kewangan yang menjadi sebahagian besar kepada pelaksanaan modul ini dijalankan dengan jayanya, seterusnya PMFST yang menjadi pendukung kepada kajian ini. Tidak dilupakan juga, Dr. Wan Muna Ruzanna Wan Mohammad dari Fakulti Pendidikan (FPEND) atas sumbangan idea yang memperkukuh aspek pedagogi dalam penulisan berbentuk pendidikan Bahasa Melayu. Setulusnya juga, penghargaan ini ditujukan kepada ibu bapa yang tidak putus memberikan sokongan moral, serta rakan-rakan sepasukan yang saling membantu sepanjang proses perancangan, pelaksanaan dan penulisan kajian ini.

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Impak Pengajaran Penulisan Karangan Berasaskan Kecerdasan Buatan (AI) terhadap Kemahiran Menulis dalam Kalangan Murid Pintar Cerdas dan Berbakat

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ABSTRAK

Kecerdasan buatan (AI) generatif semakin digunakan sebagai alat sokongan dalam pendidikan, termasuk pengajaran dan pembelajaran penulisan karangan. Kajian ini meneliti perubahan prestasi penulisan serta pengalaman murid pintar cerdas dan berbakat selepas pelaksanaan pengajaran penulisan berasaskan AI. Reka bentuk kuantitatif pra-eksperimen satu kumpulan praujian-pascaujian melibatkan 100 orang murid Tingkatan 4 Tahap 1 Kolej PERMATApintar Negara, UKM. Data diperoleh daripada markah Pentaksiran 1 dan Pentaksiran 2 serta soal selidik 60 item yang merangkumi enam konstruk. Analisis deskriptif dan ujian-t sampel berpasangan digunakan. Min markah meningkat daripada 51.22 (SP = 11.81) kepada 60.02 (SP = 13.78), iaitu peningkatan 8.80 markah. Perbezaan adalah signifikan, $t(99) = -24.454$, $p < .001$, dengan Cohen's $d = 2.45$. Semua enam konstruk soal selidik berada pada tahap tinggi; Persepsi dan Motivasi mencatatkan min tertinggi ($M = 4.518$). Dapatan menunjukkan AI berpotensi menyokong penjanaan idea, pengembangan isi, maklum balas dan penambahbaikan penulisan, tetapi penggunaannya perlu dipandu guru bagi mengekalkan pemikiran kritis, kreativiti, human voice dan integriti akademik.

Kata Kunci: Kata Kunci: kecerdasan buatan, penulisan karangan, kemahiran menulis, murid pintar cerdas dan berbakat, maklum balas AI

PENGENALAN

Perkembangan kecerdasan buatan (Artificial Intelligence, AI) generatif telah mengubah landskap pendidikan, termasuk pembelajaran penulisan. Dalam Bahasa Melayu, AI berpotensi menyokong penjanaan idea, penyusunan isi, pembinaan ayat, pemilihan kosa kata serta penyemakan dan penambahbaikan penulisan.

Penggunaan AI amat relevan kepada murid pintar cerdas dan berbakat yang memerlukan pembelajaran mencabar, fleksibel dan responsif terhadap keupayaan individu. AI boleh membantu murid meneroka idea, menerima maklum balas dan menambah baik hasil penulisan (Nicholas et al., 2024).

Namun, AI tidak seharusnya menggantikan peranan murid sebagai pemikir dan penulis. Murid perlu menilai, memilih dan mengubah suai cadangan AI secara kritis bagi mengekalkan kreativiti, penguasaan bahasa dan identiti penulis. Pendekatan ini selaras dengan prinsip penggunaan AI yang berpusatkan manusia, selamat dan beretika (UNESCO, 2023).

Kajian terdahulu menunjukkan bahawa AI berpotensi menyokong penjanaan idea, perancangan, penggubalan, penyuntingan dan maklum balas penulisan (Meng et al., 2026; Wang et al., 2026; Liu & Liang, 2026; Scherer et al., 2026). Namun, bukti tentang perubahan prestasi penulisan murid pintar cerdas dan berbakat, khususnya dalam Bahasa Melayu, masih terhad. Oleh itu, kajian ini meneliti perubahan prestasi penulisan antara Pentaksiran 1 dan Pentaksiran 2 selepas pengajaran berasaskan AI, serta respons murid terhadap penggunaan AI dari aspek persepsi, motivasi, pemikiran kritis, kreativiti, maklum balas serta cabaran, risiko dan etika.

OBJEKTIF KAJIAN

Kajian ini bertujuan mengenal pasti tahap penggunaan AI dalam pembelajaran penulisan karangan, menganalisis perubahan prestasi penulisan antara Pentaksiran 1 dan Pentaksiran 2 selepas pengajaran berasaskan AI, mengenal pasti persepsi dan pengalaman murid terhadap penggunaan AI, serta menilai potensi AI sebagai sokongan dalam pengajaran penulisan karangan murid pintar cerdas dan berbakat.

METODOLOGI KAJIAN

Kajian ini menggunakan pendekatan kuantitatif dengan reka bentuk pra-eksperimen satu kumpulan praujian-pascaujian. Sampel terdiri daripada 100 orang murid Tingkatan 4 Tahap 1 Kolej PERMATApintar Negara, UKM, iaitu 62 lelaki dan 38 perempuan. Dua sumber data digunakan, iaitu markah Pentaksiran 1 dan Pentaksiran 2 serta soal selidik 60 item berskala Likert lima mata yang merangkumi enam konstruk berkaitan penggunaan dan impak AI, persepsi dan motivasi, pemikiran kritis dan kreativiti, maklum balas AI serta cabaran, risiko dan etika. Instrumen menunjukkan kebolehpercayaan yang memadai dengan nilai Cronbach's Alpha antara 0.757 hingga 0.834 bagi data kajian sebenar. Data dianalisis menggunakan frekuensi, peratusan, min, sisihan piawai, ujian-t sampel berpasangan dan Cohen's d. Interpretasi min adalah rendah (1.00–2.33), sederhana (2.34–3.66)

dan tinggi (3.67–5.00). Kerahsiaan responden dipelihara dan data dilaporkan secara agregat.

Jadual 1. Struktur instrumen dan kebolehpercayaan kajian

Konstruk	Bilangan Item	Cronbach's Alpha
Penggunaan AI dalam Pembelajaran	10	0.829
Impak AI terhadap Kemahiran Menulis	14	0.834
Persepsi dan Motivasi	10	0.757
Pemikiran Kritis, Kreativiti dan Human Voice	10	0.809
Maklum Balas AI dalam Proses Penulisan	8	0.800
Cabaran, Risiko dan Etika Penggunaan AI	8	0.775
Keseluruhan	60	-

RESULTS AND DISCUSSION

Dapatan prestasi menunjukkan perubahan positif yang jelas selepas tempoh pengajaran berasaskan AI. Min markah meningkat daripada 51.22 (SP = 11.81) dalam Pentaksiran 1 kepada 60.02 (SP = 13.78) dalam Pentaksiran 2. Peningkatan min sebanyak 8.80 markah disertai perubahan individu antara +2 hingga +15 markah. Yang penting, kesemua 100 orang responden menunjukkan peningkatan. Pola ini menunjukkan perubahan yang konsisten merentasi kumpulan kajian, bukan hanya peningkatan yang tertumpu kepada sebahagian murid.

Jadual 2. adual 2. Perbandingan prestasi penulisan antara Pentaksiran 1 dan Pentaksiran 2

Pentaksiran	N	Min	Sisihan Piawai	Minimum	Median	Maksimum
Pentaksiran 1 (Sebelum)	100	51.22	11.81	20	53	75
Pentaksiran 2 (Selepas)	100	60.02	13.78	23	61	88
Perubahan	100	+8.80	3.60	+2		+15

Ujian-t sampel berpasangan mengesahkan bahawa perbezaan tersebut signifikan, $t(99) = -24.454$, $p < .001$, dengan Cohen's $d = 2.45$. Saiz kesan yang sangat besar menunjukkan bahawa perubahan skor bukan sahaja signifikan dari sudut statistik, malah mempunyai magnitud yang besar dalam kumpulan yang dikaji. Dapatan ini memberikan petunjuk bahawa tempoh pengajaran berasaskan AI berkaitan dengan peningkatan prestasi penulisan.

Walau bagaimanapun, dapatan tersebut perlu ditafsir secara berhati-hati. Reka bentuk satu kumpulan sebelum dan selepas tanpa kumpulan kawalan tidak membolehkan perubahan prestasi diatribusikan sepenuhnya kepada AI. Faktor seperti latihan penulisan berterusan, pengalaman murid, pengajaran guru, perbezaan tugasan pentaksiran dan perkembangan kemahiran sepanjang semester mungkin turut mempengaruhi peningkatan. Oleh itu, istilah peningkatan selepas pengajaran berasaskan AI lebih tepat daripada dakwaan hubungan sebab-akibat secara mutlak.

Jadual 3 : Perbandingan Prestasi Penulisan Mengikut Jantina

Jantina	N	Pentaksiran 1 Min	Pentaksiran 2 Min	Perubahan Min
Lelaki	62	53.21	61.81	+8.60
Perempuan	38	47.97	57.11	+9.13
Keseluruhan	100	51.22	60.02	+8.80

Prestasi penulisan menunjukkan peningkatan bagi kedua-dua jantina. Murid lelaki meningkat 8.60 markah, manakala murid perempuan meningkat 9.13 markah, dengan kedua-dua kumpulan menunjukkan peningkatan yang signifikan ($p < .001$).

Tahap penggunaan AI dalam pembelajaran penulisan adalah tinggi (M = 4.393), khususnya dalam meningkatkan interaktiviti pembelajaran dan membantu merancang isi karangan. Impak AI terhadap kemahiran menulis juga tinggi (M = 4.395), terutama dalam pengembangan isi dan penghasilan kesimpulan.

Persepsi dan Motivasi mencatatkan min tertinggi (M = 4.518), menunjukkan AI meningkatkan minat dan persepsi positif terhadap pembelajaran penulisan. Pemikiran Kritis, Kreativiti dan Human Voice turut tinggi (M = 4.457), dengan murid melaporkan bahawa mereka menilai, memilih dan menyesuaikan cadangan AI mengikut gaya penulisan sendiri.

Maklum Balas AI dalam Proses Penulisan mencatatkan min 4.438, khususnya dalam membantu mengenal pasti bahagian yang perlu diperbaiki. Sementara itu, Cabaran, Risiko dan Etika mencatatkan min terendah tetapi masih tinggi (M = 4.066), menunjukkan kesedaran murid terhadap risiko maklumat tidak tepat, keperluan mengekalkan identiti penulisan, pengesahan maklumat dan isu plagiarisme.

Secara keseluruhan, dapatan menunjukkan AI berpotensi menyokong peningkatan prestasi, motivasi, kreativiti dan proses semakan penulisan, namun penggunaannya perlu disertai penilaian kritis dan kesedaran etika.

Jadual 4. Ringkasan min konstruk soal selidik

Konstruk	Min	SP	Tahap
Penggunaan AI dalam Pembelajaran	4.393	0.609	Tinggi
Impak AI terhadap Kemahiran Menulis	4.395	0.609	Tinggi
Persepsi dan Motivasi	4.518	0.569	Tinggi
Pemikiran Kritis, Kreativiti dan Human Voice	4.457	0.614	Tinggi
Maklum Balas AI dalam Proses Penulisan	4.438	0.612	Tinggi
Cabaran, Risiko dan Etika Penggunaan AI	4.066	0.663	Tinggi

Secara sintesis, dapatan prestasi dan dapatan persepsi menunjukkan pola yang saling melengkapi. Dari sudut prestasi, semua responden mengalami peningkatan antara dua pentaksiran. Dari sudut persepsi pula, semua enam konstruk memperoleh min tinggi. Penerimaan paling kuat ialah pada aspek persepsi dan motivasi, diikuti pemikiran kritis, kreativiti dan human voice, maklum balas AI, impak terhadap kemahiran menulis dan penggunaan AI dalam pembelajaran. Pada masa yang sama, skor tinggi bagi cabaran, risiko dan etika menunjukkan penerimaan teknologi tidak semestinya menghilangkan kesedaran terhadap batasan dan risiko penggunaannya.

Dapatan ini selari dengan pandangan bahawa AI paling bermanfaat apabila ditempatkan sebagai sebahagian daripada proses pedagogi, bukan sebagai pengganti guru atau penulis. Meng et al. (2026) menunjukkan kepelbagaian fungsi AI sepanjang proses penulisan, manakala Scherer et al. (2026) melaporkan bahawa kesan maklum balas berasaskan algoritma terhadap penulisan berbeza mengikut hasil yang diukur. Justeru, pengajaran perlu memberi fokus kepada bagaimana murid menggunakan AI: menjana dan menguji idea, membandingkan alternatif, mendapatkan maklum balas, menyemak bahasa, membuat justifikasi dan memperbaiki draf.

Dalam konteks murid pintar cerdas dan berbakat, pendekatan ini amat relevan kerana AI boleh menjadi scaffold yang memperluas penerokaan dan cabaran intelektual. Namun, keputusan akhir berkaitan isi, hujah, bahasa dan gaya perlu kekal berada pada murid. Guru pula berperanan membimbing murid menilai ketepatan output, membezakan cadangan yang sesuai dan tidak sesuai, serta mengekalkan human voice. Dengan demikian, penggunaan AI boleh menyokong autonomi tanpa mengurangkan keperluan murid untuk berfikir.

Walaupun dapatan menunjukkan potensi yang positif, generalisasi perlu dibuat secara berhati-hati kerana kajian dilaksanakan dalam konteks khusus Kolej PERMATApintar Negara. Selain itu, data soal selidik merupakan laporan kendiri dan tidak membuktikan bahawa setiap komponen kemahiran menulis meningkat pada kadar yang sama. Kajian lanjutan dicadangkan menggunakan reka bentuk kuasi-eksperimen dengan kumpulan kawalan, tempoh intervensi yang lebih panjang dan analisis kualiti teks yang lebih terperinci.

KESIMPULAN

Kajian ini menunjukkan bahawa terdapat peningkatan prestasi penulisan selepas tempoh pengajaran berasaskan AI, dengan min markah meningkat sebanyak 8.80 markah dan perbezaan yang signifikan serta saiz kesan yang sangat besar. Pada masa yang sama, semua enam konstruk pengalaman penggunaan AI berada pada tahap tinggi, dengan Persepsi dan Motivasi mencatatkan min tertinggi.

Secara pedagogi, AI berpotensi dimanfaatkan sebagai alat sokongan untuk penjanaan idea, pengembangan isi, perancangan, maklum balas, penyemakan dan penambahbaikan. Namun, keberkesanan penggunaannya bergantung pada reka bentuk pengajaran yang mengekalkan peranan aktif murid dan bimbingan guru. Murid perlu kekal sebagai pemikir, penulis dan pembuat keputusan utama, manakala AI berfungsi sebagai scaffold pembelajaran yang memperluas pilihan dan maklum balas.

Memandangkan reka bentuk kajian tidak melibatkan kumpulan kawalan, peningkatan prestasi tidak boleh ditafsirkan sebagai kesan kausal AI secara mutlak. Penyelidikan masa hadapan dengan reka bentuk kuasi-eksperimen dan kumpulan kawalan diperlukan bagi mengukuhkan bukti tentang keberkesanan pengajaran penulisan berasaskan AI.

PENGHARGAAN

Penghargaan dirakamkan kepada Pusat PERMATApintar Negara, Universiti Kebangsaan Malaysia serta semua murid yang terlibat dalam kajian ini atas sokongan dan kerjasama yang diberikan sepanjang proses pengumpulan data.

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Bahasa Persuratan Dan Gaya Penulisan Dalam Manuskrip Warisan Warkah Melayu

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ABSTRAK

Gaya penulisan dan bahasa persuratan dalam sejarah Melayu nusantara perlu diambil iktibar dalam mengangkat peradaban bangsa. Penulisan ini bertujuan menganalisis gaya penulisan dan bahasa persuratan warkah Melayu berdasarkan 100 manuskrip yang diwartakan. Manuskrip dianalisis secara naratif dan historisisme baharu bagi melihat hubungan teks dalam pelbagai konteks sosiobudaya, sosiopolitik, dan tradisi pada zamannya. Ia turut merujuk kepada kritikan oleh Abdullah Munsyi dan Raja Ali Haji. Dapatan kajian mendapati bahawa terdapat gaya penulisan rasmi warkah warisan Melayu yang tersusun serta bahasa persuratannya yang pelbagai. Banyak panduan yang boleh diteladani dan nilai yang boleh diangkat, di samping beberapa isu yang perlu dijadikan garis sempadan dalam penulisan dan berbahasa. Hal ini jelas melakarkan wajah peradaban Melayu pada era tersebut sebagai warisan bernilai yang boleh diteladani dan iktibar kini.

Kata kunci: Tradisi persuratan Melayu, kritikan sosial, sejarah Alam Melayu, diplomasi Melayu.

PENGENALAN

Bahasa persuratan dalam sejarah Melayu nusantara berdasarkan 100 entri manuskrip yang diwartakan perlu dibedah untuk dijadikan tatapan dan iktibar semua. Dalam usaha forensik ini, beberapa langkah metodologi ditelusuri; bermula mengenali warkah-warkah sumber teks, menghayati konteks sejarah pada era berkenaan, sehinggalah melalui proses analisis dan perolehan dapatan. Justifikasinya adalah untuk memupuk kesedaran masyarakat tentang kepentingan sejarah dan WWM sebagai penyumbang warisan hidup (*living heritage*) kepada generasi kini, di samping menambahkan lagi khazanah ilmu tentang dokumen warisan terakam.

Manuskrip rujukan ini ialah naskhah kompilasi besar bertajuk *The Legacy of the Malay Letter* (*Warisan Warkah Melayu*) (1994) oleh Annabel Teh Gallop (bersama esei oleh E. Ulrich Kratz), terbitan The British Library untuk Arkib Negara Malaysia. Metodologi analisis yang digunakan ialah penganalisisan naratif (*narrative analysis*) dan historisisme baharu (*new historicism*) bagi melihat hubungan teks dalam konteks sosiobudaya, sosiopolitik, dan tradisional. Metod ini turut mengambil kira kajian dan penulisan lepas.

DAPATAN KAJIAN

1. GAYA PENULISAN PERSURATAN WARKAH MELAYU

Struktur penulisan warkah Melayu tradisional secara rasminya terikat dengan format teratur. (diambil daripada format warkah diplomatik Sultan Iskandar Muda dari Aceh kepada Raja Inggeris James I (disebut Raja Yakub) 1615:

1. Permulaan dan Puji-pujian: pemulaan dan puji-pujian (Bismillah al-rahman al-rahim dan al-Hamdu li-llah) selalu dimulai dengan al-Hamdu li-llah setelah permulaan, sesuai dengan maksud warkah tersebut. Seterusnya disusuli dengan selawat ke atas Nabi Muhammad SAW, keluarga, serta para sahabat Baginda. Selanjutnya, penulis akan mengucapkan lafaz salam dan puji-pujian yang membesarkan puji-pujian terhadap penerima, umumnya menggunakan kiasan alam seperti matahari, bulan dan bintang serta cakerawala.

2. Nama Penerima dan Doa: Setelah nama penerima surat, diadapun nama mesti disampaikan dan secara adatnya disertai Doa Kesejahteraan yang layak dan Munasabah mengikut kedudukan penerima surat.

3. Kata Pemisah (Transisi): Raja Ali Haji dalam Bustan al-Katibin (1857) menspectifikasikan penggunaan frasa Arab spesifik *wabadahu* dan '*ammabaadu* sebagai kata pemisah antara pendahuluan dan isi utama. Penggunaan frasa ini lebih terjangkau penggunaan frasa kalam al-mazkur atau terjemahan harfiah 'adapun kemudian daripada itu'.

4.Maksud atau Isi Warkah: Menyatakan tujuan utama warkah, termasuk kebiasaan memetik kata-kata daripada surat jawapan sebelumnya.

5. Penyebutan 'Tanda Hidup' (Cenderamata): Menyatakan 'Tanda Hidup' (cenderamata) di akhir syatar (baris) teks atau ungkapan merendah diri apabila tiada hadiah fizikal dikirimkan.

6. Penutup dan Pengesahan: Disudahi dengan Selawat ke atas Nabi Muhammad SAW, Butiran masa Yang Terperinci (Tarikh, Bulan, Hari dan Waktu) Cap Mohor, dan Khat peribadi pengirim selepas disemak (dimukamilahkan).

FORMAT TERBAIK SEBAGAI PANDUAN

Format yang bersifat fleksibel mengikut konteks dan fungsi:

Format Diplomatik Tradisional (Gaya Istana): Format ini merupakan format yang untuk menaikkan darjat, menjaga keluhuran hubungan diplomatik antara kerajaan besar dan menunjukkan kekayaan budaya Melayu. Format ini dimulai dengan puji-pujian bahasa Arab yang panjang, gelaran kebesaran dan kiasan alam yang amat mendalam sebelum masuk ke tujuan utama dengan menggunakan kata peralihan (*wabadahu/ammabadahu*).

Ringkas dan Tepat (Gaya Pentadbiran Moden): Format yang membuang segala kiasan meleret ini dianggap sebagai format yang terbaik dan paling matang apabila digunakan untuk urusan pentadbiran moden, terutamanya dengan pegawai Eropah atau urusan perdagangan bertempo pantas. Ia menyingkap pujian-pujian tua dan masih terus membahas isi penting (bernombor) sehingga mudah difahami. Meskipun dianggap 'orang bertelanjang' oleh orang Melayu tradisional, format ini disokong sebagai format yang memperlihatkan akal dan pemikiran asli penulis dan yang menjimatkan masa dan wang.

Format Dekri Izin Berdagang amat jelas, berwibawa, dan memberikan perlindungan undang-undang yang menyeluruh, bagi menjamin keselamatan pelabur asing di pelabuhan tempatan. Struktur dan Gaya: Dikeluarkan secara sehala oleh raja kepada sekalian pembesar dan rakyatnya dan menggunakan bahasa arahan yang konklusif.

Format Perjanjian Konsesi (Kontrak): Untuk permasalahan pajak (penggalian tanah), format warkah perjanjian yang disusun padat dan spesifik dengan Undang-Undang yang menentukan untuk kedua-dua pihak.

Format Pekeliling Awam (pengisytiharan terbuka): Untuk menghebahkan undang-undang baharu kepada rakyat awam berskala besar, format pengisytiharan terbuka mula digunakan. Warkah ini dicetak dan bukan ditujukan kepada orang tertentu, tetapi dibuka kepada umum. Isinya menyatakan asal-muslihat, perbuatan penyelesaian kerajaan dan hukuman.

Format Petisyen Kolektif: Bagi menunjukkan persetujuan atau sokongan kolektif mewakili sesebuah komuniti, format warkah ditandatangani beramai-ramai oleh wakil pelbagai latar belakang. Teks utama mengungkapkan perasaan kepuasan hati rakyat pelbagai bangsa terhadap keadilan pemerintahan Gabenor..

2. BAHASA PERSURATAN WARKAH MELAYU

Laras bahasa warkah Melayu yang dilaksanakan menggunakan bahasa merendah diri yang membahaskan diri seperti 'hina papa' atau 'daif tiada berdaya' dan frasa keikhlasan seperti 'suci putih hati yang hening' dan doa kesejahteraan, mendukung nilai kesopanan yang tinggi.

1.Kritikan terhadap Kesopanan Palsu dan Adat Meleret. Kajian mendapati tiada warkah rasmi yang ditulis dalam bahasa kesat. Dikemukakan disini adalah kritik tajam terhadap bahasa persuratan yang berubah dari fungsi aslinya sedangkan namun adalah kritik yang lemah, yang tidak bertujuan mengkritik secara tajam.

Penerimaan Warkah Berterus Terang: Surat tidak diberikan pujian, pernah dinyatakan oleh Munsyi Abdullah bahawa surat tanpa pujian dianggap 'bodoh' oleh masyarakat tradisional. Orang Melayu yang kuat dan mengekang adat, ketika

membaca surat yang pendek dan ringkas begini, seumpama “orang bertelanjang”.

2.Sopan santun dan bertertib. Terdapat upaya penyingkapan kiasan cakerawala dan penggantian cakerawala dengan laporan rasional (pengalaman pelayaran lima hari di laut, pemerhatian pada kapal asap, dan kisah menangkap ikan tenggiri) sehingga bahasa kesantuan kekeluargaan tetap dipertahankan tetapi kiasan cakerawala dan kata asap dibuang. Kesopanan penulisan sebenar adalah dalam kejujuran mesej, bukan formulasi puji-pujian palsu.

3.Kritikan Munsyi sebagai Sempadan/Tauladan:

a) Menyalahgunakan anugerah: Bahasa adalah anugerah Allah yang harus digunakan untuk tujuan yang berguna, tetapi tidak boleh disia-siakan dengan memuja manusia berlebihan.

b) Menganiaya golongan jujur: Penulis yang berterus terang dianggap tidak bersopan hanya kerana tidak mahu berbohong dengan pujian melampau.

c) Melahirkan sifat angkuh (‘conggak’): Pujian palsu membuat penerima ‘bebal’ dan membuatnya terasa kembang hati tanpa tempat.

d) Mencerminkan masyarakat kurang pekerjaan (bangsa kecil): Memenulis pujian meleret, membuang waktu dan belanja para saudagar besar.

e) Mengagungkan amalan meniru (plagiat): Masyarakat terpedaya dengan tulisan terasul yang disalin bulat-bulat, bukannya hasil pemikiran asli.

PERBINCANGAN

Persuratan Melayu lama menawarkan gabungan nilai etika yang tinggi sebagai tauladan, dan teguran kritis yang bertindak sebagai sempadan (kawal selia) bagi memastikan kemajuan akal fikiran masyarakat masa kini. Berikut adalah bagaimana persuratan lama boleh mengangkat peradaban moden:

1.Pengalaman Sebagai Tauladan

Ketinggian Adab dan Ketertiban Komunikasi: Peradaban lama dalam persuratan melayu mengajarkan peradaban sekarang peradaban pentingnya adab dan penghormatan dalam berurusan.

Ketegasan, keyakinan dan kedaulatan Identiti: Warkah diplomatik yang lama sudah mengajarkan kepada generasi sekarang mengenai bagaimana untuk mengangkat darjat bangsa saat berurusan dengan kuasa asing. Dengan mempamerkan keyakinan dan kebanggaan ke kedaulatan diri untuknya, Surat Sultan Iskandar Muda kepada Raja Inggeris James I (1615), merincikan kekayaan kerajaannya, misalnya: gajah bergading emas dan bermahligai gading, berukir berkerawang. Selepas meneriakkan kewibawaan ini, baginda dengan tegas menetapkan syarat, pedagang Inggeris hendaklah tunduk kepada undang-undang di dalam ibu negeri Aceh agar mereka boleh berniaga di dalam negeri. Ini adalah pelajaran dalam diplomasi antarabangsa tentang jati diri dan diplomasi yang tegas.

Kejelasan dan Ketelusan dalam Perjanjian Jangka Panjang: Dalam soal ekonomi dan pentadbiran, warkah Melayu mempamerkan amalan ketelusan yang patut dicontohi masa kini.

2. Sebagai Sempadan (Peringatan Dan Batasan)

Pembaziran Kata dan Retorik Kosong: Sempadan yang jelas yang perlu diberikan agar masyarakat tidak menjadi bangsa yang membuang masa dengan retorik yang meleret. Beliau berkritik dengan keras adat warkah yang membagi 3 perempat surat hanya untuk puji-pujian kosong, manakala maksud sebenar yang berguna hanya dimuatkan di "tiga empat mistar (baris)" di bahagian bawah. Beliau menasihatkan agar peradaban melayu tidak menyalahgunakan bahasa yang merupakan anugerah Allah SWT, untuk perkara yang sia-sia.

Menjauhi Sifat Taklid (Meniru Melulu) dan Mengangkat Pemikiran Asli: Persuratan Lama juga menjadi sempadan agar generasi sekarang tidak menjadi masyarakat yang lurus bendul meniru persuratan lama tanpa kefahaman.

Mencegah Budaya Ampu dan Menyuburkan Keangkuhan: Satu lagi sempadan moral yang digariskan ialah bahaya pujian melampau yang boleh merosakkan pentadbiran. Adat meletakkan gelaran yang bukan-bukan kepada seseorang. Situasi amalan tidak sihat ini hanyalah akan menimbulkan sikap angkuh yang tidak bertempat.

KESIMPULAN

Naskhah WWM menawarkan banyak panduan dan iktibar yang sangat relevan untuk diaplikasikan oleh generasi sekarang. Berikut

adalah pedoman dan hikmah yang dapat diteladani terkait dengan gaya penulisan:

1. Mengutamakan Keaslian Pemikiran Berbanding Meniru (Plagiat). Penulis moden mesti elakkan daripada budaya copy-paste atau sekadar menggunakan templat tanpa berfikir. Penulisan gaya perlulah asli, dan sesuai dengan kebijaksanaan dan sesuaikan mengikut situasi dan kehendak sebenar penulis.

2.Kejelasan, Ketepatan dan Mengelakkan Pembaziran Kata. Generasi kini harus melebihi yang disebut komunikasi berkesan dan berterus-terang (komunikasi asertif). Mesej utama, seperti isi penting (nombor satu, dua dan tiga) draf Munsyi Abdullah kepada Tuan Bonham harus dirasa secara formal seperti penulisan draf, dan terus diperincikan secara jelas dan tepat.

3. Kesantunan yang Beralas dan Tidak Melampaui Batas (Pengelakan Budaya Ampu). Gaya penulisan haruslah mengekalkan rasa hormat, namun pujian perlulah berpada-pada, profesional, dan ikhlas mengikut kelayakan sebenar penerima.

4. Struktur Penulisan yang Sistematik dan Pemisahan Konteks. Garis panduan format penulisan yang amat teratur dan masih relevan untuk surat rasmi moden:

- Penggunaan Kata Peralihan (Transisi): Untuk menghindari kesambaran antara pendahuluan (sapaan) dengan isi surat utama penulis hendakah menggunakan penanda wacana atau kata pemisah yang jelas seperti wabadahu atau ammabadahu (adapun kemudian daripada itu).

- Ketelitian butiran: Surat wajib diseliwat dengan rekod masa yang terperinci (tarikh, bulan, hari, waktu) dan disahkan cap mohor dan dengan khat diri pengirim untuk keabsahan.

- Semakan akhir (Proofreading): Beliau juga meletakkan syarat agar setiap surat "dibaca dahulu dimukamilahkan" (disemak sampai sempurna) sebelum dikirimkan untuk memastikan tiada kesilapan fakta atau bahasa.

- Kejituan Terma Undang-undang dan Ketegasan dalam Perjanjian.

- Menyuarakan Bantahan dengan Berdiplomasi. Gaya penulisan warkah Melayu amat cemerlang dalam menyuarakan ketidakpuasan hati atau aduan tanpa menggunakan kata-kata kesat.

PENGHARGAAN

PEMIKIR, FBI, UMK kerana menyediakan kemudahan dalam menjalankan penyelidikan ini.

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What Anchors Motivation in AI-Mediated English Learning? A Correlational Profile of Twelve Learner Constructs

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ABSTRACT

Generative artificial intelligence has moved quickly from novelty to everyday study companion for university language learners, yet what sustains their motivation to learn English with these tools remains loosely understood. This study profiles that motivational landscape and asks which learner-level constructs travel most closely with it. Seventy-one Malaysian undergraduates completed a 48-item questionnaire spanning twelve constructs drawn from technology-acceptance and motivational theory, each rated on a five-point agreement scale. Internal consistency was sound across constructs (Cronbach's α between .68 and .95), and perceptions were moderately positive overall, with cultural interest and hedonic motivation rated highest and social influence lowest. Motivation correlated most strongly with behavioural intention, self-regulation, self-efficacy, and emotional well-being (r between .85 and .89), and least with social influence (r = .46). Utilitarian acceptance beliefs such as effort and performance expectancy occupied a middle band. The pattern suggests that motivation in AI-mediated English learning is anchored more in learners' internal regulatory and affective resources than in external persuasion, a finding with direct implications for how institutions design AI support.

Keywords: artificial intelligence, English language learning, learner motivation, self-efficacy, technology acceptance

INTRODUCTION

Within a few academic cycles, generative artificial intelligence has settled into the daily routines of university language learners, who now turn to conversational systems for explanation, correction, and rehearsal of English. Adoption studies have mapped this shift largely through the lens of technology acceptance, asking what makes students willing to use such tools (Tang et al., 2024; W. Wang & W. Wang, 2025; Wang & Zhang, 2026). Far less settled is the question that matters most for sustained learning: once the novelty fades, what keeps learners motivated to study English with AI at all? Motivation is among the more durable predictors of language attainment, yet in AI-mediated settings it has often been treated as a by-product of acceptance rather than as a construct worth examining on its own terms.

The available evidence is encouraging but uneven. Experimental and quasi-experimental work reports gains in learner motivation when AI scaffolds reading, writing, and speaking tasks (Huang et al., 2025; Lin et al., 2025), while retrodictive and longitudinal accounts caution that AI can depress motivation as readily as it lifts it, depending on how learners regulate their use (L. Zhang et al., 2025). Two theoretical traditions frame the present study. The Unified Theory of Acceptance and Use of Technology supplies the cognitive-instrumental and social constructs that explain technology uptake, among them performance and effort expectancy, social influence, facilitating conditions, and hedonic motivation (Venkatesh et al., 2012). Self-determination theory supplies the internal layer, locating motivation in the satisfaction of competence, autonomy, and relatedness, and in the enjoyment and well-being that accompany them (Ryan & Deci, 2000). Recent language-learning research has begun to braid the two, tying AI acceptance to self-efficacy, self-regulation, enjoyment, and well-being (Demirci et al., 2025; S. Wang & Y. Wang, 2025; Zhou & Wang, 2026).

What remains thin is a learner-centred description that places motivation at the centre and asks which constructs sit closest to it within a single sample. This study addresses that gap. It profiles undergraduate learners' perceptions

across twelve constructs spanning acceptance beliefs, affective experience, and self-regulatory capacity, and it ranks those constructs by their association with motivation to learn English using AI. The aim is descriptive and relational rather than causal: to establish where motivation is anchored before any claim about mechanism can responsibly follow.

RESULTS AND DISCUSSION

Seventy-one Malaysian undergraduates completed an online questionnaire of forty-eight items, four per construct, each rated on a five-point agreement scale from strongly disagree to strongly agree. The instrument covered effort and performance expectancy, social influence, facilitating conditions, hedonic motivation, cultural interest, future value, behavioural intention, self-efficacy, self-regulation, well-being, and motivation. Responses were complete, with no missing data. Construct scores were formed as item means; reliability was assessed with Cronbach's alpha, and relationships were examined with Pearson correlations. The sample skewed female (75%) and toward first-year students (63%), with most rating their English between beginner and intermediate and reporting weekly or monthly AI use, predominantly ChatGPT (Figure 1).

Reliability was acceptable to excellent across the twelve constructs, with alpha ranging from .68 for effort expectancy to .95 for behavioural intention, and a value at or above .90 for seven of the affective and self-regulatory scales (Table 1). Perceptions were uniformly positive but moderate, every construct mean falling between 3.26 and 3.63 on the five-point scale (Figure 2). Learners rated cultural interest and hedonic motivation highest, which suggests that the appeal of AI lies as much in enjoyment and cultural exploration as in instrumental gain. Social influence sat lowest, an early signal that peer and teacher pressure figures weakly in how these students relate to AI.

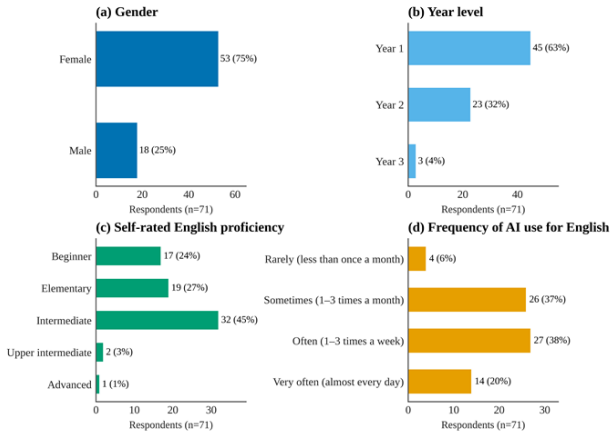

Figure 1. Sample profile of respondents (N = 71): gender, year level, self-rated English proficiency, and frequency of AI use for English learning.

Table 1. Construct descriptive statistics, internal-consistency reliability, and bivariate correlation with motivation (N = 71).

Construct	M	SD	α	r with Motivation
Performance expectancy	3.51	0.62	.76	.63
Effort expectancy	3.53	0.65	.68	.59
Social influence	3.26	0.65	.72	.46
Facilitating conditions	3.43	0.72	.84	.60
Hedonic motivation	3.60	0.74	.91	.81
Cultural interest	3.63	0.69	.91	.71
Future value	3.48	0.67	.86	.79
Behavioural intention	3.52	0.77	.95	.89
Self-efficacy	3.52	0.72	.90	.86
Self-regulation	3.41	0.71	.94	.86
Well-being	3.51	0.73	.93	.85
Motivation	3.56	0.71	.93	—

Note. α = Cronbach's alpha. All correlations with motivation significant at $p < .001$.

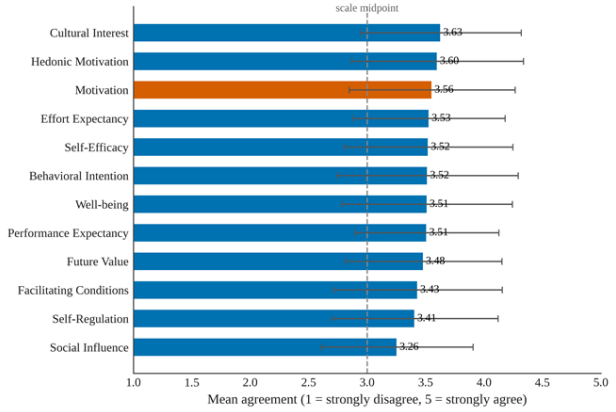

Figure 2. Construct means with standard-deviation bars; the dashed line marks the scale midpoint and the outcome construct (motivation) is shown in orange.

The correlational structure is where the study earns its keep. Motivation aligned most closely with behavioural intention (r = .89), self-regulation (r = .86), self-efficacy (r

= .86), and well-being (r = .85), followed by hedonic motivation (r = .81) and future value (r = .79); every coefficient was significant at p < .001 (Figure 3). The utilitarian acceptance beliefs that dominate much of the adoption literature occupied a middle band, with performance expectancy (r = .63), facilitating conditions (r = .60), and effort expectancy (r = .59) trailing the affective and regulatory constructs. Social influence was the weakest correlate by a clear margin (r = .46). Read together, the ranking tells a coherent story: motivation in this sample is bound up with what learners bring to the interaction, their confidence, their capacity to regulate their own study, and the enjoyment and emotional steadiness they draw from it, more than with whether the technology is easy, useful, or socially endorsed.

This pattern is consistent with a growing body of language-learning research. The centrality of self-efficacy echoes findings that generative AI acceptance raises well-being chiefly by strengthening learners' confidence (Zhou & Wang, 2026), and the prominence of self-regulation accords with reviews positioning AI as a partner in, rather than a substitute for, regulated learning (Z. Zhang et al., 2025). The weight of hedonic motivation recovers the role of enjoyment documented in affective accounts of AI attitudes (S. Wang & Y. Wang, 2025), while the value attached to future relevance resonates with evidence that learning value, not ease of use, best predicts intention to adopt generative AI (Tang et al., 2024). The weakness of social influence is the more surprising result. It runs against models in which social influence predicts intention to use AI for informal English learning (Wang & Zhang, 2026), and it hints that for these students AI use is already normalised enough that peer endorsement adds little motivational weight.

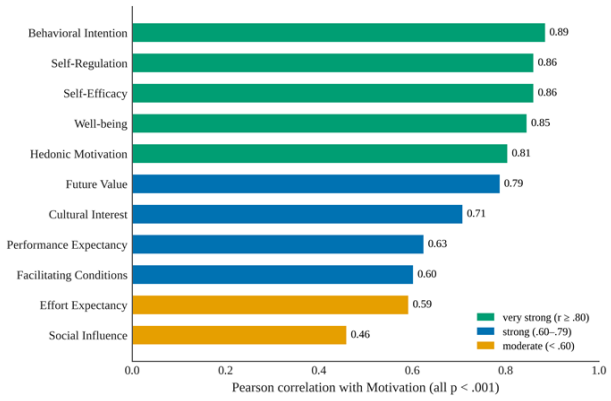

Figure 3. Bivariate Pearson correlations between each construct and motivation, ranked from strongest to weakest; bars are shaded by correlation magnitude.

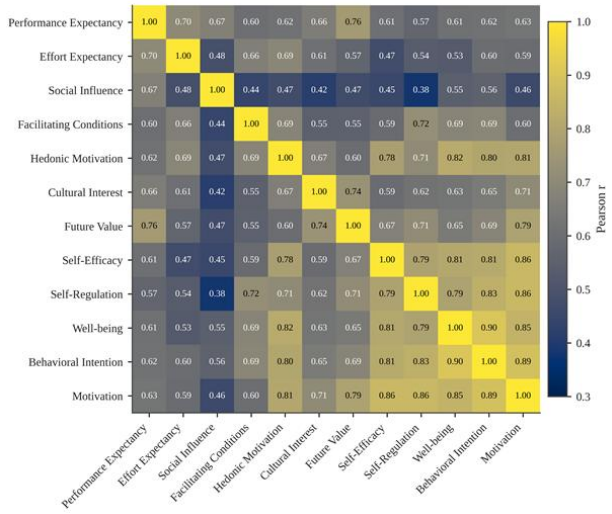

Figure 4. Inter-construct correlation matrix; uniformly high coefficients among the affective and self-regulatory constructs indicate limited discriminant separation.

Several constraints bound these claims. The design is cross-sectional and correlational, so the ordering describes association, not causation; it is as plausible that motivated learners regulate better and enjoy more as that regulation and enjoyment drive motivation. The sample is small, non-probabilistic, drawn from a single setting, and skewed by gender and year of study, which limits generalisation. Self-report gathered in one sitting invites common-method variance, and the very high inter-construct correlations, together with an overall scale alpha of .98, point to limited discriminant validity among the affective and self-regulatory measures (Figure 4). The near-tautological link between behavioural intention and motivation should be read in that light. These are reasons to treat the rankings as a map for hypothesis-building rather than as settled structure.

CONCLUSION

Motivation to learn English with AI, in this sample, rests more on internal engines than on external scaffolds. Confidence, self-regulation, enjoyment, and emotional well-being travelled closest to it, while ease of use, usefulness, and social endorsement mattered less. The practical implication is that institutions hoping to convert access to AI into durable engagement should invest in the learner side of the equation, designing support that builds self-efficacy and regulatory skill and that protects enjoyment and well-being, rather than assuming that availability or peer norms will carry motivation on their own. Because the present evidence is correlational and locally sampled, the next step is to test these relationships with larger and more representative cohorts and with

longitudinal or experimental designs, and to subject the construct structure to confirmatory modelling that can separate genuine drivers from shared method and conceptual overlap.

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Acceptance and Perceived Challenges of ChatGPT in ESL Academic Writing: A TAM-Based Study among Undergraduate Students in Malaysia

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ABSTRACT

This study investigates English as a Second (ESL) undergraduate students' acceptance of ChatGPT as a tool for academic writing and examines the relationships of perceived risk, social influence, and anxiety with behavioural intention and usage behaviour. Guided by the Technology Acceptance Model (TAM), the study employed a quantitative design involving 100 students enrolled in an Academic Writing course at a private university in Perak, Malaysia. Data were collected using a structured questionnaire containing 36 items measured on a five-point Likert scale. The findings indicated moderate to positive acceptance of ChatGPT across the TAM constructs. Usage behaviour recorded the highest mean score (M = 3.64, SD = 0.71), whereas behavioural intention recorded the lowest (M = 3.11, SD = 0.72). The regression model predicting behavioural intention was statistically significant, explaining 46.8% of its variance. Anxiety and social influence were significant positive predictors of behavioural intention, whereas perceived risk was not significant. The usage-behaviour model was also statistically significant, explaining 43.2% of the variance in usage behaviour. Perceived risk, social influence, and anxiety were all significant positive predictors of usage behaviour. The study provides evidence that ESL students' acceptance and use of ChatGPT are shaped by technological-acceptance factors as well as social and psychological considerations. These findings offer practical guidance for the responsible integration of AI-supported tools in ESL academic-writing instruction.

Keywords: ChatGPT; Technology Acceptance Model; ESL academic writing; behavioural intention; usage behaviour

INTRODUCTION

The rapid development of artificial intelligence (AI) has transformed higher education, with digital tools are increasingly integrated into teaching and learning. ChatGPT has gained considerable attention because of its human-like language-generation capabilities and its potential applications in higher-education assessment. In academic writing, ChatGPT may support ESL students by providing formative feedback and assistance with language-related barriers; an intervention study found a significant positive effect on undergraduate ESL students' academic-writing skills (Mahapatra, 2024).

The adoption of ChatGPT in academic writing can be examined through the lens of the Technology Acceptance Model (TAM), which explains technology acceptance through perceived usefulness, perceived ease of use, attitude, behavioural intention, and actual use (Davis, 1989). Students may be more willing to use ChatGPT when they perceive it as useful and easy to use. Abd Hadi et al. (2024) found that ESL students' intention to use ChatGPT for academic writing was associated with perceived usefulness and more positive attitudes towards the tool.

However, ChatGPT adoption is not determined only by its perceived usefulness. Students may encounter challenges that shape their

willingness to rely on the tool. Rasul et al. (2023) identified several challenges associated with ChatGPT, including academic integrity, reliability, learning assessments, and the risk of biased or inaccurate information. Perceived risk, social influence, and anxiety may also influence students' engagement with AI-assisted learning. Social influence is a central determinant of behavioural intention in the UTAUT model (Venkatesh et al., 2003), while research on ChatGPT adoption has identified social influence and AI anxiety as relevant factors in students' adoption intentions (Uludağ et al., 2025). Research has also linked AI risk perception and AI learning anxiety to students' capability to use AI tools (Jiang & Chen, 2026). Although existing research has discussed ChatGPT's educational opportunities, challenges, and language-learning applications, further empirical research is needed to examine technology acceptance alongside perceived challenges among ESL students in academic-writing contexts (Kohnke et al., 2023; Kasneci et al., 2023). Accordingly, this study investigates students' acceptance of ChatGPT for academic writing and examines the relationships of perceived risk, social influence, and anxiety with behavioural intention and usage behaviour.

RESULTS AND DISCUSSION

The study adopted the Technology Acceptance Model (TAM) as the main analytical framework. Data were collected using a structured questionnaire comprising 33 Likert-scale items across two sections. The first section measures technology acceptance, including perceived usefulness, perceived ease of use, attitude, behavioural intention, and usage behaviour, while second section measured perceived challenges, namely perceived risks, social influence, and anxiety. All items were rated on a 5-point Likert scale (Strongly Disagree to Strongly Agree). The study involved 100 students enrolled English Academic Writing course at a private-sector university in Perak; their demographic characteristics are presented in Table 1.

Table 1. Demographic Characteristics of Participants

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	42	42
	Female	58	58
Semester	5	55	55
	6	45	45
English proficiency level	Beginner	32	32
	Intermediate	55	55
	Advanced	13	13
Duration of ChatGPT use	Less than 1 month	8	8
	1 – 6 months	28	28
	More than 6 months	63	63
Frequency of ChatGPT use	Never	2	2
	Rarely	11	11
	Sometimes	63	63
	Often	16	16
	Always	8	8

Survey items measuring

Table 2. Reliability of Constructs

Variable	Number of Items	Cronbach's alpha
Perceived Usefulness (PU)	5	0.843
Perceived Ease of Use (PEU)	6	0.895
Attitude (AT)	5	0.852
Behavioural Intention (BI)	4	0.873
Usage Behaviour (UB)	3	0.870
Perceived Risks	5	0.899
Social Influence	5	0.722
Anxiety	3	0.805

Internal consistency reliability was assessed separately for each construct. For the first objective, the TAM constructs demonstrated good reliability, with Cronbach's alpha values of .843 for perceived usefulness, .895 for

perceived ease of use, .852 for attitude, .873 for behavioural intention, and .870 for usage behaviour. For the constructs related to the second objective, perceived risks, social influence, and anxiety also demonstrated acceptable to good reliability, with alpha values of .899, .722, and .805 respectively.

Table 3: Descriptive Statistics for TAM Constructs

Construct	*M*	*SD*
Usage Behaviour (UB)	3.64	0.71
Perceived Usefulness (PU)	3.52	0.58
Perceived Ease of Use (PEU)	3.46	0.56
Attitude (A)	3.25	0.64
Behavioural Intention (BI)	3.11	0.72

Addressing the first objective, Table 3 presents the means and standard deviations for the TAM constructs, indicating that respondents generally reported moderate to positive acceptance of ChatGPT. Usage behaviour recorded the highest mean score (M = 3.64, SD = 0.71), followed by perceived usefulness (M = 3.52, SD = 0.58), perceived ease of use (M = 3.46, SD = 0.56), attitude (M = 3.25, SD = 0.64), and behavioural intention (M = 3.11, SD = 0.72). The relatively low standard deviation suggest that respondents' views were fairly consistent across the constructs. These findings are broadly consistent with Zou and Huang (2023), who found that doctoral students in China reported a high intention to use ChatGPT for writing. Their TAM analysis further showed that attitude significantly predicted behavioural intention, while perceived usefulness and perceived ease of use positively influenced attitude and had significant indirect effects on behavioural intention. The present findings similarly indicate generally positive perceptions of ChatGPT across the TAM constructs.

Table 4: Multiple Regression Predicting Behavioural Intention to Use ChatGPT (n = 100)

Predictor	β	*t*	*p*
Perceived Risk (PR)	.055	.609	.544
Social Influence (SI)	.212	.153	.034
Anxiety (A)	.524	.047	<.001

Note. Dependent variable: behavioral intention. R^2 = .468, adjusted R^2 = .451, F (3,96) = 28.158, p <.001. β = standard regression coefficient.

Addressing the second objective, Table 4 presents multiple regression results analysis examining the effects of perceived risk, social influence, and anxiety on behavioural intention. The regression model was statistically significant, F (3,96) = 28.158, p <0.001, explaining 46.8% of the variance in the behavioural intention (R^2 = .468, adjusted R^2 = .451). Anxiety was the strongest predictor (β = .524, p < .001) was the strongest positive predictor of behavioural intention, followed by social influence (β = .212, p = .034). In contrast, perceived risk was not a significant predictor of behavioural intention (β = .067, p = .544). This indicates that after controlling for social influence and anxiety, perceived risk was not significantly associated with students stated willingness to use ChatGPT for academic writing.

Multicollinearity was acceptable, with variance inflation factors values ranging from 1.355 to 1.752 and tolerance values ranging from .571 to 0.738. The positive relationship between social influence and behavioural intention is consistent with Budhathoki et al. (2024), who found that social influence significantly predicted students' intention to adopt ChatGPT in both UK and Nepalese higher-education contexts. Their findings also showed that the effect of anxiety differed by context: anxiety negatively predicted intention in the UK but was not significant in Nepal. Joshi et al. (2025) likewise identified technology anxiety as an important factor in GenAI adoption, finding it significantly influenced behavioural intention and mediated the relationships between other acceptance factors and behavioural intention. However, the positive anxiety-intention relationship in the present study should be

interpreted cautiously and checked against the direction of the anxiety scale coding.

Table 5: Multiple Regression Predicting Usage Behaviour to Use ChatGPT (n = 100)

Predictor	β	t	p
Perceived Risk (PR)	.290	3.102	.003**
Social Influence (SI)	.255	2.508	.014*
Anxiety (A)	.273	3.048	.003***

Note. Dependent variable: usage behavioral. R^2 = .432, adjusted R^2 = .414, F (3,96) = 24.301, p <.001. β = standard regression coefficient. *p < .05. ** p < .01.

Table 5 shows the multiple regression results examining the relationships of perceived risk, social influence, and anxiety with usage behaviour. The overall regression model was statistically significant, F (3, 96) = 24.301, p < .001, explaining 43.2% of the variance in usage behaviour (R^2 = .432, adjusted R^2 = .414). Perceived risk (β = .290, p = .003), social influence (β = .255, p = .014), and anxiety (β = .273, p = .003) were all significant positive predictors of usage behaviour.

Multicollinearity was acceptable, with variance inflation factors values ranging from 1.355 to 1.752 and tolerance values ranging from .571 to .738, and tolerance values from .57 to .73. These findings suggest that higher perceived risk, social influence, and anxiety scores were associated with greater use of AI for academic writing. Previous UTAUT research identifies social influence as a determinant of behavioural intention, while behavioural intention is a direct determinant of use behaviour (Venkatesh et al., 2003).

CONCLUSION

ChatGPT is a versatile AI tool that can support functions students in dynamic learning environments. The findings indicate moderate to positive student acceptance of ChatGPT, with relatively consistent perceptions across the TAM constructs and particularly high usage behaviour. Social influence and anxiety are significant predictors of behavioural intention, while perceived risk, social influence, and anxiety were significantly associated with usage behaviour. These results underscore ChatGPT's potential as widely accepted tool in academic writing and personalised learning, while future research should explore the long-term effects of social and emotional factors on AI use in higher education.

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Developing HOTS-Focused Questioning Practices in Essay Writing Instruction among Malay Language Teachers in Rural Secondary Schools of Sarawak

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ABSTRACT

The utilization of Higher-Order Thinking Skills (HOTS)-focused questioning practices in essay writing instruction is important for strengthening teachers' pedagogical practices and supporting students' development of higher-order thinking. This study aimed to identify Malay Language teachers' existing knowledge and practices regarding HOTS-focused questioning techniques and to examine changes in their classroom practices following an instructional intervention in rural secondary schools in Sarawak, Malaysia. An action research design based on the Planning, Action, Observation, and Reflection cycle was employed. The participants comprised six Malay Language teachers and 145 Form Four students from two rural secondary schools. Data were collected through structured teacher interviews, classroom observations using a HOTS-focused questioning checklist, and students' pre- and post-intervention essay scores. The findings indicated that although teachers used various questioning strategies, the application of HOTS-focused questioning was initially inconsistent, particularly in terms of question clarity, encouraging investigation, and engaging students at higher cognitive levels. Nevertheless, following the intervention, classroom observations indicated greater use of questioning at the applying and creating levels, together with more interactive and student-centred teaching practices. Students' mean essay scores also increased across the excellent, moderate, and weak achievement groups, with the greatest gains observed among the moderate and weak groups. These findings suggest that structured instructional planning, intervention, and reflective support can contribute to the development of teachers' HOTS-focused questioning practices and may support improvements in students' essay writing performance. This study concludes that adoption of more structured, interactive, and student-centred approaches is essential to ensure instructional efficacy across various educational contexts.

Keywords: HOTS-focused questioning; Essay writing; Language teachers; Pedagogical; Rural secondary school.

INTRODUCTION

In 2021, the Malaysian Ministry of Education implemented the Standard Secondary School Curriculum in secondary schools. This curriculum emphasizes the importance of critical and creative thinking through higher-order thinking skills based on Anderson's Taxonomy. Integrating these higher-order thinking skills into classroom instruction will impact teaching effectiveness and student learning (Isa & Mahamod, 2021). To successfully implement higher-order thinking skills and questioning techniques in the teaching of the Malay language, it was necessary to review the old curriculum, integrate digital learning tools, and reassess the optimal distribution of resources, which includes teachers, devices, infrastructure, and teaching materials (Latifah, 2024). The Malay Language is a core subject, and students must pass it to obtain the Malaysian Certificate of Education, which is essential for further studies at the pre-university level. However, adopting higher-order thinking skills and questioning techniques in Malay language instruction faces challenges due to several constraints (Pillay et al., 2018). In rural secondary schools, teachers often struggle to differentiate between higher-order thinking skills (Hereinafter, HOTS) and problem-solving skills (Tyas et al., 2019). Before 2021, Socratic questioning was a common pedagogical practice to enhance HOTS in schools (Chew, 2023). However, after 2021, many teachers continued to rely on this questioning technique due to their familiarity with HOTS as a stimulus for critical thinking. A study on using questions in teaching essay writing revealed that the percentage of low-order questions was higher than that of high-order questions in several schools (Arif, 2019).

Teachers tended to view questions as tools for assessing factual knowledge rather than instruments for promoting more profound generalizations and inferences. Several factors contributed to students' difficulties in answering HOTS questions, including a lack of confidence, perceiving these questions as complex, and requiring longer, more detailed responses (Raflee & Halim, 2021). Research involving four educational programs indicated that students with high academic achievement scored better on HOTS assessments than their peers in low-achieving groups. However, in one of the programs, the low-achieving students outperformed the high-achieving group, raising essential questions about teaching strategies. These findings suggest that educators should encourage all students, regardless of academic standing, to engage in activities requiring HOTS (Zohar et al., 2003). Developing students' HOTS is a critical educational objective. While many learning theories emphasize the importance of fostering thinking skills for all students, some teachers mistakenly believe this focus is only suitable for high-achieving individuals. This perspective often leads to the assumption that low-achieving students cannot handle higher-order thinking tasks, leaving them to avoid the frustration of low scores. Such notions can result in the mistreatment of these students. Therefore, it is essential to investigate whether empirical evidence supports this belief (Zohar et al., 2003).

Previous studies indicate that teachers' knowledge, readiness, and skills in HOTS remain moderate, with some teachers demonstrating limited understanding of HOTS concepts and cognitive levels (Nik Lah & Surat, 2023). A gap also exists between the need to develop students' critical and creative thinking and teachers' ability to implement HOTS-focused questioning (Chandra & Heryadi, 2020). Limited time, resources, training, and heavy workloads further constrain implementation, often resulting in conventional teaching approaches (Andin & Rosmiza, 2023; Rahim & Halim, 2022). These challenges are particularly evident in rural schools, where teachers may face difficulties supporting students' critical writing development, especially for public examinations (Yahya et al., 2020).

Integrating HOTS into questioning can promote deeper understanding, critical thinking, and writing proficiency (Zohar et al., 2003). Wilen's questioning technique provides a structured approach to stimulating critical thinking through purposeful question planning, clear formulation, adaptation to students' abilities, and follow-up responses (Wilen, 1991). Rather than focusing primarily on memorisation or assessing students' weaknesses, questioning should provide opportunities for students to express ideas, make inferences, and engage in deeper cognitive thinking (Mokter, 2019; Salam, 2019). Thus, structured questioning can serve as an important pedagogical tool for strengthening students' cognitive engagement in writing.

Therefore, this study employed an action research approach to examine the development of HOTS-focused questioning practices among Malay Language teachers in rural secondary schools in Sarawak, Malaysia. Specifically, the study aimed to: (1) identify teachers' existing knowledge and practices regarding HOTS-focused questioning techniques; and (2) examine changes in teachers' implementation of HOTS-focused questioning techniques in essay-writing instruction following an instructional intervention. Students' pre- and post-intervention essay scores were also examined to provide an indication of changes in writing performance. The study contributes contextual evidence on the development of teachers' HOTS-focused questioning practices and the potential role of structured, interactive, and student-centered instruction in supporting essay writing in rural secondary schools.

RESULTS AND DISCUSSION

Development of Teachers' HOTS-Focused Questioning Practices

The findings indicate that the six Malay Language teachers had some existing knowledge of questioning strategies, but the implementation of HOTS-focused questioning in essay writing instruction was initially inconsistent. The interview data showed that teachers used a variety of questioning approaches, including open- and closed-ended questions, Bloom's Taxonomy, 5W1H, and questions beginning with "why" and "how." However, their approaches to essay writing instruction varied considerably. Some teachers relied on structured writing frameworks and memorisation techniques, whereas others emphasised questioning, idea development, and students' responses.

The classroom observations provided further evidence of the differences between teachers' reported knowledge and their actual classroom practices. During the pre-intervention phase, all six teachers attempted to use questions related to the lesson objectives. However, only one teacher was observed to formulate questions that were consistently clear, concise, and understandable to students. Two teachers used questions that encouraged students to investigate, while the remaining four mainly used questions that generated curiosity without requiring students to undertake further investigation. These findings suggest that awareness of questioning techniques

did not necessarily translate into consistent higher-order classroom practice.

Significantly, the interview findings revealed several contextual challenges that may have contributed to the inconsistent use of HOTS-focused questioning. Teachers reported students' limited background knowledge, reluctance to read, lack of confidence in responding to questions, difficulty understanding question requirements, and time constraints during essay writing lessons. These challenges are important because HOTS-focused questioning requires sufficient classroom time for students to interpret questions, formulate responses, discuss ideas, and receive feedback. Consequently, teachers may revert to simpler or more structured questioning when students require substantial scaffolding.

Subsequently, the observation findings indicated improvement in teachers' questioning practices. Teachers made greater use of questions at the applying and creating levels and incorporated audio-visual materials, structured keywords, discussion, presentation of student work, and opportunities for students to relate ideas to real-life issues. The intervention also encouraged teachers to guide students in developing essays paragraph by paragraph while allowing them to express ideas from their own perspectives.

These changes suggest that structured instructional planning and reflective intervention can support teachers in translating knowledge of HOTS into classroom questioning practices. Rather than using questions only to check students' understanding, teachers increasingly used questions to guide idea generation, evaluation, and development. This finding is particularly relevant to action research because the intervention was not treated as a one-time training activity; rather, the teachers' practices were examined through planning, action, observation, and reflection. The findings therefore support the value of continuous professional support in developing teachers' questioning practices.

Changes in Students' Essay Writing Performance

The assessment of students' essay writing skills in the pre-test and post-test is based on criteria aligned with the Malaysian Certificate of Education (SPM) standards to provide a measure of students' progress and achievements. Table 1 presents the descriptive statistics of students' pre- and post-intervention essay scores. This evidence shows the impact of educational intervention on student performance.

Table 1. Descriptive Statistics of Students' Pre- and Post-Intervention Essay Scores

	Class	Mean	Standard Deviation	N	Level
No Intervention (pre-test)	Excellent	47.60	4.982	50	High
	Average	41.71	5.082	48	Moderate
	Weak	39.34	8.244	47	Low
With Intervention (post-test)	Excellent	48.20	4.703	50	High
	Moderate	46.73	4.779	48	High
	Weak	44.51	7.584	47	High

A paired-samples t-test was conducted to determine whether the difference between students' pre-test and post-test essay scores was statistically significant. The quantitative findings indicate an increase in students' mean essay-writing scores following the intervention. Before the intervention, the excellent-achievement group recorded a mean score of 47.60 (SD = 4.982), the moderate-achievement group recorded 41.71 (SD = 5.082), and the weak-achievement group recorded 39.34 (SD = 8.244). Following the intervention, the corresponding mean scores increased to 48.20 (SD = 4.703), 46.73 (SD = 4.779), and 44.51 (SD = 7.584), respectively. Overall, the mean essay score increased from 42.97 (SD = 7.132) before the intervention to 46.52 (SD = 5.972) after the intervention, representing a mean increase of 3.54 points.

The magnitude of improvement differed across the three achievement groups. The excellent group showed a relatively small increase of 0.60 points, whereas the moderate and weak groups increased by 5.02 and 5.17 points, respectively. This pattern is noteworthy because it suggests that the intervention may have provided greater benefits for students who initially demonstrated lower levels of essay-writing performance. The narrowing of the descriptive difference between the groups after intervention further suggests a possible reduction in the performance gap.

A paired-samples *t*-test was conducted to determine whether the difference between students' pre-test and post-test essay scores was statistically significant. The analysis showed a statistically significant increase in students' essay-writing scores following the intervention, $t\ (145) = 8.36$, $p < .001$. The mean difference was 3.54 points, with a 95% confidence interval ranging from 2.71 to 4.38. The effect size was moderate to large (Cohen's *d*

= 0.69), indicating that the observed improvement was not only statistically significant but also of meaningful magnitude.

The improvement can be interpreted in relation to the instructional changes observed during the second cycle. The intervention incorporated brainstorming, model essays, idea evaluation, collaborative writing, and self-directed learning. Teachers also used questions such as "why" and "how" to encourage students to examine and develop their ideas. These activities provided students with opportunities to construct ideas before translating them into written form. Such an approach is consistent with research suggesting that HOTS-oriented questioning can support students' writing development by encouraging them to analyse and develop ideas rather than merely reproduce information.

Nevertheless, the findings should be interpreted cautiously. Although essay scores increased significantly following the intervention, the action research design does not establish that the questioning intervention alone caused the improvement. Other factors, including familiarity with the essay task and topic, teachers' increasing familiarity with the lesson plan, and broader constructivist activities, may also have contributed. Thus, the findings indicate improvement following the intervention and an association between the intervention, teachers' HOTS-focused questioning practices, and students' essay performance.

Overall, the findings show development in both teacher practice and student performance. Teachers initially demonstrated varied knowledge but inconsistent use of HOTS-focused questioning. Following structured intervention and reflection, they used higher cognitive levels, particularly applying and creating, while students across all achievement groups recorded higher mean essay scores. The findings further highlight the importance of sustained professional support and reflective practice in translating HOTS knowledge into effective classroom questioning.

CONCLUSION

This study indicates that structured intervention can support the development of HOTS-focused questioning practices among Malay Language teachers in rural secondary schools. Following the intervention, teachers demonstrated greater use of higher-order questioning, particularly at the applying and creating levels, while students' mean essay-writing scores increased significantly from the pre-test to the post-test. The findings suggest that HOTS-focused questioning is most effective when integrated with structured, interactive, and student-centred writing activities such as brainstorming, discussion, idea development, and revision. Continued professional development and reflective support are recommended to sustain the implementation of HOTS-focused questioning practices in rural secondary-school contexts. This approach also expands access to advanced education and reinforces the principle of lifelong learning, which is the foundation for continuous professional development (Mohamed et al., 2025). Therefore, this study suggests that Malay language teachers in rural areas should have a good foundational knowledge of the importance of incorporating focused questioning elements during teaching to ensure that students' understanding of essay writing activities is improved.

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The Effects of 528 Hz Tibetan Singing Bowl Sound on University Students' Focus, Calm, and Well-Being

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ABSTRACT

The transition to university life brings unique challenges that can greatly affect students' academic success and overall well-being. This qualitative study explored the possible benefits of an online 528-Hz Tibetan Singing Bowl sound as a mindfulness practice to address the challenges of increased stress and decreased attention among university students. Ten undergraduates took part in eight-weeks of virtual auditory mindfulness sessions, three times a week, each session lasting 71 minutes. Data were collected through semi structured interviews and reflective journals which gave useful insights into participants' experience. Students reported feeling calmer, more focused, more self-aware, with better attention and a more positive outlook. Inductive thematic analysis identified three themes: improved well-being, deep relaxation, and heightened attention. The results suggest that inclusion of a 528 Hz Tibetan singing bowl into digital mindfulness practices can significantly improve university students' well-being, calm and focus.

Keywords: Undergraduate Well-Being, Mindfulness, 528 Hz Frequency, Tibetan Singing Bowls, Higher Education.

INTRODUCTION

Many university students struggle with academic pressures, financial constraints, adapting into new social environments, and separation from family support, particularly during their early years. These challenges can have a substantial effect on their academic success and well-being (Jiang, 2020). Bishop et al. (2004) define mindfulness as the ability to self-regulate momentary attention and approach present experiences with curiosity, openness, and acceptance. They view mindfulness as a general human capacity and a trainable skill.

In higher education, mindfulness practices like yoga, meditation, and tai chi have been shown to boast students' self-awareness and adaptive coping strategies, foster personal growth and resilience to both personal and academic stress (Bywater & Keane, 2026), and increase students' concentration, academic achievement, time management and sleep quality (González-Martín et al., 2023).

However, university students often miss out on formal mindfulness programs due to their busy schedules (Rowland et al., 2020).
Therefore, digital mindfulness interventions that dismantle time and space barriers can be highly beneficial for today's university students (Nardi et al., 2022). For instance, online soundscapes can offer tranquillity without requiring specialized training or prior experience (Río-Álamos et al., 2023). New research shows that digital mindfulness activities—such as Tibetan instruments and Solfeggio tones—can enhance students' well-being, focus, and relaxation (Alvarado-Garcia et al., 2025).

The purpose of this study was to advance understanding in this area by exploring the following research question: How do undergraduates subjectively experience and interpret the effects of listening to a 528 Hz Tibetan Singing Bowl sound on YouTube (https://www.youtube.com/watch?v=yEP2YrD-dyY)?

The research involved ten undergraduate volunteers (R1 to R10) who listened to a 71-minute Tibetan Bowls soundtrack three times a week for eight weeks during their study sessions. Before beginning the intervention, all participants provided informed consent and were briefed on the research protocols. They also completed demographic questionnaires and were instructed not to engage in any other meditative activities during the period.

To evaluate participants' experiences before, during, and after the mindfulness intervention, themes and subthemes

were developed from participants' weekly logs and semi-structured interviews using inductive thematic analysis (Braun & Clarke, 2006).

RESULTS AND DISCUSSION

Although some students initially expressed discomfort due to unfamiliarity with Tibetan Bowl practices, all had adjusted by the fourth week of the sound intervention. Schwind et al. (2024) emphasize the value of sustained engagement in contemplative research. In line with this, the present study revealed that, initially, participants were uncomfortable with the new sound practices but became acclimated to them over time.

The quotes are illustrative examples of themes and subthemes developed inductively. For clarity, some were slightly adjusted (Table 1, not included here).

Attention Theme: All the participants (R1–R10) reported that the 528 Hz Tibetan bowl sound had improved their ability to focus, be attentive, and be aware of their surroundings while studying and revising online, after the sessions. The cognitive effects are consistent to prior research indicating that repetitive audio stimuli can increase social and cognitive awareness and improve engagement and concentration during tasks performance (Gilbert et al., 2023).

Interestingly, one of the participants (R3) mentioned that the repetitive sound increased attention but did not find it calming. The finding shows that relaxation and attentiveness are distinct states that warrant further study.

Relaxation Theme: Most participants consistently praised the sound vibrations as "calming and soothing" describing the experience as both beneficial and rejuvenating. They reported a greater sense of calm, reduced tension, and diminished distractions, with two students noting improved sleep quality.

These results are consistent with prior research demonstrating that Tibetan singing bowls—including 528 Hz soundscapes—can induce muscle relaxation, improve sleep (Gal & Elefant, 2025), and alleviate discomfort, anxiety, and tension through their acoustic properties (Río-Álamos et al., 2023).

Furthermore, Akimoto et al. (2018) found that just five minutes of exposure to 528 Hz significantly reduced anxiety and cortisol levels (stress hormone), while Zeidan et al. (2010) reported that 20-minute mindfulness auditory stimulation decreased negative mood and increased calmness among undergraduates.

Well-Being Theme: After the listening sessions, some participants reported feeling good, confident, more energetic and composed. Several students also noted reduced negativity in their thoughts and feelings, describing a greater sense of emotional control, accepting things as they are, and learning to take things easy.

The study found that listening to the 528Hz singing bowl sound led to increased optimism and positivity, as well as reduced pessimism and negativity. The findings are consistent with prior research showing that mindful, repetitive sound can foster a positive outlook, reduce negative thoughts, support emotional regulation, and alter negative mindsets (Hwang et al., 2023).

The 528 Hz Tibetan Singing Bowl is often used in mindfulness practices to encourage relaxation and focus. Philips et al. (1999) have suggested that Tibetan Bowls produce calming and rhythmic sounds which give a continuous auditory focus that reduces the impact of external disruptions and enhances mental clarity therefore helping in maintaining attention and eliminating distractions.

Their harmonic overtones also engage brain circuits involved in emotion regulation and auditory consciousness (Isbel et al., 2020). Furthermore, a recent study found that exposure to 528 Hz soundscapes improved well-being, reduced anxiety, and enhanced mood (Heti & Yeshaswini, 2024).

Figure 1 presents a proposed conceptual framework for this study, integrating the three emergent themes—attention, relaxation, and well-being—within a four-stage mindfulness process.

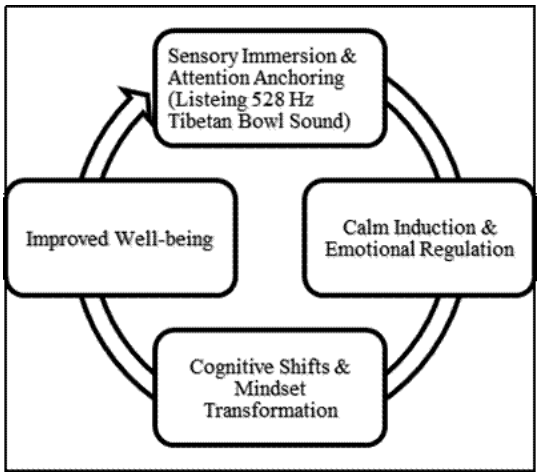

Figure 1. Proposed Four-Stage Conceptual Model of Mindfulness Induction via 528 Hz Tibetan Bowl Sound

The conceptual framework describes four stages: (1) Participants were exposed to the 528 Hz repetitive sound of the Tibetan Bowl. The sound's distinctive resonance and frequency acted as an anchor, gradually diverting attention from external distractions and fostering present-moment awareness (*Sensory Immersion and Attention Anchoring*).

(2) As participants focused on their online tasks with the background sound, they reported feeling relaxed and calm. This state contributed to emotional regulation by decreasing the physiological and psychological arousal associated with negative emotions (*Calm Induction and Emotional Regulation).*

(3) As the relaxation and awareness of the present moment intensified, the participants experienced a natural shift in mental patterns – reduced negative thoughts, increased mental clarity and more positive thinking (*Cognitive Shifts and Mind-set Transformation*). (4) The overall effects of this were three main outcomes: less negativity, better outlook and more sense of calm (*Improved Well-Being*). The process is cyclical. When repeated, listening sessions increase self-awareness over time.

The study ended with all participants saying they would like to continue the practice themselves, showing the positive effects of the sound intervention. These positive experiences, the findings suggest, can raise students' intrinsic motivation to continue practicing mindfulness on their own.

However, the present study found it difficult to assess subjective experiences as participants sometimes struggled to articulate their insights. In addition, evaluation of altered states of consciousness was difficult due to individual differences in response. This points out that individual variability should be considered in future studies.

CONCLUSION

The current study showed that a brief exposure to a 528 Hz Tibetan Singing Bowl mindfulness intervention can lead to relaxation, improve attention, and well-being among university students. The results demonstrate the practical consequences of mindfulness practice. Future research should consider the long-term effects of this sound intervention—combining participant insights, well-being measurements, and mindfulness scales (mixed methods)—across wider age groups.

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Fluent Frames, Fragile Clauses: Selective Uptake of a B1-Targeted Model-Text Intervention by CEFR A2 Writers

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ABSTRACT

Model-text instruction is a mainstay of foundation-level academic writing, yet what novice writers carry from a model into independent production is rarely measured feature by feature. This study traces the uptake of a ten-lesson, genre-based intervention in a low-proficiency English course (LMCE1052 Bridging English) for CEFR A2 undergraduates at a Malaysian public university. The module taught English Grammar Profile B1 structures through the Sydney School teaching-learning cycle, deconstructing a model essay, annotating its connective frame, and substituting its content for a new topic. Using a convergent analysis of the 22 end-of-semester transfer essays (5,453 words), we coded frame retention and substitution success, counted every taught feature in whole and self-generated text, and applied the course rubric. The four-move frame was retained in 18 of 22 scripts, and organisational discourse markers transferred and were used productively, with sequencing at 52 tokens and contrastive however at 26, outnumbering complex-clause tokens roughly seven to one. The taught clause grammar barely appeared: the conditional once across the corpus, purpose and result not at all. The rubric records the same divide, content and organisation at 3.23 against target grammar at 1.18 of 4. Model-text instruction delivered the architecture of B1 writing to A2 learners while leaving its grammatical substance untaught, with consequences for how foundation writing is sequenced and assessed.

Keywords: model-text instruction; genre pedagogy; English Grammar Profile; CEFR A2; second language writing

INTRODUCTION

What a writing curriculum models, it teaches twice: once as content, and once as a template for what counts as competent prose. In English-medium higher education, where students carry the cognitive load of new ideas and the linguistic load of an additional language at the same time, that template does heavy work, and the swift expansion of English-medium instruction across Asian universities has widened the distance between curricular ambition and the proficiency students bring (Macaro et al., 2018). For learners entering at CEFR A2, a model essay is not merely a guide but a scaffold they lean on heavily, which raises a question the field rarely answers with evidence: when an A2 writer imitates a model, what transfers to their own writing, and what does not.

The study was set in the LMCE course for first-year undergraduates at Universiti Kebangsaan Malaysia, most at A2 on entry. Its ten-lesson module was built on the Sydney School teaching-learning cycle (Hyland, 2007; Rose & Martin, 2012), pairing model-text deconstruction with controlled-to-guided production, and each lesson targeted a structure validated at B1 by the English Grammar Profile (O'Keeffe & Mark, 2017). Three questions organise the study. Which taught features does an A2 writer carry into independent writing on a new topic? Does uptake differ between the organisational layer of discourse markers and the clausal layer of

complex grammar? And how does measured feature uptake compare with holistic rubric attainment?

METHODOLOGY

Design and participants. The study uses an exploratory, classroom-based mixed-methods design centred on the writing one intact cohort produced after instruction. Participants were the undergraduates enrolled in the LMCE course, most at CEFR A2 and sharing Bahasa Melayu as first language. The corpus is their end-of-semester essays: 22 were complete and one was a conclusion fragment excluded from analysis, totalling 5,453 words at a mean of 248 (range 150 to 443), with 19 on studying alone and three on studying in a group.

Intervention. The cohort worked through the ten-lesson module following the teaching-learning cycle: model presentation, guided deconstruction, a noticing task in which learners underlined target forms (Schmidt, 1990), controlled imitation by substitution, and guided independent writing. Each lesson targeted one English Grammar Profile B1 structure, from conditionals and discourse markers to relative, reason, concession, and purpose clauses. A single model on campus clubs was deconstructed and its content substituted onto a practice topic, while the assessed task set a third, unrehearsed topic, so performance indexed transfer of a frame rather than recall.

Instruments and data analysis. Three instruments were applied to each script: pattern-matched counts of every taught feature; two analyst-coded judgements, frame retention and substitution success, each rated high, partial, or low; and the course's four-point analytic rubric across target grammar, cohesive devices, content and organisation, and general accuracy, with a 0-to-3 scale recording five error families. Analyses are descriptive. We report feature frequencies and their dispersion across scripts, the ratio of discourse-marker to complex-clause tokens, rubric means and standard deviations, and error-family means. To separate the learners' own production from retained model wording, each script was partitioned into spans shared verbatim with the instructional corpus, four words or longer, and self-generated spans, with feature counts recomputed over the latter. Coding was single-rater, and a second-coder reliability check is the immediate next step.

RESULTS AND DISCUSSION

The genre template transferred cleanly. Frame retention was high in 18 of 22 scripts and partial in four, with the model's opening move surviving near-verbatim, as in "University life is not just about attending lectures and passing exams" (writer 2). Substitution succeeded in 17 scripts, was partial in four, and failed in one. The organisational markers were both frequent and well dispersed: sequencing markers appeared 52 times across 18 of the 22 scripts, sentence-initial however 26 times across 18, and the two-sided on the one hand frame 31 times across 17 (Figure 1; Table 1). This is the uptake genre pedagogy predicts, where explicit attention to staging and connectives lifts the visible organisation of novice text (Hyland & Tse, 2004; Yasuda, 2011).

The clause-combining grammar that carried the substance of the B1 syllabus did not follow. The first and second conditional in target form occurred once in the entire corpus; the purpose and result structures of the final lesson did not occur at all; concession surfaced eight times in seven scripts but predominantly as the looser while; and defining relative clauses appeared seven times in only five scripts. Reason clauses with because were frequent at 48 occurrences, but because is available far below B1. Aggregated, organisational markers outnumbered complex-clause tokens by roughly seven to one, 113 against 16.

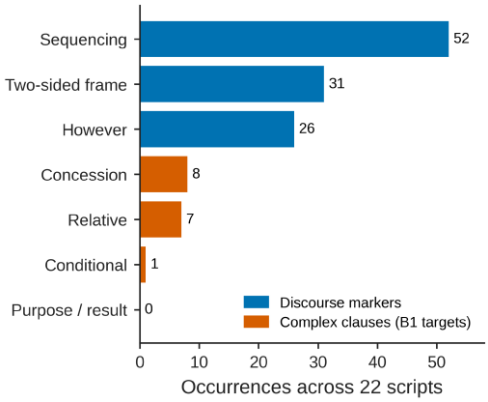

Figure 1. Occurrences of taught features across the 22 scripts, by layer. Discourse markers (blue) transferred; the B1 complex-clause targets (orange) did not.

The course rubric records the same asymmetry. Content and organisation averaged 3.23 of 4 (SD 0.73) and cohesive devices 3.27 (SD 0.62), both near the ceiling, while target grammar, the criterion rewarding accurate B1 complex structures, averaged 1.18 (SD 0.39), near the floor, with general accuracy between them at 2.14 (SD 0.55). A near-ceiling organisation score beside a near-floor grammar score on the same scripts is the quantitative face of the complexity-accuracy trade-off long noted in second language

production (Housen & Kuiken, 2009). The error families that depressed accuracy were, in every case, untaught: subject-verb agreement at a mean severity of 1.77 of 3, article use at 1.68, spelling at 1.64, copula and verb form at 1.50, and number at 1.23.

The dissociation is intelligible once the taught objects are distinguished. Discourse connectives are largely formulaic and can be lifted whole, whereas a conditional or a concessive clause requires the writer to coordinate tense, modality, and subordination, which an A2 grammar cannot perform on demand merely because the form was noticed and copied; noticing is a necessary condition for learning, not a sufficient one (Schmidt, 1990). The implication is that clausal grammar needs a strand of its own, with focused, output-pressed practice, since model-text work is efficient at delivering what can be chunked and inert against what must be constructed.

Table 1. Uptake of taught features in the final writing test (n = 22 scripts).

Taught feature	EGP category	Occurrences	Scripts	In self-generated text
Sequencing (firstly, secondly, finally)	Discourse markers	52	18	87%
Contrast: however	Discourse markers	26	18	88%
Two-sided frame (on the one/other hand)	Discourse markers	31	17	0%
Reason (because, since)	Conjunctions	48	20	100%
Concession (although, even though, while)	Clauses	8	7	100%
Defining relative (who, which, where)	Clauses	7	5	100%
Conditional (if + will / would)	Clauses	1	1	100%
Purpose / result (so that, in order to)	Clauses	0	0	n/a

CONCLUSION

A ten-lesson model-text module moved the architecture of B1 argumentative writing into the independent production of A2 learners while leaving its clause grammar behind: the four-move frame and the sequence and contrast markers transferred and were used productively, the conditional, concession, relative, and purpose clauses did not, and the rubric split of 3.23 for organisation against 1.18 for grammar captures the divide. The study is bounded by one cohort, a single prompt, no comparison group, a post-intervention design that licenses claims about uptake rather than gain, and single-coder categories pending a reliability check. Its constructive contribution is a sequencing principle: model-text deconstruction teaches the staging and cohesion of a genre well to low-proficiency writers and the grammar that fills the stages poorly, so the two should be sequenced and resourced separately rather than expected to arrive together.

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Development and Validation of Humanity-Centric Curriculum Evaluation Scale for University Students in Malaysia

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ABSTRACT

The Malaysia Higher Education Blueprint (MHEB) 2026-2035 marked a critical educational shift towards humanity-centric education due to various disruptive technologies and global challenges. However, there is a lack of comprehensive instruments that can measure and evaluate how well current curricula implemented in Malaysian higher education institutions (HEI) are aligned with this new national policy. This study aims to develop and validate a Humanity-Centric Curriculum Evaluation Scale (HCCES) through exploratory factor analysis. Data were collected and analyzed from a sample of 249 undergraduate students across four Malaysian universities. The results revealed a two-factor structure, namely Ethics and Values (EV) and Holistic Well-being (HW). The factors accounted for 55.2% of the total variance and factor loadings ranged from 0.51 to 0.99, indicating practically significant construct validity. Reliability analysis established excellent internal consistency with Cronbach's alpha coefficients of 0.92 for both sub-constructs. This study offers a psychometrically valid and reliable measurement tool for institutional and curriculum leaders in evaluating the policy-curriculum alignment. This instrument represents a small step toward a giant leap in the country's MHEB Strategy 1A, humanizing the curriculum for ethical and holistic future-ready graduates.

Keywords: Curriculum Evaluation, Ethics, Scale Development, Holistic Education, Humanistic Curriculum

INTRODUCTION

The higher education landscape is experiencing an unprecedented change that was driven by disruptive technologies such as artificial intelligence and online learning, necessitating a critical paradigm change in how academic programs are designed and how university students are prepared for the future. In direct response to these global challenges, the Ministry of Higher Education Malaysia officially launched the Malaysia Higher Education Blueprint (MHEB) 2026–2035, marking a definitive policy shift toward a humanity-centric educational model. Central to this national blueprint is Strategy 1A, which explicitly mandates local universities to 'humanize the curriculum' for highly ethical, balanced, and holistic future-ready graduates (Ministry of Higher Education Malaysia, 2026).

Ethical and holistic character extend beyond plagiarism avoidance to broader commitments such as honesty, responsibility, and accountability in both graduates' personal and professional life. These values lead to long-term employability and trust in their future professions, as employers often seek graduates who demonstrate ethical judgment, social responsibility, and the ability to work within culturally diverse teams (Wong et al., 2016; Lilley et al., 2016). Moreover, humanistic focused curricula enhance graduates' readiness to contribute positively to society through ethical leadership, community service, and responsible decision-making, all of which are

paramount in today's rapidly changing global landscape (Sanjani et al., 2024; Iqbal et al., 2022).

However, a crucial evaluative gap persists as there is currently a lack of psychometrically validated instruments that can measure how Malaysian higher education institutions' (HEI) curricula align with this new national policy. This absence means that institutional and curriculum leaders are unable to accurately evaluate and ascertain the extent to which their curricula actively support the national policy. To directly resolve this gap, this study systematically operationalizes a newly developed Humanity-Centric Curriculum Evaluation Scale (HCCES) built upon the core pillars of the current national blueprint. Therefore, the objectives of the study are:

1. To determine the construct validity of the HCCES
2. To determine the reliability of the HCCES

METHODOLOGY

The study utilized a correlational design by distributing a cross-sectional survey to undergraduates at four different public and private Malaysian universities. The instrumentation for this study involved the development of a new scale aimed to operationalize and measure the main construct of humanity-centric curriculum based on Malaysia Higher Education Blueprint (MHEB) 2026-2035. Items were developed based on two humanistic sub-constructs which are Ethics and Values (EV) and Holistic Well-being (HW). EV is defined as "fostering integrity, empathy, and accountability while prioritising societal and planetary well-being over individual needs" while HW refers to "the holistic development of intellectually, spiritually, emotionally, and physically balanced individuals" (Ministry of Higher Education Malaysia, 2026).

Initial 24 item statements were developed based on the blueprint, meeting the recommended number of items suggested by Hair et al. (2019) which is at least five items for each proposed factor/sub-construct. Items are scored using a 5-point Likert scale ranging from Strongly Disagree to Strongly Agree. The content validity of the instrument was assessed by a panel of four experts. The experts reviewed the items on a 4-point scale of relevance, and the results established excellent validity as the content validity index (CVI) was 1.0 (Yusoff, 2019).

The estimated sample size falls within the range of 120-240 respondents, following Hair et al.'s guidelines (2019) which requires a minimum of five and at least ten observations per item. Participants were recruited by their university lecturers through online Google Form survey distribution. Data was analyzed using Exploratory Factor Analysis (EFA) for construct validity and Cronbach's alpha analysis for reliability.

RESULTS AND DISCUSSION

254 surveys were completed but 1 response was omitted due to the lack of consent, and 4 other responses were also omitted during the data screening stage as they were identified as data outliers. Hence, a total of 249 responses were included for analysis, meeting the optimal limit of the predetermined sample size estimation. Table 1 shows the descriptive statistics for each item of the instrument which includes the sample means and standard deviations.

Table 1. Descriptive Statistics

Item	Mean	S.D.
EV1: My university curriculum taught me positive values needed to develop good character (adab).	4.31	.662
EV2: My university curriculum helped me show good character (adab) when interacting with others in my daily life.	4.30	.555
EV3: My university curriculum taught me that positive values are equally important as academic performance.	4.36	.552
EV4: My university curriculum taught me the importance of ethics in life.	4.29	.514
EV5: My university curriculum helped me make ethical decisions in morally ambiguous situations.	4.14	.603
EV6: My university curriculum instilled a strong sense of academic integrity in myself.	4.22	.559
EV7: My university curriculum taught me that I am responsible for my actions.	4.37	.602

EV8: My university curriculum gave me an in-depth understanding of Malaysian history.	4.03	.704
EV9: My university curriculum gave me an in-depth understanding of diverse Malaysian cultures.	4.19	.596
EV10: My university curriculum taught me to respect cultural differences.	4.33	.556
EV11: My university curriculum instilled a strong national identity in myself.	4.20	.639
EV12: My university curriculum taught me to have empathy toward other people.	4.25	.584
EV13: My university curriculum taught me to show kindness to other people.	4.33	.529
HW1: My university curriculum developed my creativity for meaningful innovations.	4.07	.662
HW2: My university curriculum developed my critical thinking skills for problem-solving.	4.29	.574
HW3: My university curriculum encouraged me to live a healthy lifestyle.	4.12	.675
HW4: My university curriculum encouraged me to live a productive life.	4.18	.580
HW5: My university curriculum instilled a strong sense of self-awareness in myself.	4.22	.566
HW6: My university curriculum taught me how to effectively communicate with other people.	4.31	.594
HW7: My university curriculum taught me that empathy is key to harmonious relationships.	4.20	.570
HW8: My university curriculum helped me become a firm believer of God.	4.13	.729
HW9: My university curriculum helped me develop high moral standards.	4.24	.575
HW10: My university curriculum made me a holistic individual (intellectual, emotional, physical, and spiritual balance).	4.16	.650
HW11: My university curriculum helped me navigate complex challenges of a rapidly changing world.	4.10	.665

Table 2. Assumptions of EFA

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.941
Bartlett's Test of Sphericity	Approx. Chi-Square	3294.047
	df	190
	Sig.	<.001

Prior to conducting the factor analysis, conceptual and statistical assumptions of EFA were addressed. First, the instrument was developed based on the MHEB 2026-2035, which provides a strong theoretical foundation for the assumption that the items will structurally cluster into specific factors. Next, based on Table 2, the Bartlett's test of sphericity was found to be statistically significant ($p<.001$), indicating that sufficient correlations exist among the variables to proceed with EFA. Moreover, the Kaiser-Meyer-Olkin's measure of sampling adequacy yielded 0.941, indicating that the items are highly likely to identify good factor solutions based on their correlations. Collectively, these results supported statistical assumptions of EFA as recommended by Hair et al. (2019). Then, to establish the construct validity of the instrument, EFA using the Principal Axis Factoring extraction method with Promax rotation was conducted.

Table 4. Initial Eigenvalues

Factor	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	10.438	52.192	52.192
2	1.468	7.338	59.531

Table 5. Extraction Sums of Squared Loading

Factor	Extraction Sums of Squared Loading		
	Total	% of Variance	Cumulative %
1	9.996	49.981	49.981
2	1.046	5.232	55.213

The initial number of factors to be extracted was set to be two using a priori theoretical criterion, representing the two proposed sub-constructs of humanity-centric curriculum in the blueprint.

Following that, three additional criteria; the latent root (eigenvalues more than 1.0), percentage of variance explained, and the scree plot, were used to determine the final factor structure of the instrument. Based on Table 4 and Table 5, the results supported a two-factor structure with initial eigenvalues for Factor 1 (Ethics and Values) of 10.438 and Factor 2 (Holistic Well-being) of 1.468. This structure accounted for 55.21% of the total variance, indicating that it captured a substantial proportion of the variability in the observed items.

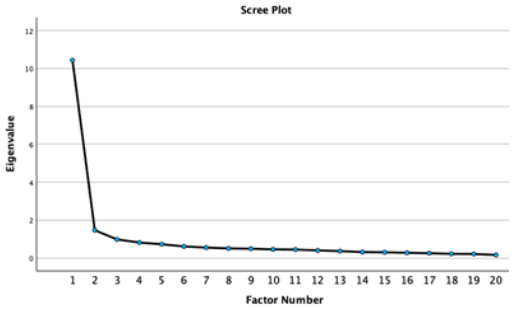

Figure 1. Scree Plot

The scree plot in Figure 1 also supported this structure as the 'elbow' (the point at which the curve begins to flatten) occurred at the third factor, providing the final confirmation for the retention of a two-factor solution in the instrument.

Table 3. Factor Loadings

Item	Factor	
	1	2
EV1	.632 (Removed)	
EV2	.793	
EV3	.737	
EV4	.736	
EV5	.665	
EV6	.539	
EV7	.440 (Removed)	
EV8	.587	
EV9	.627	
EV10	.833	
EV11	.664	
EV12	.568	
EV13	.516	
HW1		.461 (Removed)
HW2		.452 (Removed)
HW3		.751
HW4		.992
HW5		.678
HW6		.581
HW7		.797
HW8		.729
HW9		.528
HW10		.586
HW11		.667

Following that, using Hair et al.'s guidelines (2019) which stated that items with extraction communalities below 0.40 do not contribute significantly to the latent constructs and should be removed, EV1 (0.29) was removed. Additionally, items with a factor loading below 0.50 do not show practical significance between the observed variable and the latent construct and should also be removed and therefore, EV7 (0.44), HW1 (0.461), and HW2 (0.452) were removed iteratively. Table 3 shows that the final factor loadings ranged from 0.51 to 0.99, indicating practically significant construct validity. Moreover, there were no cross loadings across the items, indicating excellent discriminant validity between the sub-constructs. The final number of items in the instrument is 20 items. Finally, the instrument's reliability was assessed using the Cronbach's alpha coefficients. Both sub-constructs demonstrated excellent internal consistency as the Cronbach's alpha coefficients for Ethics and Values (11 items) was 0.922 and Holistic Well-being (9 items) was 0.919 (Nunnally & Bernstein, 1994).

CONCLUSION

This study developed and psychometrically validated a novel 20-item instrument named HCCES which is directly anchored in the strategic pillars of the Malaysia Higher Education Blueprint (MHEB) 2026–2035. It offers a valid and reliable measurement tool for higher education policymakers and institutional leaders to evaluate the alignment of Malaysian HEIs' curricula to the national policy. However, the exploratory nature of the study points to a limitation where the hypothesized structure cannot be confirmed without a subsequent Confirmatory Factor Analysis (CFA). Therefore, future research using CFA is recommended to further assess the measurement model's fit indices and ensure that the structure remains stable and replicable across different segments of the Malaysian higher education sector.

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Kemahiran Sebutan Bahasa Melayu Pelajar Antarabangsa: Perbandingan Markah Sebelum dan Selepas Sesi Pembelajaran

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ABSTRAK

Kemahiran sebutan merupakan aspek penting dalam komunikasi pelajar antarabangsa. Perbezaan struktur bahasa ibunda serta pengaruh bahasa Inggeris menyebabkan pelajar menghadapi kesukaran dalam menghasilkan sebutan bunyi bahasa Melayu dengan tepat dan jelas. Justeru, kajian ini bertujuan untuk menilai perubahan kemahiran sebutan pelajar antarabangsa sebelum dan selepas pelaksanaan intervensi pengajaran Bahasa Melayu. Kajian ini menggunakan pendekatan kuantitatif dengan reka bentuk kuasi eksperimen jenis *One-Group Pretest-Posttest*. Seramai 123 orang pelajar antarabangsa yang mengikuti kursus Bahasa Melayu untuk penutur asing terlibat sebagai responden. Data dikumpulkan melalui teks bacaan ujian dan borang pemarkahan, kemudian dianalisis menggunakan analisis deskriptif dan ujian pangkat bertanda Wilcoxon. Dapatan menunjukkan peningkatan skor purata sebanyak 6.76 markah antara ujian Pra dan Pasca. Ujian pangkat bertanda Wilcoxon pula menunjukkan terdapat perbezaan yang signifikan antara kedua-dua ujian, $Z = -9.516$, $p < .001$, dengan saiz kesan yang besar, $r = .86$. Dapatan kajian ini diharapkan dapat menjadi panduan kepada pengajar dalam memperkukuh strategi pengajaran sebutan Bahasa Melayu bagi meningkatkan penguasaan sebutan pelajar antarabangsa.

Kata Kunci: Kemahiran sebutan, bahasa Melayu, pelajar antarabangsa, ujian pra, ujian pasca

PENGENALAN

Penguasaan Bahasa Melayu merupakan satu keperluan penting bagi pelajar antarabangsa yang melanjutkan pengajian di institusi pengajian tinggi awam (IPTA) dan swasta (IPTS) di Malaysia. Hal ini kerana keupayaan berkomunikasi dalam bahasa tempatan dapat membantu mereka berinteraksi dengan komuniti setempat serta dapat meningkatkan keyakinan mereka untuk menyesuaikan diri dengan persekitaran dan kehidupan seharian. Di sesetengah universiti di Malaysia, pengajaran Bahasa Melayu kepada pelajar antarabangsa telah dijadikan sebahagian daripada program pembelajaran berstruktur bagi tujuan akademik dan komunikasi sosial (Rahim et al., 2023). Pelbagai institusi pengajian tinggi menawarkan kursus Bahasa Melayu sebagai bahasa asing bagi menyokong pelajar antarabangsa menyesuaikan diri dalam konteks pembelajaran dan kehidupan harian di Malaysia (Zainal et al., 2021).

Fokus utama dalam pengajaran Bahasa Melayu sebagai bahasa asing tertumpu kepada penguasaan asas komunikasi. Pengajaran bahasa ini biasanya menekankan empat kemahiran utama: membaca, menulis, mendengar dan bertutur. Keempat-empat kemahiran ini adalah saling melengkapi dan penting dalam membina kecekapan komunikasi secara menyeluruh dalam kalangan pelajar antarabangsa. Sebagai contoh, kemahiran membaca dan menulis sangat penting dalam memahami bahan akademik serta menghasilkan tugasan dan penulisan ilmiah. Sementara itu, kemahiran mendengar dan bertutur memainkan peranan dalam interaksi lisan dan komunikasi harian di dalam dan luar bilik kuliah (Hamid & Salleh, 2022).

Dalam konteks penguasaan keempat-empat kemahiran ini, sebutan atau pengucapan yang betul menjadi asas penting terutamanya dalam kemahiran mendengar dan bertutur. Sebutan yang tepat membantu pelajar memahami pertuturan penutur jati serta menyampaikan mesej dengan jelas. Malah, sebutan yang betul turut menyumbang kepada perkembangan kemahiran membaca melalui pengenalan fonem yang konsisten, dan membantu dalam menulis dengan lebih tepat apabila pelajar dapat mengaitkan bunyi dan ejaan sesuatu

perkataan (Mokhtar et al., 2020). Oleh itu, kemahiran sebutan bukan sahaja berkait rapat dengan kemahiran bertutur, tetapi turut mempengaruhi keseluruhan penguasaan bahasa pelajar.

Walau bagaimanapun, struktur bahasa ibunda pelajar yang berbeza daripada struktur bahasa Melayu, di samping pengaruh bahasa kedua seperti bahasa Inggeris menyebabkan pelajar menghadapi kekangan dalam mendalami kemahiran sebutan yang baik. Berdasarkan pemerhatian semasa, para pelajar cenderung untuk melakukan kesalahan daripada aspek gaya sebutan yang tidak jelas serta tambahan vokal selepas konsonan tertentu dalam perkataan. Hal ini menyebabkan para pelajar berhadapan dengan cabaran untuk berinteraksi dalam bahasa Melayu (Octaviani et. al., 2024). Di samping itu, pengajaran sebutan sering kali kurang diberi penekanan secara eksplisit dalam bilik darjah. Tenaga pengajar kebiasaannya lebih menumpukan perhatian kepada aspek tatabahasa dan kosa kata. Keadaan ini menunjukkan keperluan untuk memberi perhatian yang lebih terhadap pengajaran sebutan, khususnya dalam kalangan pelajar antarabangsa. Justeru, kajian ini bertujuan untuk menilai perubahan kemahiran sebutan Bahasa Melayu dalam kalangan pelajar antarabangsa di Universiti Kebangsaan Malaysia (UKM) berdasarkan perbandingan pencapaian sebelum dan selepas mengikuti sesi pembelajaran.

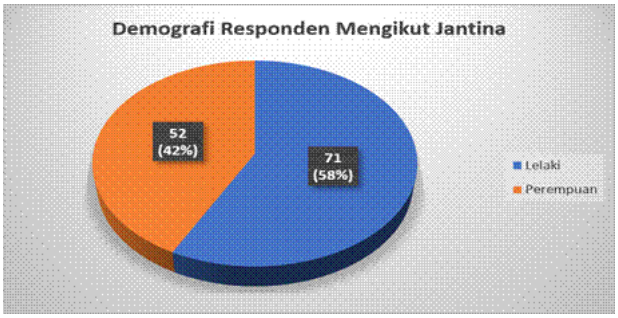
Kajian ini memilih pendekatan kuantitatif dengan reka bentuk kuasi eksperimen jenis ujian pra dan ujian pasca satu kumpulan (*One-Group Pretest–Posttest Design*). Reka bentuk ini melibatkan sekumpulan pelajar yang menjalani ujian pra sebelum sesi pembelajaran sebutan dan ujian pasca selepas mengikuti sesi pembelajaran. Sampel kajian terdiri daripada pelajar–pelajar antarabangsa di Universiti Kebangsaan Malaysia. Responden dipilih daripada kelompok pelajar yang mengikuti kursus Bahasa Melayu untuk penutur asing, kursus wajib pelajar antarabangsa di UKM. Teknik kutipan data adalah melalui penggunaan teks bacaan ujian dan borang markah ujian bacaan. Penghasilan teks ujian bacaan disesuaikan berdasarkan kandungan kursus yang merangkumi kemahiran sebutan dan bacaan pelajar seperti sebutan bunyi vokal, konsonan, diftong, rangkap vokal, gugusan konsonan serta konsonan pinjaman. Teks bacaan ujian melalui prosedur piawai pewasitan di peringkat jabatan.

Kajian dimulakan dengan taklimat kepada pelajar tentang tujuan serta prosedur kajian. Ujian pra dijalankan untuk mengetahui kemahiran sebutan sedia ada pelajar, diikuti oleh kaedah intervensi iaitu pengajaran tajuk sebutan kursus Bahasa Melayu untuk penutur asing. Ujian pasca dijalankan selepas 11 minggu sesi pembelajaran untuk menilai keberkesanan kaedah pengajaran terhadap kemahiran sebutan pelajar. Setelah semua data diperoleh, analisis data dilakukan dengan menggunakan aplikasi SPSS. Jadual 1 dan Rajah 1 menunjukkan demografi responden mengikut jantina dan fakulti.

Jadual 1. Demografi Responden Mengikut Fakulti

Fakulti	n	Peratus (%)
GSB	123	100.0
Jumlah	123	100.0

Jadual 1 pula menunjukkan kesemua 123 responden merupakan pelajar fakulti *Graduate School of Business* (GSB).



Rajah 1. Demografi Responden Mengikut Jantina

Rajah 1 pula menunjukkan 71 orang responden ialah pelajar lelaki bersamaan 58% manakala 52 orang responden merupakan pelajar perempuan iaitu sebanyak 42%.

HASIL DAN PERBINCANGAN

Markah Ujian Pra dan Pasca Sebutan. Jadual 2 menunjukkan analisis deskriptif bagi markah ujian Pra dan Pasca Sebutan yang merangkumi nilai min, sisihan piawai (SD), markah minimum, dan markah maksimum.

Jadual 2. Analisis Deskriptif bagi markah ujian Pra dan Pasca Sebutan

Penilaian	Min	SD	Minimum	Maksimum
Pra	15.89	5.80	7	30
Pasca	22.65	3.69	14	30

Jadual 2 menunjukkan berlaku peningkatan pada nilai min markah pelajar. Bagi ujian Pra, nilai min yang direkodkan ialah 15.89, manakala bagi ujian Pasca, nilai min meningkat kepada 22.65. Peningkatan purata yang

direkodkan bagi kedua-dua ujian ialah sebanyak 6.76 markah membuktikan bahawa terdapat peningkatan positif dalam tahap penguasaan sebutan pelajar selepas sesi pembelajaran (intervensi) dijalankan. Menurut Macario dan Villocino (2025), intervensi pembacaan yang membawa kepada peningkatan skor mengesahkan keberkesanan teknik pengajaran yang disesuaikan.

Nilai sisihan piawai (SD) bagi ujian pra ialah 5.80, manakala nilai bagi ujian pasca menunjukkan penurunan kepada 3.69 markah. Markah minimum pula menunjukkan peningkatan daripada 7 markah dalam ujian Pra kepada 14 markah dalam ujian Pasca. Markah maksimum bagi kedua-dua ujian Pra dan Pasca ialah 30 markah.

Jadual 3 pula menunjukkan analisis deskriptif bagi kategori perubahan markah antara ujian pra dan ujian pasca dalam kalangan 123 orang responden.

Jadual 3. Analisis Deskriptif bagi kategori perubahan

Kategori Perubahan	n	%	Catatan
Menurun	0	0.0	Jumlah Pasca < Jumlah Pra
Meningkat	120	97.56	Jumlah Pasca > Jumlah Pra
Tiada Perubahan	3	2.44	Jumlah Pasca = Jumlah Pra

Majoriti responden berada di kategori meningkat iaitu sebanyak 120 orang responden (97.56%). Hal ini membuktikan bahawa sebahagian besar pelajar mendapat manfaat positif daripada intervensi yang dijalankan. Kategori tiada perubahan pula menunjukkan sebanyak 3 orang responden (2.44%) tidak menunjukkan sebarang perubahan dalam keputusan ujian Pasca dan ujian Pra mereka. Data turut menunjukkan tiada responden yang dikategorikan di dalam kategori menurun.

Ujian Tanda Pangkat Wilcoxon (*Wilcoxon Signed-Rank Test*). Keputusan ujian normaliti bagi pemboleh ubah ujian pra sebutan, ujian pasca sebutan, dan perbezaan skor (pasca–pra) menunjukkan bahawa taburan data adalah tidak normal. Maka, ujian tak berparameter (*non-parametric test*) iaitu Ujian Pangkat Bertanda Wilcoxon (*Wilcoxon Signed-Rank Test*) digunakan bagi menguji perbezaan antara ujian pra dan pasca. Menurut Tapio (2025), ujian bukan parametrik seperti ujian pangkat bertanda Wilcoxon sesuai digunakan bagi data yang tidak memenuhi andaian kenormalan kerana lebih teguh terhadap ketidaknormalan taburan, sekali gus membantu mengurangkan risiko kesilapan inferensi statistik, termasuk ralat Jenis I dan Jenis II.

Jadual 4. Perubahan Skor Pelajar Berdasarkan Ujian *Wilcoxon Signed-Rank*

Domain	Z	Nilai-p	Saiz Kesan (r)
Skor Pelajar	-9.516	<.001	.86

Jadual 4 menunjukkan terdapat perbezaan yang signifikan antara skor ujian Pra dan Pasca berdasarkan nilai ujian pangkat bertanda Wilcoxon iaitu $Z = -9.516$, $p = < .001$. Nilai saiz kesan ($r = .86$) pula menunjukkan bahawa perbezaan antara kedua-dua ujian mempunyai kesan yang besar terhadap pencapaian kemahiran sebutan pelajar. Hal ini menunjukkan bahawa intervensi yang dijalankan memberi kesan yang sangat positif kepada pelajar-pelajar anatarabangsa.

KESIMPULAN

Peningkatan skor ujian Pra dan Pasca menunjukkan perkembangan positif dalam penguasaan sebutan Bahasa Melayu dalam kalangan pelajar antarabangsa selepas pelaksanaan intervensi melalui sesi pembelajaran di dalam kelas. Majoriti pelajar turut menunjukkan peningkatan pencapaian, sekali gus mencerminkan potensi intervensi dalam membantu mengatasi kesukaran sebutan yang dihadapi oleh pelajar. Dapatan ini memberikan implikasi terhadap pengajaran Bahasa Melayu sebagai bahasa asing, khususnya dalam usaha memperkukuh strategi pengajaran yang dapat menyokong perkembangan kemahiran sebutan pelajar. Oleh itu, kajian ini diharapkan dapat menjadi panduan kepada pengajar dalam merancang pendekatan pengajaran sebutan yang bersesuaian dengan keperluan pelajar antarabangsa.

PENGHARGAAN

Pengarang merakamkan setinggi-tinggi penghargaan kepada pihak fakulti atas sokongan dan kerjasama yang diberikan dalam pelaksanaan kajian ini di bawah Geran Tanpa Biaya dengan kod CITRA-2024-010.

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Memperkasa Literasi Tenaga Isi Rumah melalui Pembelajaran Sepanjang Hayat: Perspektif Pelbagai Pihak Berkepentingan di Malaysia

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ABSTRAK

Literasi tenaga ialah keupayaan memahami isu tenaga serta menggunakan pengetahuan tersebut untuk membuat keputusan yang cekap, bertanggungjawab dan lestari. Dalam konteks Malaysia, usaha meningkatkan literasi tenaga isi rumah masih berdepan beberapa cabaran, termasuk jurang pengetahuan dalam kalangan pengguna, penggunaan istilah teknikal yang kompleks dalam penyampaian maklumat, serta perbezaan keperluan antara kelompok masyarakat. Sehubungan itu, kajian ini bertujuan meneroka perspektif pelbagai pihak berkepentingan terhadap pendekatan pembelajaran sepanjang hayat bagi memperkasa literasi tenaga isi rumah. Kajian kualitatif ini dilaksanakan melalui empat sesi perbincangan kumpulan fokus (FGD) yang melibatkan wakil agensi penyelarasan tenaga negara, pengguna dominan elektrik, pembayar bil elektrik dan pertubuhan bukan kerajaan (NGO). Data dianalisis menggunakan analisis tematik. Dapatan kajian mengenal pasti enam tema utama, iaitu pengetahuan asas dan pemantauan penggunaan tenaga, pembelajaran digital, pengaruh faktor sosio-budaya dan keselesaan, komunikasi menggunakan bahasa yang mudah difahami, insentif dan dasar, serta kolaborasi rentas sektor. Dapatan turut menunjukkan bahawa pendidikan tenaga perlu dilaksanakan secara berterusan melalui keluarga, sekolah, komuniti dan platform digital. Kajian ini menyumbang asas empirikal kepada pembangunan kerangka literasi tenaga isi rumah yang berorientasikan manusia dan berasaskan pembelajaran sepanjang hayat di Malaysia.

Kata Kunci: literasi tenaga, pembelajaran sepanjang hayat, isi rumah, pihak berkepentingan, Malaysia

PENGENALAN

Penggunaan tenaga elektrik dalam sektor kediaman berkait rapat dengan rutin harian, tahap keselesaan, kemampuan kewangan dan pemilihan peralatan elektrik oleh pengguna. Oleh sebab faktor-faktor ini sentiasa berubah dan dipengaruhi oleh keputusan pengguna, usaha untuk meningkatkan kecekapan tenaga di isi rumah tidak memadai jika hanya bergantung kepada penyediaan maklumat secara sekali sahaja. Sebaliknya, pengguna perlu membina pengetahuan, menilai pilihan serta menyesuaikan amalan penggunaan tenaga secara berterusan selaras dengan perubahan tarif elektrik, kemajuan teknologi, penggunaan peralatan elektrik serta perubahan keadaan kehidupan.

Literasi tenaga merangkumi pengetahuan tentang sumber dan penggunaan tenaga, sikap serta nilai terhadap kelestarian, kemahiran menggunakan maklumat, dan amalan membuat keputusan berkaitan tenaga (DeWaters & Powers 2011). Dalam konteks pembelajaran sepanjang hayat, literasi ini berkembang secara berterusan melalui pengalaman dalam keluarga, pendidikan formal, komuniti, media dan teknologi digital, selaras dengan andaian bahawa pembelajaran orang dewasa bersifat kendiri, berasaskan pengalaman dan didorong oleh keperluan sebenar (Knowles 1984). Pendekatan ini juga selari dengan falsafah pendidikan berpusatkan manusia kerana pengguna tidak dianggap sebagai penerima maklumat yang pasif, sebaliknya sebagai pembelajar yang membuat keputusan berdasarkan konteks kehidupan sebenar.

Pada peringkat dasar, usaha memperkasa literasi tenaga turut disokong melalui inisiatif kerajaan seperti Program Literasi Tenaga Malaysia (*Malaysia Energy Literacy Program*, MELP) yang dilancarkan pada tahun 2023 bagi meningkatkan kesedaran dan pengetahuan masyarakat tentang sektor tenaga serta membentuk pengguna yang lebih peka terhadap penggunaan tenaga (Suruhanjaya Tenaga 2023). Selain itu, komitmen global terhadap pembangunan lestari turut menegaskan kepentingan memastikan akses kepada tenaga yang moden, mampan dan berpatutan sebagai salah satu Matlamat Pembangunan Mampan (*Sustainable Development Goals*, SDG) (United Nations 2015). Namun begitu, keberkesanan inisiatif ini bergantung pada sejauh mana kandungan dan kaedah penyampaiannya disesuaikan dengan keperluan pelbagai kelompok isi rumah. Perkara ini disokong oleh kajian tempatan yang mendapati bahawa tahap literasi tenaga dalam kalangan pelajar sekolah menengah di Malaysia masih rendah,

khususnya berkaitan pengetahuan tentang penggunaan tenaga isi rumah dan amalan pemuliharaan tenaga (Lay et al. 2012), suatu dapatan yang menyokong keperluan pendekatan pembelajaran sepanjang hayat yang merentasi pelbagai peringkat umur.

Kajian induk yang bertajuk Kerangka Literasi Tenaga untuk Konsumer Isi Rumah Malaysia menggunakan reka bentuk kaedah gabungan penerokaan berturutan, iaitu fasa kualitatif melalui perbincangan kumpulan fokus (FGD) yang diikuti oleh kajian tinjauan. Kertas ini memfokuskan fasa kualitatif dengan tujuan mengenal pasti pandangan pelbagai pihak berkepentingan berkaitan kandungan, medium pembelajaran dan mekanisme sokongan yang diperlukan bagi memperkasa literasi tenaga isi rumah melalui pendekatan pembelajaran sepanjang hayat.

METODOLOGI

Kajian ini menggunakan pendekatan kualitatif melalui empat sesi FGD. Kumpulan pertama terdiri daripada wakil badan penyelaras dan penyedia perkhidmatan tenaga; kumpulan kedua melibatkan pengguna dominan elektrik; kumpulan ketiga terdiri daripada pembayar bil elektrik; manakala kumpulan keempat melibatkan wakil pertubuhan bukan kerajaan (NGO). Kepelbagaian panel ini membolehkan isu literasi tenaga diteliti daripada pelbagai perspektif, merangkumi aspek dasar, penyampaian perkhidmatan, pengalaman pengguna dan intervensi komuniti.

Perbincangan memberi tumpuan kepada prinsip kerangka literasi tenaga, cabaran pelaksanaan, faktor yang mempengaruhi penggunaan elektrik, strategi penyampaian, insentif serta peranan institusi. Data transkrip FGD dianalisis menggunakan kaedah analisis tematik (Braun & Clarke 2006) melalui beberapa proses, iaitu pembacaan berulang, pengekodan, pengelompokan kod, pembentukan tema dan perbandingan merentas kumpulan. Tema akhir dikenal pasti berdasarkan kesepadanan yang jelas antara pengalaman pengguna dengan pandangan pihak institusi.

HASIL DAN PERBINCANGAN

Pengetahuan asas dan alat pemantauan

Kesemua kumpulan mengiktiraf pengetahuan sebagai asas penting dalam pembentukan literasi tenaga. Pengguna perlu memahami struktur bil elektrik, perbezaan antara penjimatan tenaga dan kecekapan tenaga, label bintang kecekapan tenaga, waktu puncak dan luar puncak, serta hubungan antara penggunaan peralatan elektrik dengan kos penggunaan tenaga. Wakil badan tenaga turut menegaskan bahawa istilah teknikal seperti kilowatt-jam, komponen tarif dan pelarasan bahan api sering menimbulkan kekeliruan dalam kalangan pengguna. Pembayar bil dan NGO mencadangkan agar maklumat tersebut diterjemahkan dalam bentuk nilai Ringgit Malaysia (RM) serta tindakan yang lebih konkrit, seperti anggaran penjimatan bulanan melalui pelarasan suhu penyaman udara.

Aplikasi myTNB, meter pintar dan audit tenaga rumah dilihat sebagai instrumen pembelajaran yang menghubungkan pengetahuan dengan pengalaman sebenar pengguna. Paparan penggunaan tenaga harian memberikan maklum balas segera dan membantu pengguna mengenal pasti peralatan atau tempoh penggunaan yang menyumbang kepada peningkatan bil elektrik. Oleh itu, teknologi pemantauan bukan sahaja berperanan sebagai alat teknikal, tetapi juga sebagai medium pembelajaran kendiri yang menyokong amalan literasi tenaga secara berterusan sepanjang hayat.

Pembelajaran digital dan komunikasi mudah

Panel FGD mencadangkan strategi penyampaian melalui pelbagai saluran yang disesuaikan mengikut umur dan corak pembelajaran pengguna. Generasi muda lebih mudah dicapai melalui video pendek, permainan digital, animasi dan media sosial, manakala pengguna dewasa memerlukan medium seperti aplikasi utiliti, e-mel, infografik serta contoh yang berkaitan dengan bil elektrik. Warga emas pula memerlukan penerangan asas, demonstrasi visual dan penyampaian mesej secara berulang melalui televisyen atau komuniti setempat. Dapatan ini menunjukkan bahawa satu bentuk bahan pembelajaran sahaja tidak sesuai untuk memenuhi keperluan semua kumpulan pengguna.

Bahasa penyampaian perlu ringkas, mudah difahami, tidak bersifat birokratik dan mengelakkan penggunaan jargon teknikal. Kandungan juga perlu disampaikan secara berperingkat, bermula daripada tahap kesedaran kepada pembentukan kemahiran dan seterusnya tindakan. Pembelajaran tenaga yang berkesan bukan sekadar menjawab persoalan tentang perkara yang perlu dilakukan, tetapi turut menjelaskan sebab, manfaat kewangan dan kesan jangka panjang daripada sesuatu tindakan.

Pengaruh sosio-budaya, ekonomi dan keselesaan

Walaupun pengguna mengetahui amalan penjimatan tenaga, tindakan sebenar sering dipengaruhi oleh faktor seperti tahap keselesaan, cuaca panas, saiz isi rumah, reka bentuk kediaman, musim cuti dan kemampuan kewangan. Faktor kewangan dikenal pasti sebagai motivasi paling dominan, manakala pertimbangan terhadap alam sekitar biasanya menjadi motivasi sekunder. Sebahagian pengguna sanggup menanggung bil elektrik yang lebih tinggi bagi mengekalkan tahap keselesaan yang diingini. Fenomena *rebound* turut dibangkitkan apabila pemilikan sistem solar atau peralatan cekap tenaga mendorong peningkatan penggunaan kerana pengguna merasakan kos penggunaan telah berkurang. Hal ini selaras dengan dapatan literatur antarabangsa yang menunjukkan bahawa peningkatan kecekapan tenaga tidak semestinya menghasilkan penjimatan sebenar akibat perubahan tingkah laku pengguna (Aydin et al. 2017; Greening et al. 2000). Dapatan ini turut selari dengan kajian tempatan yang mendapati bahawa kesedaran alam sekitar dan

literasi tenaga semata-mata tidak menjamin perubahan tingkah laku penjimatan tenaga, sebaliknya norma sosial dan tanggapan kawalan tingkah laku didapati lebih berpengaruh dalam kalangan pengguna di Malaysia (Babatunde et al. 2023).

Pembelajaran sepanjang hayat perlu mengambil kira realiti ini dengan menyediakan tindakan praktikal yang dapat meningkatkan kecekapan tenaga tanpa menjejaskan keselesaan secara berlebihan. Konsep kecekapan tenaga perlu dibezakan daripada persepsi bahawa amalan berjimat bermaksud berkira atau kedekut. Tindakan seperti penggunaan pemasa, pemantauan bil elektrik, pemilihan peralatan cekap tenaga, penyelenggaraan berkala dan pengurusan beban penggunaan boleh dibentuk sebagai kemahiran harian dalam keluarga.

Dasar, insentif dan pembelajaran berasaskan tindakan

Panel FGD lebih menyokong pendekatan berasaskan insentif dan pendidikan berbanding pendekatan yang berorientasikan penguatkuasaan atau penalti. Rebat, subsidi bagi peralatan lima bintang, insentif tarif dan pengiktirafan komuniti dilihat berpotensi mendorong penyertaan awal pengguna. Pada masa yang sama, setiap mesej literasi tenaga perlu mengandungi seruan tindakan (*call to action*) yang jelas, sama ada tindakan jangka pendek seperti menutup suis dan melaras suhu, mahupun tindakan jangka panjang seperti menggantikan peralatan, menjalankan audit tenaga rumah dan mempertimbangkan penggunaan tenaga boleh baharu.

Kolaborasi pelbagai pihak berkepentingan

Dapatan kajian memperlihatkan keperluan terhadap penyelarasan merentasi pelbagai pihak berkepentingan, termasuk kerajaan, agensi tenaga, industri, akademia, sekolah, NGO dan komuniti. Tanpa penyelarasan yang berkesan, mesej literasi tenaga berisiko bertindih, tidak konsisten dan sukar dinilai keberkesanannya. Institusi pendidikan berperanan menyediakan kandungan serta kaedah penilaian, agensi tenaga membekalkan maklumat yang sahih, industri membangunkan teknologi yang mesra pengguna, manakala NGO dan komuniti menyesuaikan pendekatan dengan keperluan setempat.

KESIMPULAN

Kajian ini menunjukkan bahawa pemerkasaan literasi tenaga isi rumah memerlukan pendekatan pembelajaran sepanjang hayat yang berpusatkan pengalaman pengguna. Pengetahuan asas perlu diterjemahkan kepada bahasa yang mudah difahami, penjelasan tentang manfaat kewangan serta tindakan yang boleh dilaksanakan dalam kehidupan seharian. Teknologi digital seperti meter pintar dan myTNB berpotensi berfungsi sebagai alat maklum balas pembelajaran; namun, keberkesanannya bergantung pada tahap kemahiran pengguna serta penyampaian yang bersifat inklusif. Faktor keselesaan, sosio-budaya dan ekonomi pula perlu dianggap sebagai komponen penting dalam reka bentuk intervensi, bukannya sekadar halangan. Kolaborasi antara kerajaan, industri, akademia, NGO, sekolah dan komuniti amat penting bagi memastikan kandungan literasi tenaga yang konsisten, berterusan dan boleh dinilai. Dapatan ini menyediakan asas empirikal untuk pembangunan Kerangka Literasi Tenaga Isi Rumah Malaysia yang mengintegrasikan pengetahuan, sikap, kemahiran, tingkah laku, pemikiran kritis dan konteks sosio-budaya.

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Penerapan Nilai Kemanusiaan melalui Seni Visual: Satu Kajian Estetik terhadap Watak Protagonis dalam Animasi Tempatan Ejen Ali

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ABSTRAK

Pembangunan industri animasi tempatan kini memperlihatkan perubahan positif bukan sahaja dari sudut teknologi, tetapi juga dalam penyampaian nilai kemanusiaan kepada penonton. Siri animasi Ejen Ali dilihat berjaya menggabungkan elemen visual futuristik dengan naratif yang dekat dengan realiti masyarakat. Kajian ini meneliti bagaimana elemen seni visual pada watak protagonis digunakan untuk menyampaikan nilai empati, pengorbanan dan tanggungjawab sosial. Kajian menggunakan pendekatan kualitatif melalui analisis kandungan visual terhadap beberapa episod dan filem Ejen Ali berdasarkan Teori Estetik serta Psikologi Warna. Dapatan kajian menunjukkan bahawa reka bentuk visual Cyberaya yang dipadankan dengan unsur budaya tempatan berjaya memberi kesan emosi kepada penonton, khususnya generasi muda. Watak Ejen Ali bukan sahaja digambarkan sebagai seorang wira muda yang cekap, tetapi turut dipaparkan sebagai individu yang berdepan konflik emosi dan mempunyai rasa tanggungjawab terhadap orang sekeliling. Kajian ini menunjukkan bahawa seni visual dalam animasi tempatan boleh berfungsi sebagai medium pendidikan nilai selain hiburan. Penggunaan visual yang dekat dengan emosi penonton memberi potensi kepada animasi untuk mempengaruhi pembentukan sahsiah dan nilai kemanusiaan dalam masyarakat. Kajian ini diharapkan dapat menyumbang kepada perbincangan berkaitan seni visual dan pendidikan dalam konteks budaya popular di Malaysia.

Kata Kunci: Seni Visual, Estetik, Animasi Malaysia, Nilai Kemanusiaan, Ejen Ali.

PENGENALAN

Animasi merupakan medium seni visual yang berpengaruh dalam membentuk nilai masyarakat, khususnya kanak-kanak dan remaja. Di Malaysia, industri animasi tempatan telah berkembang pesat sejak kemunculan Upin & Ipin, BoBoiBoy, dan Ejen Ali. Menurut Muthalib (2007) walaupun jualan antarabangsa telah berjaya dibuat, cabaran terbesar pengkarya tempatan ialah memastikan produk mereka berdaya saing secara kualiti sambil mengekalkan identiti budaya Malaysia. Kejayaan animasi-animasi ini bukan semata-mata bergantung kepada kecemerlangan teknologi, tetapi juga kepada kemampuan untuk menyerapkan nilai murni ke dalam naratif visual.

Ejen Ali, yang mula ditayangkan pada tahun 2016 oleh Wau Animation Studio, merupakan antara animasi Malaysia yang paling menonjol. Khidzir, Mat Daud dan Ramli (2022) mendapati bahawa kejayaan filem Ejen Ali: The Movie yang meraih RM30 juta di pawagam membuktikan penerimaan penonton yang positif bukan sahaja terhadap kualiti animasinya, tetapi juga terhadap nilai-nilai yang disampaikan. Mohd Hasri, Md Syed dan Runnel (2022) pula menunjukkan bahawa pendekatan transmedia Wau Animation dalam Ejen Ali berjaya menyepadukan budaya tempatan ke dalam produk yang dikomersialkan, menjadikan siri ini berbeza daripada animasi asing.

Dari perspektif estetik, reka bentuk visual watak protagonis bukan sekadar elemen hiburan, malah ia dilihat sebagai sistem tanda (semiotic system) yang menyampaikan makna dan nilai. Dewey (1934) dalam karyanya Art as Experience menghujahkan bahawa pengalaman estetik adalah asas kepada semua bentuk pembelajaran manusia, di mana seni berfungsi sebagai ekspresi pengalaman hidup yang bermakna. Read (1943) pula memperkukuhkan pandangan ini dengan menyatakan bahawa seni seharusnya menjadi teras pendidikan. Justeru, kajian ini bertujuan menganalisis bagaimana reka bentuk visual Ejen Ali menggabungkan prinsip estetik dengan penyampaian nilai kemanusiaan kepada penonton.

Kajian ini menggunakan pendekatan kualitatif melalui analisis kandungan visual (visual content analysis) sebagaimana yang digariskan oleh Rose (2007) dalam Visual Methodologies, terhadap episod-episod terpilih

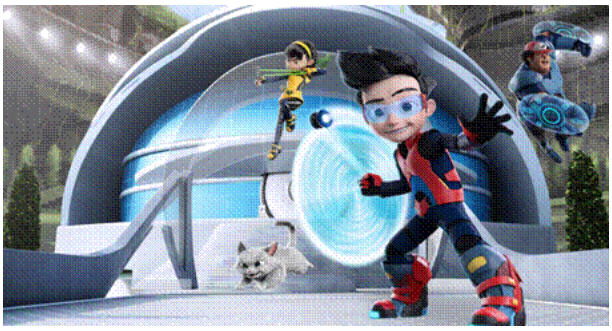
siri Ejen Ali dan filem Ejen Ali: The Movie (2019). Tiga objektif utama kajian ini ialah: (i) mengenal pasti elemen seni visual dominan dalam reka bentuk watak protagonis; (ii) menganalisis hubungan elemen visual dengan penyampaian nilai empati, pengorbanan, dan tanggungjawab sosial; dan (iii) menilai keberkesanan visual tempatan dalam mendidik nilai kepada penonton muda Malaysia.

HASIL DAN PERBINCANGAN

Analisis visual mendedahkan tiga pola estetik utama yang konsisten dalam reka bentuk watak Ali, masing-masing berkaitan dengan nilai kemanusiaan yang ingin disampaikan.

Nilai Empati: Ekspresi dan Psikologi Warna

Dapatan pertama ialah penggunaan ekspresi wajah yang terperinci bagi menggambarkan keupayaan empati Ali. Berbeza dengan protagonis animasi asing yang sering dipaparkan penuh keyakinan tanpa keraguan, Ali digambarkan dengan pelbagai spektrum emosi seperti bimbang terhadap keselamatan keluarga, rasa bersalah kerana merahsiakan identiti, dan perasaan gembira bersama rakan. Spektrum emosi ini konsisten dengan prinsip Itten (1961) dalam The Art of Color, bahawa warna dan bentuk visual mempunyai nilai psikologi yang dapat mencetuskan tindak balas emosi secara langsung dalam diri penonton.



Visual 1: Komposisi visual watak utama dalam siri animasi *Ejen Ali* yang memaparkan integrasi elemen estetik futuristik dan nilai kemanusiaan.

Kostum biru dominan Ali sebagai ejen membawa representasi kepercayaan dan kesetiaan, manakala perincian bahagian warna merah melambangkan keberanian. Heller (2009) dalam Psychologie de la couleur menjelaskan bahawa warna biru dalam tradisi visual Barat mahupun Asia dikaitkan dengan kedalaman emosi dan amanah, sementara merah melambangkan semangat dan keberanian. Gabungan kedua-dua warna ini secara estetik membina imej protagonis yang penyayang sekaligus berani sebagai nilai empatik yang ingin diterapkan kepada penonton muda. Kajian ini turut mendapati bahawa pencahayaan hangat dalam adegan kekeluargaan berbanding pencahayaan dingin dalam misi perisikan berfungsi sebagai kod visual yang membezakan dunia emosi peribadi Ali dengan tanggungjawab profesionalnya.

Nilai Pengorbanan: Simbolisme Budaya dan Komposisi Visual

Nilai pengorbanan disampaikan melalui simbolisme visual yang kaya. Mohd Hasri, Md Syed dan Runnel (2022) mencatat bahawa Wau Animation secara sedar menyepadukan budaya tempatan ke dalam reka bentuk dunia Ejen Ali, termasuk penggunaan motif seni bina dan tekstil Malaysia dalam persekitaran Cyberaya. Integrasi ini bukan sekadar dekoratif tetapi ia memperkukuhkan idea bahawa pengorbanan Ali bertujuan mempertahankan nilai dan identiti tempatan, bukan sekadar sebuah misi yang abstrak.

Visual 2: Komposisi visual Ejen Ali: The Movie yang memaparkan kerentanan fizikal watak utama dan penggunaan warna kontras untuk menyampaikan nilai pengorbanan dan perpaduan.

Teknik kontras skala visual (visual scale contrast) digunakan secara konsisten untuk menyampaikan tema pengorbanan. Ali sering digambarkan kecil secara fizikal berbanding ancaman yang dihadapinya, namun pilihan moralnya untuk maju tetap kukuh. Kontras ini sejajar dengan pandangan Dewey (1934) bahawa pengalaman estetik yang bermakna terhasil daripada ketegangan dan resolusi. Ini dapat dilihat apabila ketegangan antara kerentanan fizikal dan kekuatan moral Ali mencipta naratif pengorbanan yang berkesan secara visual tanpa memerlukan terlalu banyak dialog.

Tanggungjawab Sosial: Reka Bentuk Persekitaran dan Inklusiviti

Cyberaya dibina sebagai sebuah bandar futuristik yang mendukung tinggi nilai tanggungjawab sosial. Mohd Hasri dan Md Syed (2025) dalam kajian *worldbuilding* mereka mendapati bahawa Wau Animation membina Cyberaya melalui pendekatan bawah-atas (bottom-up) yang menyepadukan elemen budaya Malaysia secara

organik ke dalam estetik futuristik. Hasilnya, bandar tersebut tidak terasa asing bagi penonton tempatan walaupun berlatar masa depan. Ini suatu pencapaian estetik yang signifikan dalam menyampaikan mesej bahawa kemajuan dan jati diri tempatan boleh wujud seiring.

Visual 3: Integrasi elemen budaya tempatan (makanan dan suasana gerai) ke dalam estetik visual animasi *Ejen Ali* sebagai medium penyampaian jati diri dan nilai kemasyarakatan.

Analisis kandungan mendapati watak-watak sampingan dalam Ejen Ali mencerminkan kepelbagaian etnik Malaysia, di mana Ali sentiasa dipaparkan dalam komposisi visual yang menyatupadukan setiap kumpulan etnik. Rose (2007) menegaskan bahawa komposisi visual iaitu kedudukan, skala, dan hubungan antara subjek dalam satu bingkai membawa makna ideologi yang mendalam. Melalui komposisi inklusif, watak Ali bertindak sebagai 'nadi' yang menghubungkan komuniti, sekali gus menterjemahkan nilai tanggungjawab sosial ke dalam bentuk visual yang mudah difahami penonton muda.

Integrasi Estetik Tempatan dan Kesan kepada Penonton

Kejayaan Ejen Ali menjangkau lebih 50 buah negara (Khidzir et al., 2022) membuktikan bahawa integrasi estetik tempatan dan universal adalah pendekatan yang berkesan. Muthalib (2007) pernah memberi amaran bahawa animasi Malaysia berisiko hilang identiti jika terlalu meniru formula asing. Ejen Ali membuktikan bahawa kerisauan ini boleh ditangani dengan membina estetik visual yang secara sedar merujuk kepada budaya tempatan tanpa mengorbankan daya tarikan global. Ini sejajar dengan pandangan Read (1943) bahawa seni yang benar-benar bermakna adalah seni yang lahir daripada pengalaman hidup yang tulen, bukannya peniruan.

KESIMPULAN

Kajian ini membuktikan bahawa seni visual dalam Ejen Ali berfungsi sebagai sistem komunikasi nilai yang kompleks dan berkesan. Melalui analisis estetik yang bersandarkan Teori Estetik (Dewey, 1934; Read, 1943) dan Psikologi Warna (Itten, 1961; Heller, 2009), kajian ini mendedahkan bagaimana reka bentuk visual watak Ali seperti warna, ekspresi, simbolisme, komposisi, dan pencahayaan secara empirikalnya menyampaikan nilai empati, pengorbanan, dan tanggungjawab sosial kepada penonton.

Kejayaan Wau Animation mengadunkan nilai estetik tempatan (Mohd Hasri et al., 2022; Mohd Hasri & Md Syed, 2025) merupakan model progresif yang boleh menjadi tanda aras baharu bagi industri animasi Malaysia. Dengan kata lain, animasi tempatan terbukti mampu mencapai kualiti visual bertaraf antarabangsa sambil mengekalkan nilai serta identiti tempatan merupakan satu pencapaian yang jauh lebih bernilai daripada sekadar kejayaan komersial.

Dari perspektif pendidikan, dapatan ini mempunyai implikasi yang luas. Dalam era dominasi media visual, pemahaman tentang bagaimana seni visual menyampaikan nilai adalah sesuatu yang signifikan bagi pengkarya, pendidik, mahupun ibu bapa. Pada kajian akan datang, kajian tentang penerimaan penonton secara empirikal amat perlu bagi melengkapi analisis teks visual ini, selain meneroka potensi aplikasinya dalam pembangunan animasi sebagai medium pendidikan yang khusus mengikut acuan Malaysia.

PENGHARGAAN

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Arabic Language Education at Japanese Universities: Desired Knowledge and Skills and Perceived Classroom Emphasis Among Arabic Majors

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ABSTRACT

A substantial discrepancy between the learning content desired by students and the content emphasized in class is likely to have negative effects on learning motivation and learning outcomes. The purpose of this study was to examine, among learners of Arabic at Japanese universities, the similarities and differences between the knowledge and skills they desired to acquire and those they perceived to be emphasized in their Arabic classes. The data obtained through a questionnaire survey was statistically analyzed. Participants were 97 students majoring Arabic at Japanese universities. They rated, on the same 10-point scale, the degree to which they desired to acquire knowledge and skills related to Arabic and the degree to which they perceived these to be emphasized in class. The knowledge and skills consisted of 11 elements: speaking ability, listening ability, writing ability, reading ability, translation, grammar, vocabularies and expressions, pronunciation, communication ability, dialects, and understanding Arab culture. Statistical analyses showed that, for most elements, the desired levels were significantly higher than the levels perceived to be emphasized in class. In addition, grammar was the only element for which the latter statistically significantly exceeded the former. No significant differences were found for reading ability or translation. Perceived classroom emphasis tended to be relatively low for communication ability and dialects.

Keywords: Arabic language education, Japanese university students, Arabic majors, desired knowledge and skills, perceived classroom emphasis

INTRODUCTION

Arabic language education in Japanese public education, particularly at the university level, is considered to have reached its centennial in 2025. Over the past century, not only have teaching methods and educational priorities evolved, but learners' desired Arabic language knowledge, skills, and sociocultural competence have also likely changed (Sumi & Sumi, 2025).

Greater alignment between the Arabic language knowledge and skills emphasized by educators and those that learners wish to acquire may contribute to more effective language education. This perspective is supported by a substantial body of theoretical and empirical research, particularly in the field of education. Person–environment fit theory suggests that educational outcomes are enhanced when learning environments are aligned with learners' needs and preferences (de Vries et al., 2024; van Vianen, 2018). Constructive alignment similarly emphasizes that effective learning is achieved when intended learning outcomes, teaching and learning activities, and assessment are aligned (Biggs, 1996; Biggs et al., 2022). Expectancy–value theory further argues that learners are more motivated to engage in learning when they perceive learning tasks and outcomes as valuable (Eccles & Wigfield, 2002). Self-determination theory likewise highlights that learning is facilitated when educational experiences satisfy learners' psychological needs and support their personal goals (Deci & Ryan, 2000). In language education, needs analysis advocates designing

instruction around learners' needs and learning objectives (Hutchinson & Waters, 1987). Similarly, the Common European Framework of Reference for Languages (CEFR) adopts a learner-centred approach, emphasizing that curriculum design should reflect learners' communicative needs (Council of Europe, 2001, 2020).

Taken together, these perspectives suggest that greater alignment between the Arabic language knowledge and skills emphasized in instruction and those desired by learners may contribute to more effective language education. Nevertheless, little is known about whether the Arabic language knowledge and skills desired by learners are aligned with those they perceive to be emphasized in Arabic language instruction at Japanese universities.

This study aimed to examine the similarities and differences between the Arabic language knowledge and skills desired by learners of Arabic at Japanese universities and those they perceived to be emphasized in their Arabic classes. Specifically, the participants were undergraduate students majoring in Arabic at universities in Japan that offer Arabic major programs. Most of them were likely to be learning Arabic primarily through their university courses. Ethical approval for this study was obtained from the ethics committee of the author's institution. The authors declare no conflict of interest.

This study conceptualized Arabic language learning as comprising three domains: language skills, language knowledge, and sociocultural competence. This conceptualization draws on the Common European Framework of Reference for Languages (CEFR) (Council of Europe, 2001, 2020), Bachman's (1990) model of communicative language ability, Canale and Swain's (1980) model of communicative competence, and Byram's (1997) framework of intercultural communicative competence. These domains were operationalized into 11 learning elements: speaking, listening, reading, writing, translation, grammar, vocabulary and expressions, pronunciation, interpersonal communication, dialects, and Arab cultural understanding. Specifically, the four language skills and translation were informed by the CEFR's communicative language activities, grammar, vocabulary and expressions, and pronunciation were grounded in linguistic competence as described in the CEFR and Bachman (1990), while interpersonal communication, dialects, and Arab cultural understanding were derived from the sociolinguistic and intercultural dimensions of communicative competence proposed by the CEFR, Canale and Swain (1980), and Byram (1997). The three domains and 11 elements of Arabic language learning are presented in Table 1.

RESULTS AND DISCUSSION

For this study, a questionnaire survey was conducted in class. The participants in the questionnaire survey were 97 students majoring in Arabic at Japanese universities. Their mean age was 20.31 years (SD = 1.52, range = 18–27 years). There were 29 first-year, 24 second-year, 40 third-year, and 4 fourth-year students.

Table 1. The three domains and 11 elements of Arabic language learning

Domain	Element
Language skills	Speaking Listening Reading Writing Translation
Language knowledge	Grammar Vocabulary and expressions Pronunciation
Sociocultural competence	Interpersonal communication Dialects Understanding Arab culture

The questionnaire comprised 11 elements of Arabic language learning. Using the same 10-point scale for both questions, participants were asked to rate the extent to which they desired to acquire each of the 11 elements and the extent to which they perceived each element to be emphasized in their Arabic classes. The resulting data were analyzed statistically.

Table 2 presents the mean ratings and the differences between desired and perceived levels for each learning element. Paired-samples t tests were conducted to examine the statistical significance of these differences, and the results are also shown in Table 2. The results showed that, for more than half of the learning

elements, the desired levels were significantly higher than the perceived levels. The finding that the desired levels exceeded the perceived levels across many learning elements may reflect the strong motivation of Arabic-major students. Alternatively, it may suggest that the instructional content of Arabic classes does not fully support learners' learning goals, which may contribute to learner dissatisfaction with the classes.

In contrast, the perceived level was significantly higher than the desired level only for grammar. No significant differences were found for reading or translation. The findings may reflect the continued predominance of the grammar-translation method in Arabic language education in Japan (Sumi & Tominaga, 2023). Although there appears to have been some progress in improving traditional grammar-oriented teaching, the present findings suggest that such improvements may not yet be sufficient.

Table 2. Means and differences between desired and perceived levels for each element

Element	Mean (SD)	d
Speaking	8.62 (1.79) 6.62 (2.67)	2.00**
Listening	8.74 (1.56) 6.61 (2.44)	2.13**
Reading	8.45 (1.63) 8.47 (1.90)	0.02
Writing	7.68 (2.12) 6.95 (2.38)	0.73**
Translation	7.42 (2.36) 7.82 (2.15)	0.40
Grammar	7.51 (1.86) 8.05 (2.11)	0.55*
Vocabulary and Expressions	8.63 (1.54) 7.85 (2.00)	0.78**
Pronunciation	8.06 (1.91) 6.38 (2.40)	1.68**
Interpersonal communication	8.68 (1.67) 5.06 (2.43)	3.62**
Dialects	6.88 (2.72) 4.24 (2.52)	2.64**
Understanding Arab culture	8.54 (2.02) 6.86 (2.11)	1.68**

Note. SD: standard deviations. d: the difference between the mean desired level for each item and the mean level perceived by learners as being emphasized in the class. For each item, the upper Mean is the mean desired level, and the lower Mean is the mean level perceived by learners as being emphasized in the class. * $p < .05$. ** $p < .01$.

Among these elements, interpersonal communication appeared to exhibit a relatively large gap between the desired and perceived levels. The learners appeared to desire greater emphasis on interpersonal communication in their Arabic classes. In foreign language education, there has been a growing international emphasis on pedagogical approaches that promote communicative competence, and Arabic language education has likewise followed this trend (Murtadho et al., 2025). However, the findings of the present study may suggest that communicative language teaching has not yet been fully implemented in Arabic-major programs at Japanese universities.

CONCLUSION

The present study revealed a mismatch between Arabic-major students' learning expectations and their perceptions of classroom instruction in Japanese universities. In particular, learners reported higher desired levels than perceived levels for most of the learning elements examined, including communicative skills. These findings provide empirical evidence that may inform curriculum development and encourage a better alignment between instructional practices and learners' needs. These findings provide a basis for improving Arabic language instruction in ways that better reflect learners' needs and expectations, and may contribute to the development and implementation of more learner-centered approaches to Arabic language education in Japan.

Nevertheless, this study has several limitations. The participants were limited to students majoring in Arabic, and the findings were based solely on learners' self-reported questionnaire data. Future research should include students who are not majoring in Arabic. In addition, incorporating teachers' perspectives and instructional intentions would provide a more balanced understanding of the relationship between classroom practices and learners' expectations. Such research may contribute to the development and implementation of learner-centred pedagogical approaches that build on the principles of Communicative Language Teaching, including Task-Based Language Teaching and the Action-Oriented

Approach (East & Wang, 2025), in Arabic language education in Japan.

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Enhancing Learner Confidence through Vlogging: Fostering Lifelong Learning in English Language Education

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ABSTRACT

This study examines the use of vlogging to enhance the oral communication skills of low-proficiency English language learners in higher education. Specifically, it explores how participation in vlog production provides authentic opportunities for language use, strengthens learners' confidence in spoken communication, and promotes the development of linguistic competence through meaningful and reflective practice. In the context of rapid technological advancement, digital tools have transformed language learning by creating interactive, learner-centred environments that support communication, collaboration, and autonomous learning. Data were collected from students' written reflections, teacher observations, and student-produced vlogs. The findings indicate that the integration of vlogging into classroom activities enhances students' confidence in using English and may foster learning dispositions associated with lifelong learning. The study further demonstrates that technology-enhanced tasks such as vlogging empower learners to communicate more confidently in digital environments, thereby narrowing the gap between academic learning and everyday communication.

Keywords: Vlogging, Oral Communication Competence, Low-proficiency English Language Learners, Confidence, Higher Education

INTRODUCTION

The growing influence of digital media in education has created new opportunities for language learning and instruction. One such innovation is the use of video blogs (vlogs), which have become increasingly popular for fostering language development. Vlogging through YouTube has particularly become a popular method to improve speaking skills in recent years as it helps users broadcast their videos online to a wide audience (Hyeon Choi & Sinwongsuwat, 2024). Their multimodal nature, which combines visual and audio elements, offers learners a more engaging and interactive learning experience than conventional instructional methods (Huang, 2021).

Vlogging is adopted in one of the English language courses offered by the Faculty of Liberal Science, UKM. The course is offered to year 3 students. The course aims to train students to reach CEFR B2 level. At CEFR B2, students should be able to interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party.

In recent years, English Language Teaching (ELT) in Malaysia has placed greater emphasis on communicative competence to prepare graduates for the workforce. However, higher education institutions continue to face a persistent challenge with Low English Proficiency (LEP) tertiary students, many of whom transition from secondary schools without the foundational skills necessary for academic and professional success (Md Fuad et al., 2024). This problem is deeply situated within a traditional exam-oriented system that does not allow for more real-time, interactive speaking opportunities. This traditional pedagogy creates a passive environment that fails to engage lower proficiency students. When they enter university, they cannot keep up in the context in which active communication in English is required. Without innovative, learner-centered interventions that bridge the gap between rote learning and meaningful,

reflective practice, these students remain trapped by anxiety and a lack of fluency.

Studies by Chong et al. (2025) and Nair et al, (2025) have highlighted the importance of confidence, structured learning support, and learner engagement to prmote language learning. According to Chong et al. (2025), in Malaysian higher education settings, many ESL learners would benefit from greater opportunities to develop speaking confidence and communicative competence, particularly in communicative situations where concerns about peer evaluation may contribute to language anxiety. The study by Nair et al. (2025) also highlighted how structured learning tools promoted learner engagement, independent idea generation, and knowledge retention. These learning behaviours are similarly reflected in vlog production, where students independently research information, construct content, and monitor their own performance, thereby fostering learning dispositions associated with lifelong learning.

Thus, this study explores the use of vlog to help learners develop confidence in using the language. Vlog allows for greater independence and creative control, which can help students enhance their ability to use the target language.

This study aims to investigate the role of vlogging in enhancing learners' confidence. The participants consisted of Year 3 university students who entered the university as CEFR A2-level English language learners in their first year of study. Data were collected from the vlog videos, students' reflection and teacher's observation notes. Data were analysed thematically based on recurring patterns identified in students' reflections and teacher observation notes.

RESULTS AND DISCUSSION

The vlog project is a group project. Students complete the vlog in groups of three to five members. Each group selects a topic of interest that can be divided into several subtopics, with each student responsible for researching and presenting one segment. For example, under the topic *"Places of Interest in My Hometown,"* students may explore subtopics such as markets in Kelantan, popular eateries in Kedah, and museums in Negeri Sembilan. To ensure the accuracy and quality of their content, students are required to conduct library research and consult relevant sources. The group also plans the overall structure of the vlog, including an attention-grabbing introduction, self-introductions, and transitional cues to ensure smooth movement between segments.

During the vlog presentation, each student serves as the main presenter for his or her segment and is expected to speak live for most of the presentation. To enhance audience engagement, each segment must include either a survey report, an interview, or a tutorial related to the topic. Students conclude their segments with a memorable closing statement before introducing the next presenter. This project enables students to develop their oral communication, research, and collaboration skills while presenting information through authentic and engaging vlog-based tasks.

The findings of the study indicate that vlogging helps enhance students' communicative competence. Through vlog production, students are required to adapt their language use to a specific audience, thereby strengthening their discourse and strategic competencies. The iterative process of planning, recording, reviewing, and refining their spoken performances increases students' awareness of their language output and enables them to exercise greater control over their communication skills. Moreover, vlogging provides experiential and student-centred opportunities for authentic language use, allowing students to practise communication in contexts that closely resemble real-world situations.

These can be seen from the student's reflection here:

a. "From this project, I learnt how to communicate better in English and improve my presentation skills especially when completing the vlog projects because they help students practise English in a fun and practical way. Overall it was a meaningful learning experience." - Fatin.

b. "This vlog also has improved my English. Before this I could write it down and say it while texting only but from that vlog, I learned how to bring the words out from my own mouth and make it real in front of the camera." - Arif.

The students' reflections support previous studies that identified vlogging as an effective platform for improving oral communication and speaking performance among ESL/EFL learners (Andiappan et al., 2022; Huang, 2021)

In addition to improving communicative competence, vlog production plays an important role in fostering students' confidence in using English. Speaking in front of a camera requires learners to express their thoughts clearly, manage anxiety, and maintain self-assurance while communicating in a second language. The vlog creation allows students to rehearse, evaluate, and improve their performances, thereby reducing fear of making mistakes and increasing their willingness to communicate. This finding aligns with Brilianti and Fauzi (2020), Meyer and Patty (2024), and Hyeon Choi and Sinwongsuwat (2024), who similarly found that vlog-based activities can reduce speaking anxiety and increase learners' confidence in using English

As students become more familiar with expressing themselves in English through repeated practice, they gradually develop greater self-confidence in both academic and social communication settings. Moreover, the opportunity to share personal experiences, opinions, and reflections through vlogs promotes a sense of ownership and autonomy in learning, which further enhances learners' motivation and self-efficacy. Therefore, integrating vlog projects into university English courses can provide a supportive environment that simultaneously develops students' communicative competence and confidence, both of which are essential for effective language use and successful participation in academic and professional contexts.

This is evident in the following student reflection:

a. "While creating this vlog, I realised that speaking in front of a camera is not as easy as it looks. It requires confidence and a lot of practice. I believe my English and my confidence in speaking English have improved. What helped me the most was practising regularly, communicating with my classmates and not being afraid of making mistakes". - Nazierah

b. "My English skills have improved. I can understand some English words and have confidence to speak in English," Hazim.

CONCLUSION

Vlogging serves as a powerful pedagogical tool to promote authentic, lifelong learning by transforming students from passive information consumers into active producers of knowledge. This shift is particularly relevant to the current generation of tertiary students, Gen Z, whose learning styles lean heavily toward dynamic video contents over heavy instructional tools. For low-proficiency learners, video projects pivot the pedagogical objective away from immediate linguistic accuracy, focusing instead on cultivating sustained communicative confidence, self-directed learning, and real-world language application. The opportunity to rehearse and self-correct provides a vital psychological safety net that reduces speaking anxiety; however, because students can edit and re-record, vlogging alone does not fully challenge spontaneous language use and can lead to a reliance on repetitive, restricted phrases.

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Penggunaan Istilah – Istilah Bahasa Melayu dan Bahasa Inggeris dalam Komunikasi Pegawai Perubatan

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ABSTRAK

Bidang perubatan merupakan bidang yang popular di Malaysia. Golongan pegawai perubatan pula sentiasa dihormati dan dicontohi oleh ramai pihak. Sehubungan dengan itu, profesion ini seharusnya menjadi satu wadah untuk memartabatkan dan mengukuhkan penggunaan bahasa Melayu dalam kerjaya. Hal ini dikatakan demikian kerana bidang ini sering dikaitkan dengan penggunaan istilah-istilah bahasa Inggeris berbanding bahasa Melayu. Oleh itu, kajian ini dilaksanakan untuk mengenal pasti penggunaan istilah-istilah bahasa Melayu atau bahasa Inggeris dalam komunikasi pegawai perubatan mengikut jabatan-jabatan yang terdapat dalam bidang ini. Kajian ini memfokuskan kepada enam jabatan sahaja iaitu Jabatan Perubatan Am (Medical), Jabatan Pembedahan Am (Surgery), Jabatan Ortopedik (Orthopaedic), Jabatan Paediatrik (Paediatric), Jabatan Obstetrik dan Ginekologi (Obstetrics & Gynaecology (O&G)) dan Jabatan Kecemasan (Emergency). Kajian ini berbentuk kuantitatif yang menggunakan borang soal selidik berbentuk Google Form. Borang soal selidik secara dalam talian ini diedarkan kepada responden di Hospital Kubang Kerian, Kelantan. Istilah-istilah yang berbentuk dwibahasa dirujuk dalam Daftar Istilah Perubatan yang dikeluarkan oleh Dewan Bahasa dan Pustaka. Hasil kajian menunjukkan golongan pegawai perubatan lebih menggunakan istilah-istilah bahasa Inggeris berbanding bahasa Melayu. Walau bagaimanapun, terdapat beberapa istilah bahasa Melayu yang lebih banyak digunakan oleh responden berbanding bahasa Inggeris walaupun bilangannya sedikit.

Kata Kunci: Bidang perubatan, pegawai perubatan, bahasa Melayu, bahasa Inggeris

PENGENALAN

Istilah bermaksud lambang linguistik yang berupa huruf, bentuk bebas atau gabungan beberapa bentuk bebas yang gramatik dan sistematik serta mengandungi timbunan konsep atau objek khas dalam bidang tertentu. Kajian ini memfokuskan kepada istilah perubatan dalam bahasa Melayu yang menghadapi kesukaran atau kurang digunakan kerana pelajar-pelajar bidang perubatan banyak merujuk buku-buku bahasa Inggeris dan ini secara tidak langsung menjadikan istilah-istilah bahasa Inggeris keutamaan mereka berbanding istilah-istilah bahasa Melayu. Istilah-istilah perubatan dalam bahasa Melayu juga dilihat tidak mampu merungkaikan makna sebenar yang dimaksudkan berkenaan sesuatu perkara misalnya berkenaan penyakit, jika dibandingkan dengan istilah-istilah bahasa Inggeris. Oleh sebab itu, kerja-kerja penggubalan istilah secara terancang telah dijalankan di Dewan Bahasa dan Pustaka (DBP) sejak tahun 1956 lagi. Sehingga kini, DBP telah berjaya mengeluarkan lebih daripada sejuta istilah dalam pelbagai bidang ilmu yang turut dipinjam daripada bahasa asing dengan mencari bahasa yang paling dekat dengan budaya negara Malaysia (Nur et al., 2022). Walau bagaimanapun, dalam usaha keras untuk mencipta dan membakukan istilah, masih wujud ketidakselarasan istilah, sama ada istilah sepunya atau istilah antara bidang.

Masyarakat juga dilihat banyak menggunakan istilah bahasa Inggeris dalam komunikasi harian samada penuturnya menggunakan istilah itu dengan disedari oleh mereka atau tidak. Bagi kebanyakan masyarakat, mereka merasakan bahasa Melayu tidak mempunyai istilah alih bahasa yang diterima pakai, jadi mereka langsung menggunakan istilah Inggeris dalam ayat bahasa Melayu (Junaini et al., 2020). Konsep dan idea dalam bidang tersebut yang kebanyakannya daripada bahasa Inggeris, dianggap sukar untuk diterjemahkan ke dalam bahasa Melayu (Junaini et al., 2020), Lantaran itu, pengguna terus mengaplikasikan bentuk bahasa Inggeris ke dalam bahasa Melayu. Menurut Hasnah Mohamad et al. (2020), golongan yang terlibat dalam bidang perubatan juga menuturkan istilah-istilah perubatan yang kebanyakannya berasal daripada perkataan bahasa Inggeris dalam bahasa Inggeris itu sendiri walaupun terdapat terjemahannya dalam bahasa Melayu. Menurut Zahid et al. (2022), bahasa yang mudah dapat menyampaikan mesej dan maklumat kepada pendengar dengan jelas dan teratur. Dalam konteks kajian ini, penggunaan bahasa Melayu

yang menjurus kepada bidang perubatan di Malaysia dilihat kurang dipraktikkan kerana menghadapi banyak masalah seperti ketidakselarasan istilah yang telah diterjemah daripada bahasa Inggeris kepada bahasa Melayu. Masalah ini mengakibatkan proses penyampaian maklumat itu tidak dapat berjalan dengan lancar (Tengku, 2020).

HASIL DAN PERBINCANGAN

Jabatan Ortopedik

Jadual 1. Peratus penggunaan istilah perubatan dalam jabatan ortopedik bagi bahasa Melayu dan bahasa Inggeris

Bahasa Melayu	Bahasa Inggeris
Terikan Anjal (3%)	*Elastic Strain* (42%)
Turus Spina (3%)	*Spinal Colum* (61%)
Fraktur Ranting Muda (6%)	*Greenstick Fracture* (70%)
Sarung Femur (3%)	*Femoral Sheath* (64%)
Sendi Engsel (12%)	*Hinge Joint* (52%)
Ligamen Membulat (15%)	*Circular Ligament* (55%)

Berdasarkan jadual 1, didapati 14 orang daripada jumlah responden iaitu 33 orang lebih menggunakan istilah *Elastic Strain*. Untuk Terikan Anjal, hanya seorang yang menggunakannya. Seramai 18 orang responden tidak menggunakan kedua-dua padanan istilah tersebut. Seterusnya, 20 orang responden menggunakan istilah *Spinal Colum* dan hanya seorang yang menggunakan istilah tersebut dalam bahasa Melayu. 12 orang responden tidak menggunakan kedua-dua padanan istilah tersebut. Bagi istilah *Greenstick Fracture* pula, 23 orang responden menggunakannya manakala hanya dua orang yang menggunakannya dalam bahasa Melayu. Lapan orang tidak menggunakan kedua-dua padana istilah ini. Selain itu, 21 orang menggunakan istilah *Femoral Sheath* dan hanya seorang sahaja yang menggunakan Sarung Femur. 11 orang responden tidak menggunakan kedua-dua padanan istilah tersebut. Bagi istilah *Hinge Joint* pula, 17 orang responden yang menggunakan istilah tersebut manakala seramai 14 orang yang menggunakan istilah tersebut dalam bahasa Melayu. Nilai bagi yang tidak menggunakan kedua-dua padanan istilah ini ialah 12 orang. Istilah *Circular Ligament* menunjukkan penggunaan 18 orang dan hanya lima orang yang menggunakan istilah tersebut dalam padanan bahasa Melayu. Nilai selebihnya iaitu 10 orang tidak menggunakan kedua-dua padanan istilah tersebut.

Jabatan Pembedahan Am

Jadual 2. Peratus penggunaan istilah perubatan dalam jabatan pembedahan am bagi bahasa Melayu dan bahasa Inggeris

Bahasa Melayu	Bahasa Inggeris
Fistula Lubang Jarum (6%)	*Pinhole Fistula* (42%)
Asites Pendarahan (15%)	*Hemorrhagic Ascites* (61%)
Edema Lekuk (15%)	*Pitting Edema* (70%)
Biopsi Penyedutan (6%)	*Aspiration Biopsy* (67%)
Rangkaian Pembuluh (12%)	*Vascular Network* (52%)
Bedah (33%)	*Dissect* (61%)

Berdasarkan jadual di atas, 14 orang responden menggunakan istilah *Pinhole Fistula* dan hanya dua orang menggunakan Fistula Lubang Jarum. 16 orang tidak menggunakan padanan istilah ini. Dapatan kajian juga menunjukkan 20 orang responden menggunakan istilah *Hemorrhagic Ascites* dan lima orang menggunakan istilah Asites Pendarahan. Lapan orang pula tidak menggunakan kedua-dua istilah ini. Bagi istilah *Pitting edema* pula, 23 orang menggunakannya manakala lima orang yang menggunakan istilah tersebut dalam bahasa Melayu dan bilangannya sama bagi responden yang tidak menggunakan kedua-duanya. Seterusnya, bagi istilah *Aspiration Biopsy*, 22 orang responden yang menggunakannya manakala dalam bahasa Melayu, hanya dua orang yang menggunakannya. Nilai selebihnya iaitu sembilan orang tidak menggunakan kedua-dua padanan istilah tersebut. Bagi istilah *Vascular Network*, 17 orang responden yang menggunakannya manakala hanya empat orang yang menggunakannya dalam bahasa Melayu. 12 orang tidak menggunakan kedua-dua padanan istilah tersebut. Bagi padanan istilah terakhir menunjukkan seramai 20 orang responden yang menggunakannya dalam bahasa Inggeris dan 11 orang dalam bahasa Melayu. Nilai selebihnya adalah bagi golongan yang tidak menggunakan kedua-dua padanan istilah tersebut iaitu hanya dua orang.

Jabatan Perubatan Am

Jadual 3: Peratus penggunaan istilah perubatan dalam jabatan perubatan am bagi bahasa Melayu dan bahasa Inggeris

Bahasa Melayu	Bahasa Inggeris
Ambang Apnea (3%)	*Apnoiec Threshold* (42%)
Anestesia Setempat (21%)	*Local Anesthesia* (76%)
Atrofi Tandus (6%)	*Exhaustion Atrophy* (52%)
Muntah (46%)	*Emesis* (49%)
Anemia Pemakanan (18%)	*Nutritional Anemia* (58%)
Pendawaian Fosa Piriform (3%)	*Piriform Fossa Wiring* (36%)

Jadual 3 menunjukkan 14 orang menggunakan istilah *Apnoiec Threshold*. Untuk penggunaan dalam Bahasa Melayu, hanya seorang sahaja. Majoriti responden tidak menggunakan kedua-dua padanan istilah ini iaitu 15 orang. Bagi istilah *Local Anesthesia*, 25 orang responden menggunakannya manakala tujuh orang yang menggunakan istilah tersebut dalam Bahasa Melayu. Seorang sahaja yang tidak menggunakan padanan istilah tersebut dalam komunikasi mereka. Seterusnya, 17 orang menggunakan istilah *Exhaustion Atrophy* manakala dua orang yang menggunakan istilah tersebut dalam bahasa Melayu.14 orang tidak menggunakan kedua-dua istilah tersebut. Bagi istilah *Emesis*, 16 orang responden yang menggunakannya dan 15 orang menggunakan padanan istilah itu dalam Bahasa Melayu. Hanya dua orang yang tidak menggunakan kedua-dua padanan istilah tersebut. Seramai 19 orang yang menggunakan istilah *Nutritional Anemia* dan hanya enam orang yang menggunakan istilah Anemia Pemakanan. Nilai selebihnya iaitu lapan orang tidak menggunakan padanan istilah ini. Istilah terakhir iaitu *Piriform Fossa Wiring* yang menunjukkan 12 orang

yang menggunakannya. Dalam bahasa Melayu pula hanya seorang sahaja dan seramai 20 orang tidak menggunakan kedua-dua padanan istilah tersebut.

Jabatan Obstetrik dan Ginekologi

Jadual 4: Peratus penggunaan istilah perubatan dalam jabatan obstetrik dan Ginekologi bagi bahasa Melayu dan bahasa Inggeris

Bahasa Melayu	Bahasa Inggeris
Campuran Gas Anestesia (18%)	*Anaesthetic Gas Mixture* (42%)
Gelung Pengecutan (15%)	*Contaction Loop* (27%)
Lelehan (27%)	*Discharge* (73%)
Tempelan (12%)	*Implant* (70%)
Pil Perancang Keluarga (27%)	*Oral Contraceptive* (73%)
Baligh Terlewat (30%)	*Delayed Puberty* (70%)

Hasil kajian mendapati 14 orang responden menggunakan istilah *Anaesthetic Gas Mixture* manakala enam orang yang menggunakan istilah tersebut dalam bahasa Melayu. 13 orang tidak menggunakan kedua-dua istilah tersebut. Istilah yang seterusnya iaitu *Contraction Loop* atau dalam bahasa Melayunya, Gelung Pengecutan. Seramai sembilan orang responden yang menggunakan istilah tersebut dalam bahasa Inggeris manakala lima orang yang menggunakannya dalam bahasa Melayu. 15 orang tidak menggunakan kedua-dua padanan istilah ini. Bagi istilah *Discharge* atau Lelehan, 24 orang yang menggunakannya dalam bahasa Inggeris dan sembilan orang dalam Bahasa Melayu. Istilah berikutnya ialah *Implant* yang menunjukkan penggunaan seramai 23 orang. Penggunaan dalam bahasa Melayu hanya empat orang. Enam orang responden tidak menggunakan kedua-duanya. Bagi istilah *Oral Contraceptive* pula, 24 orang yang menggunakannya dan sembilan orang menggunakan istilah tersebut dalam bahasa Melayu. Istilah *Delayed Puberty* mencatatkan penggunaan 23 orang, Baligh Terlewat pula hanya 10 orang responden.

Jabatan Kecemasan

Jadual 5: Peratus penggunaan istilah perubatan dalam jabatan kecemasan bagi bahasa Melayu dan bahasa Inggeris

Bahasa Melayu	Bahasa Inggeris
Gelung Pengaktifan (3%)	*Activation Loop* (27%)
Diagnosis Sementara (21%)	*Provisional Diagnosis* (67%)
Pesakit Dalam (42%)	*Hospital Inpatient* (58%)
Pesakit Luar (58%)	*Outpatient* (70%)
Tanpa Demam (36%)	*Afebrile* (70%
Lelasan (15%)	*Abrasion* (67%)

Jadual 5 menunjukkan sembilan orang menggunakan istilah *Activation Loop* dan seorang sahaja yang menggunakan istilah tersebut dalam bahasa Melayu. Nilai ini menunjukkan majoriti responden tidak menggunakan kedua-dua padanan istilah tersebut iaitu 23 orang. Istilah yang seterusnya ialah *Provisional Diagnosis* atau dalam bahasa Melayu ialah Diagnosis Sementara. Istilah bahasa Inggeris mencatat penggunaan 22 orang manakala dalam bahasa Melayu tujuh orang. Nilai selebihnya iaitu empat orang yang tidak menggunakan kedua-dua istilah tersebut. Bagi istilah *Hospital Inpatient*, seramai 19 orang responden yang menggunakan istilah tersebut. Dalam bahasa Melayu pula menunjukkan penggunaan yang lebih rendah iaitu 14 orang responden. Selain itu, bagi istilah *Outpatient*, 23 orang menggunakannya dan 19 orang menggunakan istilah Pesakit Luar. Istilah yang seterusnya iaitu *Afebrile*, 23 orang responden yang menggunakannya dan dalam bahasa Melayu pula, 12 orang. Istilah *Abrasion* mencatatkan penggunaan 22 orang responden manakala dalam bahasa Melayu hanya lima orang. Nilai selebihnya iaitu enam orang yang tidak menggunakan kedua-dua padanan istilah tersebut.

Jabatan Paedetrik

Jadual 6: Peratus penggunaan istilah perubatan dalam jabatan paedetrik bagi bahasa Melayu dan bahasa Inggeris

Bahasa Melayu	Bahasa Inggeris
Tanda Lahir (52%)	*Birthmark* (73%)
Lepuh (27%)	*Blister* (67%)
Cacar Air (42%)	*Chickenpox* (88%)
Kencing Malam (46%)	*Nocturnal Emuresis* (64%)
Beguk (46%)	*Mumps* (67%)
Kutu (48%)	*Lice* (58%)

Berdasarkan jadual 6, 24 orang responden yang menggunakan istilah *Birthmark* manakala 17 orang menggunakan istilah Tanda lahir. Istilah *Blister* atau dalam bahasa Melayu dipanggil Lepuh. Penggunaannya dalam bahasa Inggeris ialah 22 orang manakala dalam Bahasa Melayu hanya sembilan orang. Hanya dua orang responden tidak menggunakan kedua-dua padanan istilah ini. Istilah *Chickenpox* mencatat penggunaan 29 orang responden manakala Cacar Air, 14 orang. Istilah yang berikutnya ialah *Nocturnal Emuresis* atau Kencing malam. Penggunaan istilah ini dalam bahasa Inggeris adalah 21 orang dan dalam bahasa Melayu, 15 orang responden. Bagi istilah *Mumps* pula, 22 orang responden menggunakannya dan 15 orang menggunakan istilah tersebut dalam bahasa Melayu. Istilah terakhir ialah *Lice* atau dalam bahasa Melayu, Kutu. Seramai 19 orang responden menggunakan istilah tersebut dalam bahasa Inggeris manakala seramai 16 orang menggunakannya dalam bahasa Melayu.

KESIMPULAN

Secara umumnya, dapat dirumuskan bahawa kajian ini dapat menunjukkan istilah-istilah perubatan yang digunakan oleh pegawai perubatan sama ada dalam bahasa Melayu atau bahasa Inggeris di Hospital Universiti Sains Malaysia, Kubang Kerian, Kelantan. Antara istilah dalam dua bahasa tersebut, didapati golongan pegawai perubatan ini lebih menggunakan istilah-istilah dalam bahasa Inggeris berbanding bahasa Melayu. Terdapat juga istilah yang menunjukkan penggunaan yang tidak banyak bezanya antara istilah bahasa Melayu dan bahasa Inggeris seperti istilah

Outpatient dan Pesakit Luar. Hal ini menunjukkan responden memilih untuk menggunakan kedua-dua bahasa. Terdapat juga responden yang tidak menggunakan kedua-dua padanan istilah yang diberi. Sehubungan dengan itu, kajian ini telah dapat menunjukkan perbezaan penggunaan istilah dalam bahasa Melayu dan bahasa Inggeris dalam bidang perubatan dan hal ini penting kerana bidang perubatan merupakan satu bidang yang mempunyai pengaruh yang besar kepada kehidupan masyarakat. Hal ini lebih penting kepada golongan pegawai perubatan kerana mereka sering berurusan dengan masyarakat dan penjelasan atau proses komunikasi mereka dengan pesakit memerlukan ketepatan makna. Ketepatan makna ini selari dengan Pedoman Umum Pembentukan Istilah (PUPI) dan boleh dicapai dengan menggunakan istilah yang tepat dalam merungkaikan makna sesuatu perkara. Ketepatan makna ini juga dapat melancarkan proses komunikasi dan hasilnya, pendengar atau penerima dapat menerima mesej yang ingin disampaikan dengan sebaik mungkin. Oleh sebab itu, kajian ini penting untuk memperlihatkan sejauh mana istilah bahasa Melayu dan bahasa Inggeris dapat menyampaikan mesej dan membawa ketepatan makna bagi golongan pegawai perubatan.

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Kemahiran Bersoal-Jawab Asas dalam Pembelajaran Bahasa Ketiga melalui Strategi Dua Hala

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ABSTRAK

Antara masalah utama yang dihadapi oleh pelajar antarabangsa di Malaysia ialah kekangan komunikasi pelajar untuk bersoal-jawab dalam pembelajaran bahasa Melayu sebagai bahasa ketiga. Kajian ini bertujuan untuk melihat keberkesanan strategi soal-jawab dua hala sebagai kaedah alternatif dalam membina kemahiran soal-jawab pelajar. Penyelidikan berbentuk kajian tindakan ini melibatkan 20 orang pelajar pascasiswazah antarabangsa yang mengikuti kursus Bahasa Melayu sebagai bahasa ketiga di UKM, di mana data diperoleh melalui pemerhatian semasa kaedah intervensi dijalankan serta perbandingan skor ujian pencapaian kaedah konvensional dengan kaedah intervensi. Hasil kajian menunjukkan bahawa peserta kajian membina kemahiran menyoal dan menjawab soalan secara kendiri melalui latih tubi soal-jawab semasa sesi intervensi. Analisis perbandingan skor antara gelung konvensional dan gelung intervensi untuk kedua-dua kemahiran mencatatkan perbezaan yang signifikan, dengan nilai p=0.000 dicatatkan oleh kedua-duanya. Analisis Regresi pula menunjukkan perkaitan yang signifikan antara kaedah intervensi dengan kedua-dua kemahiran yang disasarkan, dengan nilai R2 untuk kaedah penyoalan lisan (0.541) dan kaedah menjawab secara lisan (0.844). Hasil kajian jni diharap agar dapat memberikan idea dan kaedah baharu untuk para pengajar Bahasa Melayu kepada pelajar antarabangsa di luar sana untuk mempelbagaikan penggunaan kaedah pengajaran yang lebih segar dan berfokus pelajar.

Kata Kunci: Bahasa Melayu; Kajian Tindakan; Kaedah Tanya-Jawab Dua Hala; Pelajar Antarabangsa; Kemahiran Bersoal-Jawab

PENGENALAN

Landskap pendidikan tinggi Malaysia telah menyaksikan transformasi signifikan dengan peningkatan konsisten jumlah pelajar antarabangsa yang memilih negara ini sebagai destinasi pengajian. Data terkini daripada Kementerian Pendidikan Tinggi (KPT) menunjukkan bahawa setakat 31 Disember 2025, seramai 159,138 pelajar antarabangsa atau 12.6 peratus daripada keseluruhan 1,264,541 enrolmen di institusi pendidikan tinggi awam dan swasta di Malaysia (Berita RTM, 2026). Pertumbuhan ini menunjukkan peningkatan sekitar 23 peratus sepanjang tiga tahun terkini, dengan sasaran Malaysia untuk menarik 500,000 pelajar antarabangsa menjelang tahun 2035 di bawah Pelan Pendidikan Tinggi Malaysia 10 tahun (Novie Tajuddin, 2026).

Pertambahan bilangan pelajar antarabangsa ini secara langsung telah meningkatkan keperluan untuk mereka menguasai Bahasa Melayu sebagai bahasa perantaraan dan bahasa kebangsaan negara. Bahasa Melayu telah diwajibkan sebagai mata pelajaran yang perlu diikuti dan diluluskan oleh semua pelajar antarabangsa di institusi pengajian tinggi di Malaysia, selaras dengan garis panduan yang ditetapkan oleh Agensi Kelayakan Malaysia (MQA) (Norfaizal Jamian et. al., 2026).

Dalam konteks penguasaan bahasa, kemahiran bertutur merupakan aspek yang paling kritikal dan mencabar dalam pembelajaran bahasa kedua atau bahasa asing. Kemahiran bertutur berperanan sebagai penanda aras (benchmark) kejayaan penguasaan sesuatu bahasa dan menjadi elemen yang menentukan kejayaan pengajaran dan pembelajaran bahasa (Muhammad Alee, 2025). Pelajar antarabangsa perlu menguasai kemahiran bertutur untuk berinteraksi, menyesuaikan diri dengan masyarakat setempat dan menjalani kehidupan sosial di Malaysia dengan lebih lancar. Namun demikian, pelbagai kekangan dikenal pasti yang menghalang pelajar asing untuk bertutur dalam Bahasa Melayu, merangkumi faktor dalaman pelajar itu sendiri, faktor tenaga pengajar, program latihan dan persekitaran pembelajaran . Justeru, strategi pengajaran yang efektif amat diperlukan, terutamanya yang bersifat interaktif dan berpusatkan pelajar. Strategi soal jawab dua hala muncul sebagai pendekatan yang berpotensi untuk membina keyakinan pelajar dalam bertutur, seterusnya meningkatkan penguasaan kosa kata dan kemahiran komunikasi lisan dalam Bahasa Melayu. Kajian ini bertujuan untuk meneliti penggunaan strategi dua hala dalam pembangunan kemahiran soal jawab secara lisan dalam kalangan pelajar antarabangsa yang mempelajari Bahasa Melayu sebagai bahasa ketiga.

HASIL KAJIAN

Perbincangan bahagian ini akan memfokuskan kepada dapatan kajian tentang keberkesanan kaedah soal-jawab dua hala dalam pembangunan dua aspek kemahiran pelajar, iaitu kemahiran menyoal dan menjawab soalan secara lisan.

Ho1 : Tiada perkaitan yang signifikan antara pelaksanaan kaedah soal jawab dua hala dengan kemahiran bertanyakan soalan secara lisan dalam kalangan pelajar.

Dapatan SPSS bagi ujian regresi linear mudah yang membuktikan wujudnya perkaitan signifikan antara kaedah Tanya-Jawab Dua Hala dengan kemahiran bertanyakan soalan secara lisan dalam kalangan pelajar, dengan $F(1, 20) = 21.2$, $p<0.05$, dengan nilai $R_2 = .541$. Jangkaan peratusan dalam kemahiran menyoal secara lisan oleh pelajar ialah $Y = 1.130 + 0.729 X$ apabila X diukur dalam peratus. Dalam hal ini, kemahiran bertanyakan soalan secara lisan meningkat sebanyak 0.729 bagi setiap peratus penggunaan kemahiran Tanya-Jawab Dua Hala.

JADUAL 1(a): Model Summary Pengaruh Kaedah Tanya Jawab Dua Hala kepada Kemahiran Menyoal Secara Lisan

Model	R	R Square	R Square Diubahsuai	Ralat Piawai Jangkaan
1	.735[a]	.541	.515	.29761
a. Predictor: Kaedah Tanya Dua Hala				

JADUAL 1(b): Analisis Simple Linear Regression – Pengaruh Kaedah Tanya Jawab Dua Hala kepada Kemahiran Menyoal secara Lisan

Model		Sum of Squares	Df	Min Square	F	Sig.
1	Regression	1.878	1	1.878	21.200	.000[b]
	Residual	1.594	18	.089		
	Total	3.472	19			

JADUAL 1(c): Model Summary Pengaruh Kaedah Tanya Jawab Dua Hala kepada Kemahiran Menyoal Secara Lisan

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig
(constant)	1.130	.696		1.623	.122
Kaedah Tanya Jawab	.729	.158	.735	4.604	.000
Pembolehubah Bersandar: Kemahiran Menyoal					

Ho2 : Tiada hubungan yang signifikan antara pelaksanaan kaedah Tanya-Jawab Dua Hala dengan kemahiran menjawab soalan secara lisan dalam kalangan pelajar.

Jadual 2(a) hingga 2(c) menunjukkan ujian regresi linear mudah yang membuktikan wujudnya perkaitan signifikan antara kaedah Tanya-Jawab Dua Hala dengan kemahiran menjawab soalan secara lisan dalam kalangan pelajar, dengan $F(1, 20) = 97.731$, $p=0.00$, dengan nilai $R_2 = .541$. Jangkaan peratusan dalam kemahiran menyoal secara lisan oleh pelajar ialah $Y = -.620 + 1.129 X$ apabila X diukur dalam peratus. Dalam hal ini, kemahiran menjawab soalan secara lisan meningkat sebanyak 1.129 bagi setiap peratus penggunaan kemahiran Tanya-Jawab Dua Hala.

JADUAL 2(a): Model Summary Pengaruh Kaedah Tanya Jawab Dua Hala kepada Kemahiran Menyoal Secara Lisan

Model	R	R Square	R Square Diubahsuai	Ralat Piawai Jangkaan
1	.919[a]	.844	.836	.21464
a. Predictor: Kaedah Tanya Dua Hala				

JADUAL 2(b): Analisis Simple Linear Regression – Pengaruh Kaedah Tanya Jawab Dua Hala kepada Kemahiran Menyoal secara Lisan

Model		Sum of Squares	Df	Min Square	F	Sig.
1	Regression	4.503	1	4.503	97.731	.000[b]
	Residual	.829	18	.046		
	Total	5.332	19			

JADUAL 2(c): Model Summary Pengaruh Kaedah Tanya Jawab Dua Hala kepada Kemahiran Menyoal Secara Lisan

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig
(constant)	-.620	.502		-1.236	.233
Kaedah Tanya Jawab	1.129	.114	.919	9.886	.000
Pembolehubah Bersandar: Kemahiran Menjawab					

PERBINCANGAN & KESIMPULAN

Sebagai satu bentuk kaedah alternatif yang berpusatkan pelajar, kaedah soal jawab dua Hhala merupakan kaedah soal-jawab yang mampu dimanfaatkan sebagai aktiviti di dalam kelas antara guru dan pelajar, serta sebagai kaedah yang membantu pelajar antarabangsa berkomunikasi dalam perbualan mudah. Dapatan kajian tindakan ini merupakan jawapan kepada permasalahan komunikasi pelajar antarabangsa seperti tidak mempencapaian 1ktikkan bahasa Melayu di luar kelas serta menggunakan bahasa Inggeris dan bahasa Ibunda untuk berkomunikasi dengan rakan, guru serta kenalan mereka

i) Pembinaan Kemahiran Penyoalan Lisan

Situasi dua hala dalam aktiviti pembelajaran akan membawa kepada penerokaan ilmu secara kendiri oleh pelajar (Ajaj, 2023). Dalam kajian ini, subjek kajian mempamerkan perkembangan dalam pembinaan kemahiran secara kendiri melalui galakan guru serta latihan demi latihan. Inisiatif pembinaan kemahiran secara kendiri dalam kalangan pelajar ini membolehkan mereka memperoleh maklumat baharu secara tidak langsung (Ajaj, 2023) seperti pembinaan struktur ayat tanya serta penggunaan kata tanya dengan betul, dan menyebabkan keupayaan transisi daripada penggunaan kertas kepada keupayaan menyoal secara lisan dapat dibentuk. Kemahiran kendiri ini selaras dengan tuntutan kognitif dalam penyoalan soalan, di mana ianya memerlukan sokongan pedagogi pelajaran agar soalan dapat distruktur dengan baik (Israa Azee, 2023). Daripada aspek bahasa pula, keupayaan pelajar untuk menghasilkan lebih daripada satu kemungkinan soalan untuk pernyataan yang sama menunjukkan bahawa pelajar telah menguasai tingkat bahasa serta penguasaan unit dalam pembinaan ayat tanya yang baik kerana pembinaan kemahiran penyoalan yang baik dapat membuka peluang kepada perkembangan penguasaan bahasa iaitu pembentukan ayat serta membina kemahiran bertanya dalam kalangan pelajar.

ii) Pembinaan Kemahiran Menjawab Soalan secara Lisan

Bentuk kesalahan struktur ayat dan pemilihan kata antara yang sering dilakukan oleh pelajar kajian, namun proses pembinaan kemahiran menjawab soalan berpotensi untuk dalam memperkaya kosa kata, serta menajamkan pemikiran dan meluaskan pengetahuan (Bradhiansyah et. al. 2021). Hal ini menyebabkan peserta kajian membina pengetahuan asas yang membolehkan mereka menyedari kesalahan bahasa yang dilakukan dan membetulkannya tanpa diminta, di samping membina kemahiran menjawab soalan secara sepenuhnya secara kendiri melalui kaedah intervensi. Perkara ini berlaku disebabkan kaedah ini membuka peluang kepada mereka untuk melakukan pembelajaran secara kendiri terhadap perkara-perkara penting dalam pembinaan jawapan yang baik, di samping sokongan motivasi dan keinginan yang membantu mereka meneroka dengan lebih lagi. Berbanding dengan kemahiran penyoalan lisan, para pelajar kajian telah didedahkan terlebih dahulu dengan bentuk ayat jawapan. Hal ini menyebabkan nilai R2 pada analisis regresi kemahiran penyoalan lisan (0.541) lebih rendah berbanding nilai R2 kemahiran menjawab soalan (0.844). Pendedahan awal terhadap bentuk ayat jawapan menyebabkan mereka dapat mengenal pasti maklumat dalam soalan dan dapat menghubungkan maklumat di dalam soalan untuk membentuk jawapan (Donesch-Jezo, 2011).

Secara keseluruhannya, kaedah intervensi ‘Tanya-Jawab Dua Hala’ berjaya menjadi langkah alternatif untuk membina kemahiran bersoal-jawab dalam diri pelajar, sekaligus menyumbang kepada manfaat bahasa, kognitif serta komunikasi agar para pelajar ini dapat memperoleh kemahiran bertutur dalam bahasa Melayu dengan baik.

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Mobilised and Anaesthetic Irony: How the War Poem Implicates or Absolves Its Reader in Hebrew and Palestinian Verse of the 1982 Lebanon War, from Amichai to Darwish

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ABSTRACT

Can irony still protest, or has it become a way of feeling correct while changing nothing? The question presses on the Hebrew lyric of the 1982 Lebanon War, a body of verse that turned irony against the national consensus just as critics were charging the device with dissolving political commitment into the pleasures of detachment. This study proposes a criterion for telling protest from sedation and tests it across seven poems. Occasion-specificity, the binding of a poem to a named war and atrocity, is necessary but not sufficient, since a poem can name a wrong with documentary precision and still console its reader. The operative distinction is reflexive rather than referential. Mobilised irony implicates the reader's own response and closes the exit through which sympathy escapes into self-approval; anaesthetic irony manages distance for its own sake. Reading Amichai against Sidon, Geffen and Ravikovitch, and the Hebrew corpus against the Palestinian counter-tradition of Darwish and al-Qāsim, the paper argues that a protesting irony turns its edge not on a distant enemy but on the audience that decodes it.

Keywords: Hebrew protest poetry, irony, 1982 Lebanon War, Palestinian poetry, political poetics

INTRODUCTION

There is a suspicion, by now almost respectable, that irony has spent its political force. On this view the ironic posture no longer unsettles power; it supplies the educated reader with a pleasurable distance from a wrong while leaving the wrong intact (Colletta, 2009). Within Hebrew letters the charge has been pressed with precision by Hever (2019), who argues that the irony of the State Generation, and of Amichai above all, can translate the language of atrocity into a universal idiom of common humanity and so release the sovereign from responsibility. If irony of this kind anaesthetises, the question is no longer whether a poem is ironic but whether its irony does any work.

That question falls with particular weight on the Hebrew poetry of the 1982 Lebanon War. The invasion was experienced inside Israel as a

war of choice rather than a war of survival, and it produced the first sustained mass movement against an ongoing Israeli campaign (Naor & Lewin, 2022). Poets and songwriters were prominent in that movement, and the irony they had inherited from the State Generation became, for a season, an explicit instrument of dissent. Yet if Hever is right that irony can sedate as readily as it can rouse, the protest credentials of this corpus cannot be inferred from its tone. A poem may adopt the ironic stance of opposition and still ask of its reader nothing more strenuous than the comfort of feeling correct.

This paper proposes a way of telling the two apart and puts it to work across a small comparative corpus. The distinction it draws is not between the ironic and the sincere, nor between the engaged and the detached, but between two modes of irony that can look identical on the surface. Mobilised irony implicates the reader's own response in what it indicts; it closes the exit through which sympathetic feeling ordinarily escapes into self-approval. Anaesthetic irony, by contrast, secures the reader's distance and lets the sense of having understood stand in for any further demand. The criterion is reflexive rather than referential, which is to say that it does not turn on whether a poem names a specific war or a specific massacre.

LITERATURE REVIEW

The politics of irony and the anaesthetic charge

Irony is not a single thing, and what bears on this argument is its evaluative direction rather than its mere presence. It is never evaluatively neutral: it has an edge, it cuts in some direction, and its accomplishment depends on a discursive community that takes it up, one in which the audience can itself be moved into the target position and made the object of the irony it is decoding (Hutcheon, 1994). The same resources can consolidate collective contempt as readily as interrogate it, so the presence of irony settles nothing about a poem's politics.

The most searching case against irony, for this corpus, comes from within Hebrew studies. Hever (2019) reads the irony of the State Generation as a mechanism of evasion: by translating horror into a universal idiom of love and shared humanity, ironic distance dissolves a specific scene of guilt into the common human lot and absolves the sovereign of a particular act. The danger is not that the poem fails to be ironic but that the irony succeeds too smoothly, lifting the wrong out of history.

The construct: mobilised and anaesthetic irony

The construct offered here locates the difference between the two modes in the management of the reader's response. Anaesthetic irony turns its edge outward, on a target the reader is invited to despise or to pity from a position of secured innocence. Mobilised irony turns the edge inward, on the reader's own act of reading, so that the recognition the poem produces is not of someone else's fault but of a logic, or an appetite, the reader discovers to be available within themselves. The exit through which sympathy ordinarily escapes into self-approval is, in the mobilised case, deliberately closed. Occasion-specificity is necessary but not sufficient, because a poem can name the wrong precisely and still console; the reflexive criterion supplies the sufficient condition the referential one lacks.

METHODOLOGY

The study is a qualitative close reading of seven poems chosen not as a sample but as a theoretically motivated set built to test the distinction, two in each wing category and three in the focal one. They are read in translation, with translators named, at the level of address and structure that survives transfer, and the criterion is offered as a reading hypothesis grounded in textual design rather than an asserted effect. The decisive evidence sought is structural: the dramatic situation, the role and stance of the speaker, the pattern of salience, and above all the direction of address.

ANALYSIS

The anaesthetic irony: Amichai

The anaesthetic mode is clearest in the State Generation's master ironist. Amichai's *God Has Pity on Kindergarten Children*, from his first volume of 1955, opens on a graduated withdrawal of divine mercy:

God has pity on kindergarten children.
He has less pity on school children
and on grownups he has no pity at all.
(Amichai, 1996)

A glimpse of violence follows, the wounded crawling through the burning sand, and the poem then turns from the field to those who love truly, folding the scene of war into the universal lot of the unprotected and resolving it in the consolation of private love. *Wildpeace*, of 1971, performs the same withdrawal by another route, opening by refusing the grand vocabulary of reconciliation:

Not the peace of a cease-fire,
not even the vision of the wolf and the lamb,
but rather
as in the heart when the excitement is over
and you can talk only about a great weariness.
(Amichai, 1996)

What the poem asks for instead is a small domestic quiet, a peace without the noise of beating swords into ploughshares, and it registers the political cost in a single parenthesis before setting it aside. Both poems are accomplished and neither is cynical, which is what makes them the apt foil: irony here is serious, humane and still anaesthetic, securing the reader's distance rather than closing it.

Mobilised irony: Sidon, Geffen and Ravikovitch

Three poems of the war turn the edge the other way. Ephraim Sidon's *The Little Girl in the Red Dress*, published in the daily Davar in June 1982 (Sidon, 2004), stages a soldier's address to the body of a child killed in the southern war zone, who is given a single question, why. The soldier answers not with grief but with a ledger of inherited guilt:

Had your father not been a stubborn terrorist
and your damned brother a tank hunter
I would have answered you,
my little girl
(Sidon, 2004)

What makes the irony mobilised rather than merely shocking is the cadence of the answer, delivered in the reasonable, almost administrative tone of a man apportioning liability. The reader who follows the syllogism recognises the logic of collective punishment as a procedure available to any orderly mind, and the closing endearment draws the reader's tenderness into complicity, so that the poem does not permit the Israeli reader to mourn the child from innocence.

Yehonatan Geffen's *Blood in Sabra and Shatila* (Geffen, 2004) widens the same operation to the scale of the public, opening on a domestic scene reported in the flat cadence of the ordinary:

When I returned from my vacation,
Boaz asked me,
'How was your vacation?'
I told him my mother cried
because I didn't bring her someone's head.
My mother cried because I didn't kill more
(Geffen, 2004)

The mother, elsewhere the giver of life, is inverted into one who grieves the absence of a trophy. The poem then widens from the household to the crowd:

And there, in a café in Kiryat Shmona,
a large audience sat in front of the small screen
watching the terrorists on their way to Ansar prison.
We all shouted:
Harvest them… Slaughter them!
We want to see their blood in Sabra and Shatila!
I saw a lot of blood,
and my soul was at peace
(Geffen, 2004)

The home front gathered at a screen takes pleasure in violence performed at a distance, which is precisely the situation of the reader who consumes the war as spectacle. Geffen builds the remove and then collapses it, so that the reader sees their own watching reflected back.

Dahlia Ravikovitch's *You Can't Kill a Baby Twice*, the canonical Hebrew lyric of moral witness from these months, mobilises its irony through the self-image of the nation. The poem

closes, in Bloch and Kronfeld's translation, on its most quoted lines:

> *Our sweet soldiers*
> *wanted nothing for themselves.*
> *All they ever asked*
> *was to come home*
> (Ravikovitch, 2009)

The irony is carried by the possessive and the endearment. Our sweet soldiers is the language in which a society reassures itself of its own decency, and the poem sets that reassurance directly beside the massacre it has refused to describe in any other terms. The reader who would reach for the consoling self-image finds the poem has reached for it first and turned it into the instrument of the indictment. Ravikovitch refuses the reader not the spectacle of cruelty but the reassurance of innocence.

The counter-tradition: Darwish and al-Qāsim

Mobilised irony is not the only answer to the problem of the consoled reader. The Palestinian tradition addresses the same difficulty by another means, giving the dead a voice rather than turning irony on a living audience. Mahmoud Darwish's *Victim Number 18* (Darwish, 1980), an elegy for the villagers shot at Kafr Qasim in 1956, is spoken by one of the dead, a labourer halted at the curfew, who addresses his beloved from beyond his killing and promises her a wedding he will not live to keep:

> *A wedding-ring and all you want,*
> *And an orchard of trees, of olive and fig...*
> *Blame me not if I'm a little late:*
> *They stopped me...*
> *Beloved, do not blame me.*
> *They killed me. They killed me.*
> (Darwish, 1980)

Samih al-Qāsim's *Travel Tickets* makes the same move from the near side of death, in the voice of a man who anticipates his own murder:

> *One day you kill me*
> *You'll find in my pocket*
> *Travel tickets*
> *To peace,*
> *To the fields and the rain,*
> *To people's conscience.*
> *Don't waste the tickets.*
> (al-Qāsim, 1984)

The dead man leaves his killer the tickets found on his body, so that the act of being killed becomes an address the victim, and not the killer, controls. Said (1984) named the obstacle that makes such gestures rare, the denied permission to narrate, and Spivak (1988) argued that subaltern figures enter that discourse most readily as objects, spoken for rather than speaking. Darwish and al-Qāsim refuse that fate for their speakers.

DISCUSSION

Set side by side, the seven poems sort cleanly along the line the framework draws, and the sorting is what gives the criterion its evidential value. Amichai's irony turns outward and upward and releases the reader into the universal and the private; the three war poems turn the edge inward and refuse that release, each by a different route, the grotesque rationalisation, the cheering crowd, and the consoling self-image of the gentle soldier. The difference is not finally that they name 1982 while Amichai universalises, though they do, but that they hold the reader to the scene and close the exit, and it is the closing of the exit, not the date in the margin, that marks the irony as mobilised.

Yet the comparison with Darwish and al-Qāsim exposes a boundary that even mobilised Hebrew irony does not cross. The address, in every Hebrew case, is to the Israeli conscience, and the very operation that makes these poems mobilised, the turning of the edge on the Israeli reader, is also what keeps that reader at the centre. To implicate the audience is a real achievement, but it is still the audience, and not the dead, whom the poem finally concerns. The contrast is not a hierarchy of poetic virtue, since Darwish and al-Qāsim are themselves living poets speaking for men who cannot answer; the two addresses simply stand in different relations to the power that produced the silence.

CONCLUSION

The poetry of the 1982 Lebanon War was written when irony stood accused of having lost

its political nerve, and the accusation is not idle. Irony can sedate, and occasion-specificity is no guarantee against it; a poem can name the wrong with precision and still hand its reader the comfort of having felt correctly. This paper has argued that the test of a protesting irony is reflexive rather than referential. By that test, and against the foil of Amichai, the war poems of Sidon, Geffen and Ravikovitch are mobilised, because each refuses the Israeli reader the innocence from which a wrong can be safely mourned, whether the innocence of distance, of spectatorship, or of the gentle soldier.

The criterion carries its own limit. The same turn that holds the Israeli reader to the scene keeps that reader at the centre, and the dead of Sabra and Shatila remain the silent occasion of an Israeli conscience. Read beside the speaking dead of Darwish and al-Qāsim, the achievement of mobilised irony and the boundary it cannot cross become visible at once. Before crediting a poem with protest, the critic should ask not only what the poem names but whom its irony is finally about, and whether the reader is permitted to leave comforted.

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Humanising Artificial Intelligence in Higher Education: Reframing the Role of Educators through the Murabbi Perspective

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ABSTRACT

Generative Artificial Intelligence (AI) is transforming higher education by expanding opportunities for personalised learning, academic writing, research assistance, coding and data analysis. However, its increasing use raises concerns regarding overdependence, misinformation, academic integrity, algorithmic bias, privacy and the potential erosion of critical thinking. This study examines the evolving role of educators in fostering ethical and responsible AI use among university students using the murabbi perspective as a value-based educational lens. A qualitative conceptual approach was employed through document and literature analysis involving scholarship on AI literacy, educational ethics, human-centred education and Islamic educational philosophy, alongside selected international, regional and national AI governance frameworks. The conceptual synthesis identified four interconnected themes: AI as an enabler of learning and research; ethical and intellectual risks; the continuing importance of human-centred education; and educators as ethical anchors. Based on these themes, the study proposes the Educator-Centred Responsible AI Framework (ECRAI), integrating AI literacy, human-centred values and Maqasid al-Shariah, particularly Hifz al-'Aql. The framework positions educators as Ethical Curators, Academic Integrity Role Models, Human and Values Mentors, and AI Literacy Educators to foster critical thinking, academic integrity, ethical judgement, responsible AI use and human values. The study concludes that AI transforms rather than diminishes the educator's role, requiring a balance between technological capability, human guidance and value-based education.

Keywords: Artificial Intelligence; Higher Education; Educators; Responsible AI; Human-Centred Education

INTRODUCTION

The rapid advancement of Artificial Intelligence (AI), particularly Generative AI, has significantly transformed higher education. Generative AI supports brainstorming, academic writing, summarisation, translation, research, coding and data analysis, enabling more efficient and personalised learning experiences (Adamakis & Rachiotis, 2025; Holmes et al., 2019). Despite these opportunities, excessive dependence may reduce students' engagement in independent analysis and problem-solving, while AI-generated content may introduce misinformation, fabricated references, plagiarism and questions of academic authenticity (Atmasani et al., 2025). Broader ethical concerns include algorithmic bias, data ownership, surveillance, intellectual property,

privacy and educational inequality (Gupta, 2025).

These developments make AI literacy an increasingly important educational competency. AI literacy extends beyond technical proficiency to include understanding AI capabilities and limitations, critically evaluating outputs, and recognising social and ethical implications (Chiu et al., 2024). This need is reflected in international and national initiatives. UNESCO emphasises preparing education systems for an AI-driven future (UNESCO, 2019), while the AI Competency Framework for Teachers highlights human-centred thinking, AI ethics and AI pedagogy as key educator competencies (Miao & Cukurova, 2024). Malaysia's National Artificial Intelligence Roadmap 2021-2025 similarly emphasises talent development and responsible AI adoption (MOSTI, 2021).

However, technological competency and institutional guidelines alone may not sufficiently address the human and ethical dimensions of AI-mediated education. Noddings (2013) emphasises care and relational responsibility in education, while Al-Attas (1991) conceptualises education as the formation of a good and civilised human being. The concept of murabbi similarly positions educators beyond knowledge transmission toward intellectual, moral, spiritual and character development (Jaafar et al., 2014; Muzaki et al., 2025). Thus, rather than diminishing the educator's importance, Generative AI creates a need to reconsider how educators can provide ethical, intellectual and human-centred guidance.

Accordingly, this study examines the evolving role of educators in fostering ethical and responsible AI use in higher education. It adopts a qualitative conceptual approach through document and literature analysis, drawing on academic literature concerning AI literacy, educational ethics, human-centred education, murabbi and Maqasid al-Shariah, alongside selected UNESCO, ASEAN, European Commission and Malaysian AI governance documents. The literature was conceptually synthesised to identify recurring dimensions related to AI-enabled learning, ethical and intellectual risks, human-centred education and educators' evolving responsibilities.

RESULTS AND DISCUSSION

The conceptual synthesis identified four interconnected themes. First, Generative AI functions as an enabler of learning and research by supporting personalised academic assistance, complex concept explanation, summarisation, language, research, coding and data analysis, thereby reducing routine workloads and enabling greater engagement in higher-order learning (Adamakis & Rachiotis, 2025). Nevertheless, AI should support rather than replace human reasoning. The European Commission (2024) similarly emphasises research integrity, transparency, accountability and human responsibility in the use of Generative AI.

The second theme concerns ethical and intellectual risks. Excessive reliance on AI may weaken independent analytical capabilities, while misinformation and fabricated references demonstrate why AI outputs cannot automatically be treated as authoritative knowledge (Atmasani et al., 2025). Concerns also include algorithmic bias, privacy, intellectual property, surveillance and automated assessment (Gupta, 2025). AI systems operate within broader social, political, economic and ethical structures rather than as neutral technological instruments (Crawford, 2021); responsible AI education must therefore develop students' capacity to question, evaluate and challenge technological outputs.

The third theme highlights the continuing necessity of human-centred education. AI cannot fully replicate empathy, moral judgement and meaningful interpersonal relationships, reflecting Noddings' (2013) ethics of care. Within Islamic educational philosophy, murabbi positions educators as guides of character, values and responsible behaviour (Jaafar et al., 2014; Muzaki et al., 2025), while Al-Attas (1991) emphasises the formation of a good human being. This perspective is strengthened through Maqasid al-Shariah, particularly hifz al-'aql (preservation of intellect): AI should enhance rather than diminish students' capacity to reason, evaluate evidence and make independent judgements.

The fourth and central theme positions the educator as an ethical anchor. Four interconnected roles emerge: Ethical Curator, guiding students to distinguish credible knowledge from misleading AI-generated information; Academic Integrity Role Model, demonstrating transparent and accountable AI practices; Human and Values Mentor, providing empathy and value formation; and AI Literacy Educator, developing students' capacity to understand, evaluate and responsibly use AI. These roles align with UNESCO's human-centred and ethically informed AI education (Miao & Cukurova, 2024), the ASEAN Guide on AI Governance and Ethics (ASEAN, 2024), and Malaysia's National Artificial Intelligence Roadmap 2021-

2025 (MOSTI, 2021). Based on these themes, the study proposes the Educator-Centred Responsible AI Framework (ECRAI), integrating AI Literacy, Human-Centred Values and Maqasid al-Shariah, particularly Hifz al-'Aql, through the educator as an Ethical Anchor to foster Critical Thinking, Academic Integrity, Ethical Judgement, Responsible AI Use and Human Values.

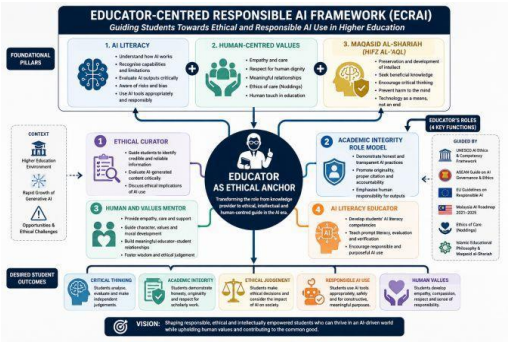

Figure 1. Educator-Centred Responsible AI Framework (ECRAI)

The ECRAI framework demonstrates that responsible AI integration extends beyond technological competence and regulatory compliance. AI literacy enables critical evaluation of technology; human-centred values preserve empathy, care and meaningful educational relationships; while Maqasid al-Shariah provides a normative basis for protecting intellectual agency. Rather than positioning AI as a substitute for the educator-student relationship, ECRAI positions the educator as the human mediator between students and AI, allowing technology to enhance learning while preserving human accountability for students' intellectual and ethical development.

CONCLUSION

Generative AI presents significant opportunities and challenges for higher education, particularly in relation to academic integrity, misinformation, intellectual dependence and critical thinking. This conceptual study suggests that AI transforms rather than diminishes educators' responsibilities, requiring them to become ethical, intellectual and human-centred guides. The proposed Educator-Centred Responsible AI Framework (ECRAI) integrates AI literacy, human-centred values and Maqasid al-Shariah, particularly hifz *al-'aql*, positioning educators as ethical anchors through four roles: Ethical Curator, Academic Integrity Role Model, Human and Values Mentor, and AI Literacy Educator. These roles seek to foster critical thinking, academic integrity, ethical judgement, responsible AI use and human values. Higher education institutions should therefore complement technological investment with educators' ethical and human-centred AI capabilities, while future empirical research should validate ECRAI across educational contexts. Responsible AI integration should ultimately strengthen rather than replace human intellectual agency.

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Does Topic Matter in Speaking Assessment? Thematic Effects on Difficulty, Discrimination, and Rater Agreement in a CEFR-Aligned High-Stakes Speaking Test

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ABSTRACT

Speaking prompts are never about nothing, and the content they carry can shift performance in ways that have little to do with oral proficiency. If topic familiarity moves scores on its own, it injects construct-irrelevant variance that threatens comparability and fairness. This study asked whether the thematic content of prompts shaped difficulty, discrimination, rater agreement, and CEFR classification in the Competency-Based English Test (CBET), an operational, face-to-face oral assessment at a Malaysian public university. Fifty-eight question sets across sixteen themes generated 1,400 double-ratings from 702 undergraduates, scored by 30 trained raters. Theme reached significance yet explained under three percent of score variance, $F(15, 1384) = 2.63$, $p < .001$, $\eta^2 = .028$; mean scores spanned barely seven points. Discrimination stayed strong (point-biserial .70 to .87) and rater agreement high and unrelated to difficulty ($r = -0.08$). That reassuring aggregate, however, concealed sizeable discipline-specific deviations in a faculty-by-theme probe. Topic does not distort total scores here, but aggregate equivalence cannot certify prompt-level or subgroup-level fairness.

Keywords: speaking assessment, topic effects, construct-irrelevant variance, CEFR, test fairness

INTRODUCTION

Every speaking prompt carries content as well as construct. A test that purports to measure the ability to organise and sustain spoken discourse must elicit that discourse through prompts that are unavoidably about something, whether artificial intelligence, festival customs, or the job market. Where examinees draw on prior knowledge of a topic, their observed performance reflects more than the targeted construct, and that surplus becomes construct-irrelevant variance: systematic influence that inflates or deflates scores without bearing on the intended interpretation (Haladyna & Downing, 2004; Messick, 1989).

The empirical record is mixed in an instructive way. In controlled tasks, content familiarity reliably yields more complex speech and eases conceptualisation (Qiu, 2020; Robinson, 2001). At the level of the operational score, the effect thins. Khabbazbashi (2017) found that topics differing in detectable difficulty nonetheless carried no practical consequence, and a many-facet Rasch analysis of more than a thousand examinees placed the prompt facet far below examinee ability and rater severity (Bonk & Ockey, 2003). Detectability is not importance, and conflating the two leaves test developers oscillating between needless alarm and false reassurance.

The Malaysian setting sharpens the question rather than settling it. Using CEFR-aligned MUET materials, Ahmad Bukhari et al. (2023) reported that topic familiarity significantly influenced speaking difficulty, a headline the present study must engage rather than sidestep.

We examine the Competency-Based English Test (CBET), an operational B2-level oral assessment at Universiti Kebangsaan Malaysia whose thematic pool crosses globally circulated content with locally anchored content and is administered across disciplinarily heterogeneous faculties. Four questions follow: do themes differ in difficulty, and by how much; do they differ in discrimination; does rater agreement track theme; and does theme interact with examinee discipline in ways an aggregate null would hide?

RESULTS AND DISCUSSION

The CBET is delivered face-to-face and aligned to CEFR B2 (Council of Europe, 2020). Its 58 question sets span 16 themes, later grouped into seven superordinate categories; each set pairs a warm-up prompt with a more demanding follow-up requiring elaborated opinion or analysis. Examinees receive one holistic score from 0 to 100, with band boundaries at 50, 65, and 80. Because the scale rewards performance, higher means denote easier prompts, and difficulty is read inversely throughout. The analytic file comprised 1,400 independent double-ratings of 702 undergraduates by 30 trained raters, grand mean 60.0. Difficulty was tested by one-way ANOVA with η^2 as the magnitude index, discrimination by point-biserial correlation against a median-split total, agreement by mean absolute rater difference, and disciplinary interaction by a faculty-by-theme deviation matrix. The design is observational, and ratings are analysed raw, so examinee ability, prompt difficulty, and rater severity remain confounded; the conclusions therefore rest on effect size rather than on the *p*-value.

Theme exerted a significant but slight effect on difficulty, $F(15, 1384) = 2.63$, $p < .001$, $\eta^2 = .028$, under three percent of score variance. Figure 1 shows the sixteen themes clustered tightly around the grand mean, spanning only seven points from Cultural Traditions ($M = 56.5$) to Leisure & Hobbies ($M = 63.5$) against within-theme standard deviations near eleven to thirteen. The largest defensible contrast, Cultural Traditions against AI Technology, reached only $d \approx 0.58$, a small-to-medium effect that marks the ceiling of thematic influence rather than its typical value, one inflated by its post hoc selection as the extreme.

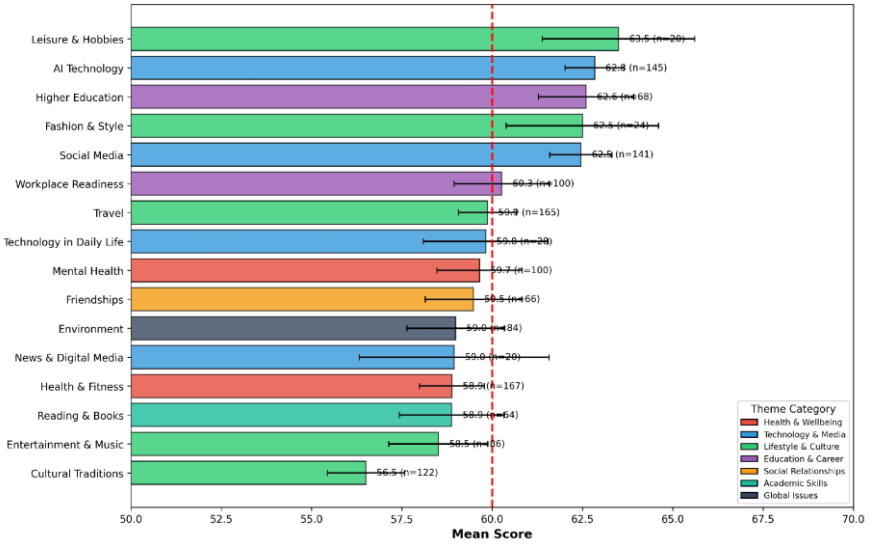

Figure 1. Question difficulty by thematic category. Bars show mean scores with standard-error whiskers; colours denote superordinate categories and the dashed line marks the grand mean (60.0). Higher means indicate easier prompts.

The means conceal nothing dramatic in the distributions behind them. Figure 2 plots score densities for eight themes against the CEFR boundaries: all are broadly unimodal and heavily overlapping, with medians clustered in the upper-B1 to lower-B2 region, so that even the hardest theme and the easiest differ mainly in the weight of their upper tails rather than in where they sit. No theme produces a distribution so displaced that it would advantage or disadvantage examinees across the ability range.

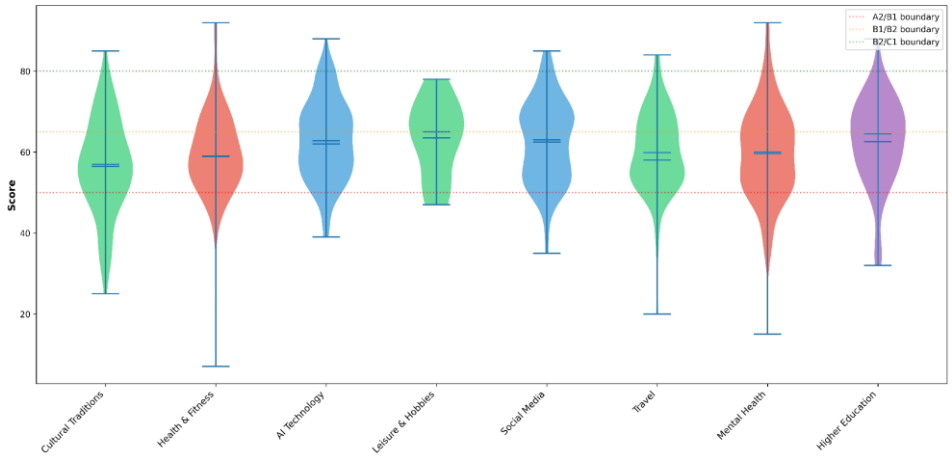

Figure 2. Score distributions for eight selected themes, with CEFR band boundaries overlaid (A2/B1, B1/B2, B2/C1). Distributions are broadly unimodal and overlapping, with medians clustered near the B1/B2 region.

Two psychometric checks corroborate the aggregate verdict. Discrimination was strong across every theme (point-biserial .70 to .87), with Health & Fitness at the lower bound and so worth prompt-level review; computed against an uncorrected median-split total, these coefficients are read comparatively rather than as absolute values. Rater agreement was uniformly high (mean absolute difference 1.20 to 2.74 on the 100-point scale) and essentially uncorrelated with difficulty, $r = -0.08$, so the themes that proved harder were not the themes on which raters diverged (Eckes, 2005).

Translating scores into CEFR bands raises a separate flag. Across the test, 16.9% of classifications fell at A2, 51.7% at B1, 29.0% at B2, and 2.4% at C1, so on an instrument pitched at B2 more than two-thirds of examinees landed below it (Figure 3). Band membership orders by theme much as difficulty does, but the boundaries themselves are uncertain, and this calibration question warrants scrutiny quite apart from topic (Tiffin-Richards & Pant, 2013).

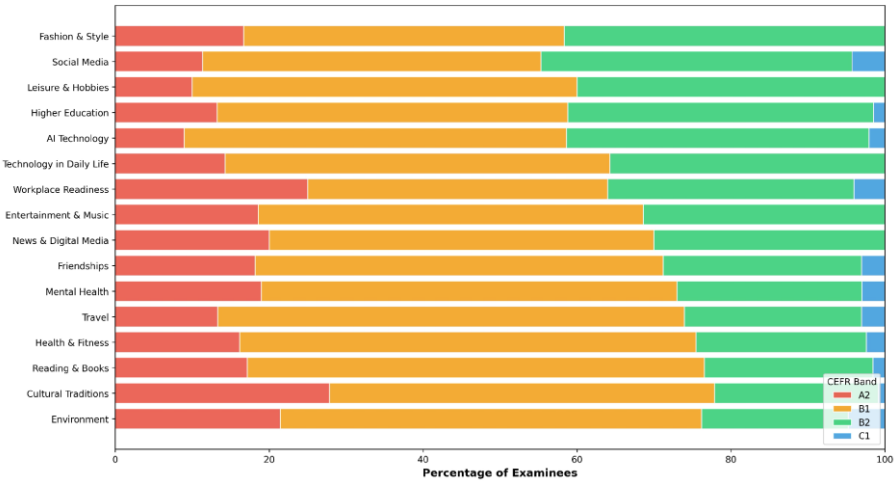

Figure 3. CEFR band distribution by theme, ordered by the percentage of examinees reaching B2. Stacked segments show the proportion at each level: A2, B1, B2, and C1.

The aggregate calm dissolves once scores are disaggregated. Figure 4 maps each faculty-by-theme cell as a deviation from the grand mean, and the surface is far from flat. The information science faculty scored more than twenty points above average on Mental Health yet fifteen below on Environment; engineering scored nearly seventeen points above average on Cultural Traditions; education scored almost fourteen below on Environment. These are the canonical traces of differential functioning that cancels under summation, where opposing subgroup advantages sum to near zero and leave the aggregate looking fair (Aryadoust et al., 2024; Nishizawa, 2023). Three constraints bound the reading: no interaction term was tested, the fifty-six cells rest on small unequal samples with no multiplicity control, and non-random scheduling confounds content with assignment. The pattern is hypothesis-generating, flagging the discipline-by-topic intersection as the priority site for a properly powered bias analysis (Belzak, 2023).

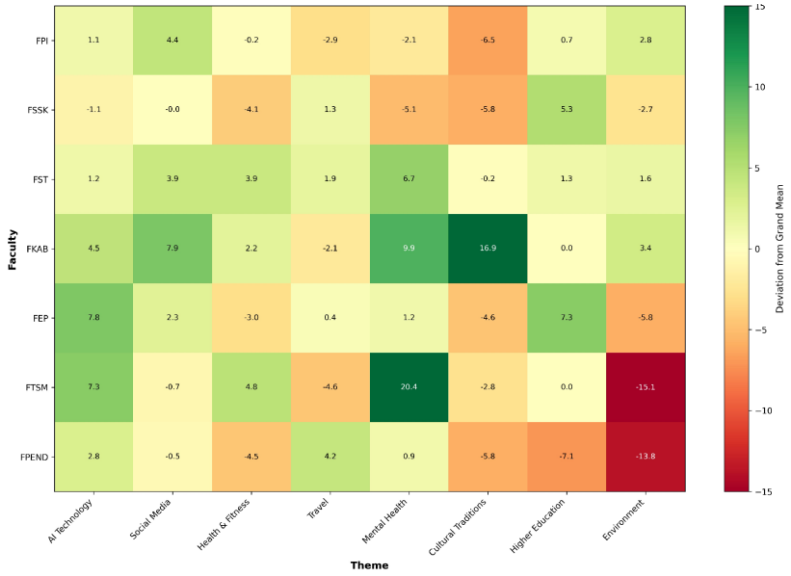

Figure 4. Faculty-by-theme deviations from the grand mean. Green cells lie above average, red below. The matrix is descriptive: per-cell samples are small and no interaction test or multiplicity correction was applied.

Two conclusions hold together. At the level of the total score, topic does not distort the CBET: it explains under three percent of variance, leaves discrimination and rater agreement untouched, and produces between-theme differences smaller than the spread among prompts within a single theme. This aligns with Khabbazbashi (2017) and with the negligible prompt facet of many-facet Rasch work (Bonk & Ockey, 2003), and it suggests that the significant familiarity effect reported for MUET (Ahmad Bukhari et al., 2023) is compatible with a practically trivial one once magnitude is foregrounded. Yet the disaggregated deviations show why that reassurance must stop short of the subgroup. One pattern resists the flat picture: Cultural Traditions, locally salient content that a naive familiarity hypothesis would expect to favour Malaysian examinees, was the hardest theme on average, plausibly because narrating a familiar practice in academic English imposes heavier discourse demands than opining on a global topic (Robinson, 2001).

CONCLUSION

Topic, in this test, is not the problem. Its thematic content accounts for under three percent of score variance and leaves discrimination and rater agreement essentially unmoved, which warrants retaining the pool's thematic diversity. The contribution lies in refusing to stop there. Disaggregated by faculty, the same data reveal discipline-linked deviations large enough to matter, the signature of bias that cancels in the aggregate and so escapes a pooled analysis. Statistically significant topic effects deserve judgement by their practical magnitude, and aggregate nulls deserve interrogation at the level of the prompt and the subgroup. The priority extension is a many-facet Rasch re-analysis that converts these descriptive deviations into testable bias interactions.

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The Validity Gap in LLM-Mediated CEFR Adaptation: Corpus Evidence of a Two-Band Tense-Aspect-Modality Collapse

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ABSTRACT

Large language models are increasingly used to simplify reading texts to target CEFR bands, on the tacit assumption that complexity reductions propagate uniformly across lexical, syntactic, and morphological strata. This study tests that assumption through a paired corpus comparison of verb morphology in C1/C2 academic source passages (4,127 words; 304 verb tokens; mean profile C1.7) and their ChatGPT-adapted B2 counterparts (3,400 words; 250 tokens; B2.6), stratified across four disciplines. Source texts were profiled with Text Inspector and adaptations validated against the Cathoven CEFR engine; verb tokens were dual-coded into twelve tense-aspect-modality categories ($\kappa = 0.94$) and mapped to CEFR bands via English Grammar Profile descriptors. Macro-level indices confirmed successful B2 calibration, yet the verb-morphological subsystem collapsed from a weighted index of 4.23 (B2+) to 2.12 (A2), a 2.11-band displacement. Perfect aspect contracted by 71.2%, progressives by 70.0%, and epistemic modality by 71.4%, while simple present and past forms expanded. Divergence was robust ($\chi^2(11) = 127.40$, $p < .001$; Cramér's $V = 0.46$) and replicated across disciplines. We advance the Morphological Preservation Hypothesis and specify four prompt-engineering protocols for evaluation. Findings remain bounded to a single system pending replication.

Keywords: verb morphology, tense-aspect-modality, CEFR, large language models, construct validity

INTRODUCTION

Within a few years, the production of graded reading materials has shifted from human authorship to neural generation with little intermediate scrutiny. Transformer-based few-shot generalists (Brown et al., 2020) now sit between a teacher's prompt and a learner's desk, executing what is described as simplification but is, in mechanism, stochastic rewriting governed by next-token probability. The appeal is logistical: the Common European Framework of Reference (Council of Europe, 2020) specifies what learners at each band should read, yet band-indexed texts are chronically scarce, and a model that converts a C1 article into a B2 passage in seconds resolves a long-standing bottleneck. Substitution has nonetheless outpaced validation. Prompt-only control of CEFR alignment is brittle, drifting from the intended band over the course of an interaction (Almasi & Kristensen-McLachlan, 2025), and generated texts cluster in narrower distributional regions than human writing at the same nominal band (Carlo & Takeuchi, 2026). The global target is reached, but at the cost of a flattened distributional signature whose effect on specific grammatical subsystems has gone largely unexamined.

Reading assessment is not a vocabulary test. The upper-intermediate construct (Khalifa & Weir, 2009) requires a candidate to process anteriority, hypothetical reasoning, epistemic stance, and aspectual contour, all of which are encoded in the verbal subsystem. When a B2 passage loses its perfect aspect, its conditional

clauses, and its modal hedging, what remains may scan as B2-vocabulary prose while measuring something nearer to A2 grammatical comprehension. Messick's (1989) doctrine of unitary validity, operationalised through the assessment-use argument of Bachman and Palmer (2010) and pressed further by Aryadoust (2023), holds that if a task fails to elicit the operations that define the target construct, no degree of surface plausibility rescues it. We designate this divergence morphological flattening: the co-occurrence of an on-target lexical profile and an off-target morphological one. The study asks what shifts in verb-form distribution occur under B2-targeted adaptation, which tense-aspect-modality categories are most vulnerable, whether the attrition tracks markedness and acquisition order, and what prompt-level interventions might mitigate it.

The design pairs C1/C2 academic source passages against their ChatGPT-mediated B2 adaptations, with verb tokens as the unit of analysis, stratified across four disciplines: technological ethics, cognitive neuroscience, environmental sustainability, and organisational psychology. Source texts were profiled with Text Inspector (mean C1.7); adaptations were generated under a three-layer prompt constraining lexical band, sentence-length distribution, and cohesive ties, then validated against the Cathoven engine to confirm the global B2 target before any morphological extraction proceeded. Two linguists dual-coded 304 source and 250 adapted tokens into twelve tense-aspect-modality categories, reaching almost perfect agreement (κ = 0.94; Landis & Koch, 1977). Each category was assigned a complexity index from 1 (A1) to 6 (C2) by its English Grammar Profile criterial-feature designation (O'Keeffe & Mark, 2017), and a token-weighted mean index was computed per corpus. Distributional divergence was tested with the Pearson chi-square statistic, corroborated by the likelihood-ratio and Fisher's exact tests, with Cramér's *V* and cell-level Cohen's *h* as effect sizes.

RESULTS AND DISCUSSION

The verb inventory contracted by 17.8% (304 to 250 tokens), but the contraction was sharply patterned rather than uniform (Figure 1). Two early-acquired forms expanded against the trend: simple present grew by 85.7% (from 13.8 to 31.2% of the subsystem) and simple past by 30.9% (from 22.4 to 35.6%). Every marked category contracted, the steepest losses falling in perfect aspect (present perfect down 64.7%, past perfect 83.3%), progressive constructions (70.0%), passive voice (66.7%), and epistemic modality (71.4%). No category occupied the moderate-retention band between 0.50 and 0.99; the adaptation either amplified a form or gutted it, a bimodality that already hints at a categorical rather than graded selection mechanism. The null hypothesis of preserved distribution was decisively rejected ($\chi^2(11) = 127.40$, $p < .001$; $G^2 = 134.82$; Fisher's exact $p < .001$; Cramér's $V = 0.46$), the convergence of asymptotic and exact tests mattering because several cells fell below the expected-frequency threshold of five.

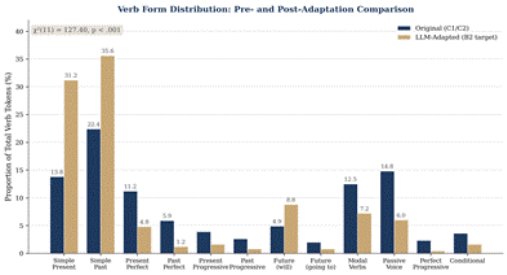

Figure 1. Verb-form distribution across twelve tense-aspect-modality categories, comparing the original C1/C2 corpus against the LLM-adapted B2 corpus ($\chi^2(11) = 127.40$, $p < .001$). Expansion of simple present and simple past offsets the systematic reduction of marked aspectual and modal categories.

Translating the category distribution into CEFR values exposed the central result. The weighted mean index of the source verbal subsystem was 4.23, placing it firmly in the B2+ region; the adapted subsystem fell to 2.12, locating the same stratum at A2, a downward displacement of 2.11 bands (Figure 2). While the macro-level indices confirmed that adaptation hit its B2 target, the morphological substrate that ought to have populated that band collapsed two full bands beneath it. Every one of the twelve categories moved downward, the deepest falls in perfect progressive (4.3 bands) and past perfect. Disaggregation localised the damage. Tense remained stable, indicating that the model preserves temporal location; aspect underwent structural collapse, with simple aspect rising from 61.3 to 89.6% ($\chi^2 = 48.21$, *p*

< .001); and epistemic modality narrowed (p = .043). The system maintains when an event occurs while abandoning its temporal constituency and epistemic stance, which is precisely the inverse of what an upper-intermediate reading construct demands. The signature replicated across all four disciplines despite source profiles spanning C1.3 to C2.1, evidence that the algorithmic transformation, not the subject matter, is the controlling variable.

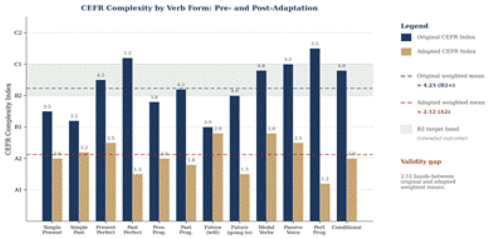

Figure 2. CEFR complexity by verb form before and after adaptation. The shaded region marks the B2 target band; the source weighted mean (4.23, B2+) sits within it while the adapted mean (2.12, A2) falls 2.11 bands below, constituting the validity gap.

To organise these patterns, we advance the Morphological Preservation Hypothesis, induced from the present data and offered as a hypothesis awaiting independent validation. It posits that a verbal feature's retention probability under LLM-mediated simplification is a function of three coordinates. The first is acquisition order: forms acquired earliest in second language development, simple present and simple past (Bardovi-Harlig, 2000), proved not merely durable but expanded compensatorily, whereas late-acquired forms such as perfect progressive were nearly annihilated. The second is cross-linguistic markedness: the typologically common simple past survived, while the marked present perfect and periphrastic constructions (Bybee et al., 1994; Eckman, 1977) fell toward erasure. The third is semantic transparency: forms whose meaning is compositional persisted, while epistemic modals and conditionals, which map syntax onto non-actual worlds, declined steeply, resolving hedging into assertion and hypothesis into dogma. Biological learners and frequency-driven generators (Holtzman et al., 2020) both gravitate toward typologically common forms under processing or probabilistic pressure; the simplification prompt acts as a trigger that purges the low-probability tails.

The implication is a validity paradox. Adapted texts satisfy the surface lexical criteria for B2 while lacking the grammatical dimensionality needed to operationalise the reading construct at that band (Khalifa & Weir, 2009). A candidate may comprehend such a passage without ever engaging the syntactic processing the construct presupposes, so that the assessment-use argument (Bachman & Palmer, 2010) breaks at its first inferential link. Because prompt-only control is insufficient for structural constraints while architectural remedies remain resource-intensive (Glandorf & Meurers, 2024), we specify four prompt-level protocols, calibrated against English Grammar Profile criterial features, for subsequent empirical evaluation: (A) a tense-aspect-modality preservation constraint that retains the source distribution of perfect and progressive aspects; (B) an epistemic-hedging protection that prohibits converting probability statements into factual assertions; (C) an information-structure and voice retention rule that preserves agentless passives for discourse backgrounding; and (D) a post-hoc verification loop, modelled on chain-of-thought prompting (Wei et al., 2022), in which the model audits its own output against threshold feature counts and rewrites where they are unmet.

CONCLUSION

This study documents a specific and replicable pattern in LLM-mediated CEFR adaptation: a two-band downward shift in the verbal subsystem under prompts that successfully achieve their global B2 target. Across 304 source tokens drawn from four disciplines, the weighted CEFR index of verb morphology fell from B2+ (4.23) to A2 (2.12) while the macro-level indices held at B2.6, with perfect aspect, progressive constructions, and epistemic modality each contracting by roughly 70% as unmarked forms expanded to fill the space. The Morphological Preservation Hypothesis offers a three-coordinate account of which features survive and why but is itself induced from these data and presented for testing across model families, prompts, and registers. Two implications follow for language testing. First,

LLM-generated reading items cannot be presumed valid for upper-intermediate constructs without morphological audit, however well their global alignment indices score. Second, the prevailing prompt-only control regime is insufficient for construct fidelity at the B2 to C1 boundary, where the discrimination of proficiency depends on the very verb-morphological features that default prompts most reliably erase. The authoring layer is now stochastic, and its biases are systematic rather than idiosyncratic; auditing what automated producers actually generate, rather than what they are presumed to generate (Aryadoust, 2023), is becoming a precondition of valid measurement.

ACKNOWLEDGEMENT

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Maintaining Students' Personal Voice in AI-Assisted Writing

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ABSTRACT

The widespread adoption of artificial intelligence (AI) writing tools has transformed the way students produce written texts. While technologies improve efficiency, language accuracy, and idea generation, they also raise concerns about the depletion of a student's personal voice as a writer, originality and authorship. Personal voice encompasses the distinctive linguistic choices, perspectives, and rhetorical style that communicate a writer's identity. This study explores how students maintain personal voice in AI-assisted writing by examining the relationship between students' speech writing and AI-generated content. Drawing on scholarship in writing studies and digital literacy, this study identifies the use of AI in students' personal voice as a tool for speech writing. The personal voices of the students as speech writers that were analysed indicate that students predominantly rely on generative AI. While students write the final prose independently to maintain their personal voice, the AI-generated structure significantly shapes their written work and narrative of their speeches. This paper argues that preserving personal voice is essential for fostering originality, ethical AI use, and personal ownership in an era of generative technologies. This study contributes to practical guidance for students and educators to develop AI skills while maintaining authenticity and individual personal expression in writing.

Keywords: artificial intelligence (AI), personal voice, AI-generated content, AI-assisted writing, speech writing

INTRODUCTION

The rapid integration of artificial intelligence (AI) into writing practices has transformed how students generate, revise, and refine their written texts across academic and creative contexts. While AI-powered writing tools enhance efficiency, language accuracy, and idea generation, they also raise concerns about the original creation and preservation of the student as a writer with an authentic voice. One's personal voice reflects an individual's unique style, perspective, and identity, serving as a key marker of originality and credibility in academic writing. As AI has become an increasingly common writing companion and source of choice in universities, developing strategies to maintain personal voice is essential in an English language classroom. Developing and balancing technological assistance with original human creativity can ensure that AI supports, rather than replaces, authentic self-expression among university students.

Maintaining an authentic personal voice in AI-assisted writing requires treating generative models as supportive collaborators rather than primary authors (Elbow, 2007). Although educators advocate for human-centred AI integration, students frequently rely on AI to satisfy academic expectations, risking the loss of their distinct rhetorical identity (Su & Liang, 2024). Bridging the gap between technological dependence and authentic voice requires students to actively direct the writing process (Marzuki et al., 2025). Effective AI-assisted authorship is defined not by the volume of generated text, but by the writer's deliberate reframing of AI outputs to reflect their personal thinking, identity, and lived experiences (Kayaalp et al., 2024). Personal voice remains intact only when the human writer exercises full agency over ideas, evaluation, and final expression (Liu & Zhang, 2026).

ANALYSIS AND FINDINGS

The following presents the analysis of the students' personal writings in their speech outlines for the English course that the students take in their second year in university. The course code is LMCE2092 Speak to Persuade, and the analysis is made on one section from their Speech Outlines from this course.

RESULTS AND DISCUSSION

From the analysis, a pattern was found in students' written speech outline. A primary pattern identified in students' written workflow is the delegation of the structural phase to AI. This indicates that students use AI as the architect in their written work, even if they claim to write the outline themselves. Participants frequently used generative tools to draft outline frameworks, establishing main arguments and transitional points prior to drafting. This proves that students don't just see AI as their "ghostwriter" or their personal assistant (to make AI write everything) or even use AI such as Grammarly to fix their prose in the end. Instead, AI is treated as their "pre-writing co-pilot" in their English language written assignments.

However, this study is far from over. The next step for this study is to capture the Students' Perspective (Qualitative Data). The pressing issue is how can educators design a speech written assignment that encourages students to write using their own personal authentic voice while still having access to artificial intelligence (AI). From the students' written speech, it is found that students frequently rely on AI for speech outlining, and this suggests that these generative tools are currently serving as a method for cognitive scaffolding. Students maintain the use of AI for structure and organisation while the development of their narration and personal voice is leaning towards technology for development of their own writing. As educators and researchers, the next step is to talk to the students. One of the hypotheses is that their perception of written authorship is changing.

- Ask them: *Do you feel the final speech is still yours?*
- Ask them: *Where do you draw the line between "using a tool" and "losing your voice"?*
- Explore their motivations: Are they using it to save time, because they lack confidence in their writing, or to hit a specific word count?

CONCLUSION

This study highlights a critical shift in contemporary composition: as generative AI becomes embedded in student writing workflows, the focus of human authorship is currently evolving. Findings demonstrate that students predominantly utilize AI during the pre-writing phase to construct speech outlines, relying on these tools as cognitive scaffolding while retaining agency over final prose drafting. However, because structural choices inherently shape narrative direction, delegating the outlining stage to AI still impacts the rhetorical trajectory of a speech. To prevent algorithmic homogenization and foster authentic student voice, educational frameworks must evolve beyond binary bans or passive acceptance. Educators must guide students from passive technological dependence toward intentional, critical co-creation. Ultimately, authentic voice is preserved not by rejecting AI altogether, but by empowering writers to maintain executive control over their ideas, evaluative judgment, and personal expression—ensuring technology serves to amplify, rather than replace, the human speaker. If students are successfully using AI to sound authentic, what does this mean for education? Since AI platforms often generate hallucinations, their ability to differentiate between machine-generated text and a student's personal voice remains highly unreliable.

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From Examined Burden to Professional Asset: Repositioning English through a Youth-Empowerment Ecology in Malaysian Higher Education

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ABSTRACT

In Malaysian higher education, English is prized as a passport to mobility yet largely confined to formal, evaluative settings where low-stakes use is scarce. This study asks whether relocating English into a youth-empowerment ecology can convert that restricted status into conditions for incidental learning and durable investment. It examines IMPACT, a two-credit-hour elective at a Malaysian public university that grew from the earlier Future Me and SINAR pilots, through a qualitative-dominant, mixed-methods multiple-case design. The curriculum follows a scaffolded Training of Trainers model: experiential vision boarding and coaching triads, then professional event management through time-boxing, culminating in school outreach. Data were triangulated from Padlet vision-board narratives (n = 113), a perception survey, and a focus group discussion, then read through reflexive thematic analysis and descriptive statistics. Material affordances (the Well-Formed Outcome framework and visual boards) and social affordances (peer triads) appeared to lower affective filters, shifting attention from accuracy toward meaning. Under high-stakes outreach, facilitators sustained English by drawing on internalised coaching routines and a felt duty to protect the university's reputation. Institutional identity, the study argues, operates as a collective, high-stakes affordance for authentic language use.

Keywords: ecological perspectives, incidental learning, vision boards, institutional identity, youth empowerment

INTRODUCTION

In Malaysian higher education, English carries a paradoxical weight. It is celebrated as an instrument of mobility and employability, yet many undergraduates meet it chiefly as an examined burden. Inside formal classrooms, assessment pressure can cage the language: learners report anxiety and reticence because daily, low-stakes opportunities for use are scarce (Du, 2009). Employers, meanwhile, report a persistent gap between examined proficiency and the spontaneous, pragmatic communication that workplaces demand (Ali et al., 2025). Framed ecologically, the difficulty is less a deficit of grammatical knowledge than a scarcity of environments in which English can be enacted for personally meaningful, non-linguistic purposes.

An ecological account of second language acquisition offers one response. On this view, language is not a static object to be transmitted but an emergent accomplishment that arises as learners perceive and act upon affordances in their material and social surroundings (van Lier, 2004). Affordances are relational: a vision board or a peer's question becomes an opportunity for action only when a learner takes it up. Meta-analytic evidence converges with this logic. Incidental vocabulary learning from meaning-focused spoken input produces large gains (g = 1.05), with interactive tasks outperforming non-interactive ones (de Vos et al., 2018), and incidental exposure across modalities yields reliable uptake (Webb et al., 2023). Environments engineered for authentic meaning-making, rather than drills engineered for accuracy, may therefore be the stronger lever for the communicative competence Malaysian graduates are said to lack.

If affordances explain where learning concentrates, investment explains why learners persist. Investment names the socially and historically constructed relationship between learners and a target language, situated at the intersection of identity, capital, and ideology (Norton & Toohey, 2011; Darvin & Norton, 2015). Vision-building pedagogies operationalise this at the individual level, helping learners construct vivid representations of a future self, though critics warn that such interventions lapse into superficial daydreaming unless tied to concrete action (Safdari, 2021; Vlaeva & Dörnyei, 2021). What remains underexamined is whether investment also operates collectively. When learners use English to represent an institution in a public, consequential setting, their affiliation may itself function as shared capital, a reputational affordance that is social rather than purely personal.

This study addresses that gap through IMPACT, a community-outreach initiative delivered as a two-credit-hour elective at a Malaysian public university and refined across the earlier Future Me and SINAR pilots. IMPACT makes English instrumental rather than terminal: undergraduates progress through a scaffolded Training of Trainers (TOT) sequence and then assume professional roles as facilitators for secondary-school workshops, where language becomes the means to a non-linguistic end. The programme thus stages, within one curriculum, the move from a protected classroom ecology to a public performance ecology in which institutional reputation is at stake. Three questions follow: (RQ1) how do material affordances such as the Well-Formed Outcome (WFO) framework function as cognitive scaffolds for language use; (RQ2) how does institutional investment in the university brand influence facilitators' linguistic persistence; and (RQ3) what adaptive strategies do facilitators employ to navigate linguistic friction during community-based performance?

The curriculum unfolds in three ecological phases. TOT 1 centres on experiential vision boarding: students author a Vision Board Story through the WFO framework (Outcome, Context, Process, Evidence) and rotate through coaching triads as Coach, Coachee, and Observer. TOT 2 reframes English as a vehicle for event management, replacing the loosely sequenced program itinerary with timeboxing, a project-management routine that allocates fixed units to specific tasks. Phase 3 enacts the outreach itself, where facilitators adopt titles such as Event Manager and Master of Ceremony. Methodologically, the study employs a qualitative-dominant, mixed-methods multiple-case design. Data were triangulated from three sources: Padlet vision-board narratives (n = 113) from facilitators spanning MUET Bands 3 to 4.5, a perception survey administered after TOT 1, and a focus group discussion with student-leader facilitators. Narratives and the discussion were interpreted through reflexive thematic analysis (Braun & Clarke, 2006); survey responses were summarised with descriptive statistics only, so no causal inference is drawn.

RESULTS AND DISCUSSION

Findings are organised by the three ecological layers through which the curriculum moved: internalisation (material), socialisation (social), and performance (professional). Claims are presented data-first, with theoretical interpretation read against the meta-analytic record; all quantitative results are descriptive only.

Material ecology. Visual and structured affordances moved facilitators from blank-page hesitation to organised, sensory-rich output. In the perception survey, 91.4% agreed that visual elements helped them generate ideas to express in English (Table 1). The Padlet narratives showed the same pattern: the WFO framework prompted a shift from vague dreaming (*angan-angan*) to strategic planning, with one facilitator (MUET 3.5) noting that it "guided me to break my dream into clear outcomes" and another (MUET 4.0) reporting that she felt as if "standing in the middle of the greenhouse I am building." Read against the meta-analytic record, the board functioned as a pre-linguistic scaffold, consistent with evidence that visual and multimodal support enhances incidental uptake (Kurokawa et al., 2024; Uchihara et al., 2019). The scaffold did not dissolve outside the classroom: facilitators later ran the internalised question routine under pressure, indicating that the affordance had been appropriated rather than merely used (van Lier, 2004).

Social ecology. The coaching triad lowered affective barriers and licensed a shift from accuracy to meaning. In the survey, 82.9% reported feeling comfortable using English during the coaching-triad activities, and 88.6% reported that their primary focus was communicating meaning rather than avoiding mistakes (Table 1). One facilitator (MUET 4.0) admitted that, while initially awkward, she could "*communicate intentions and goals even if my grammar wasn't perfect*." Facilitators did

not simply speak English; they navigated gaps through observable strategies: simplifying and paraphrasing to secure understanding, seeding humour to manage tension, and reading the coachee's position through active listening. These are the working signatures of meaning-focused interaction, the condition under which incidental learning is strongest (de Vos et al., 2018; Webb et al., 2023).

Performance ecology. Under the high-stakes outreach, two forces sustained English. The first was internalised coaching: having drilled the WFO questions through peer practice, facilitators described a "memory coaching" that kept them calm and learner-focused when nerves rose. The second was collective: facilitators persisted not only to advance personal goals but to avoid letting down the university whose name they carried into schools. When they were "taken aback" by unexpectedly fluent pupils, the encounter did not trigger retreat but a push factor, a felt demand to "buck up" and protect a shared standing. Investment theory has elaborated the identity, capital, and ideology nexus almost entirely at the individual level (Norton & Toohey, 2011; Darvin & Norton, 2015); these data suggest an extension to the collective register, in which institutional affiliation operates as a reputational affordance that raises the stakes of each interaction. The emergence of time-boxing as a prized, transferable routine illustrates the same dynamic at the level of professional competence: a logistical constraint became a self-regulatory tool that several facilitators reported carrying into daily life, repositioning English as instrumental to professional ends (Ali et al., 2025).

Two cautions bound these readings. The survey indexes self-reported perceptions, not measured vocabulary or fluency gains, so the meta-analytic effect sizes warrant the design rather than evidence realised gains in this cohort. Reputational pressure is also double-edged: the same collective stake that mobilised these student-leaders could plausibly silence less confident peers, a possibility the strategically sampled data cannot rule out.

Table 1. Perception survey results (facilitators).

Survey item (Likert agreement)	Agreement (%)
Visual elements helped me generate ideas to express in English	91.4
My primary focus was communicating meaning rather than avoiding mistakes	88.6
I felt comfortable using English during the coaching-triad activities	82.9

Note. Percentage agreement (ratings of 4-5 on a 5-point scale) on the perception survey administered after TOT 1 (n = 35). The coaching-triad item is a composite of three related survey items on comfort using English in small-group/coaching contexts (Cronbach's α = .89). Descriptive statistics only; no inferential analysis was conducted.

CONCLUSION

Within a single Malaysian elective, anchoring English in professional performance and collective institutional identity reframed a restricted, examined language as a resource to be used. Three conclusions are warranted. First, the WFO framework and visual boards functioned as cognitive scaffolds: facilitators overwhelmingly endorsed visual prompts (91.4%), and their narratives show abstract aspirations becoming organised English. Second, facilitators' investment shifted from English-as-burden toward English-as-professional-asset, driven by a collective commitment to the university's standing that complements the individual future selves of prior work. Third, the Training of Trainers model supplied a safety net whose internalised routines let facilitators absorb linguistic friction rather than be derailed by it. For practice, designers seeking incidental gains might privilege tasks that manufacture a genuine need to mean something, build multimodal anchors into low-proficiency speaking, and engineer authentic, consequential opportunities for students to represent their institutions in English, while monitoring for the anxiety such stakes can induce. These claims are bounded by a single-institution, single-cycle design and self-reported measures; pairing the ecology with pre- and post-intervention measures of vocabulary and fluency and replicating it where the institutional brand is less salient, are the natural next steps.

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Telling Only What You Know: A First-Person Narrative Constraint as a Mechanism for Epistemic Vigilance

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This extended abstract presents the first-person narrative task as one strand of a broader study of the same course, reported in full in Wan Mohamad and Paiman (in press), a chapter in Educational Sovereignty: Curriculum, Pedagogy and Digital Learning Innovation.

ABSTRACT

Language courses are still widely treated as drills in grammar and vocabulary, a framing that hides their potential to build the epistemic habits a noisy information environment now demands. This extended abstract examines one strand of a larger qualitative, design-based study of an English-medium storytelling elective at a Malaysian university (Wan Mohamad & Paiman, in press): a first-person narrative task in which students retell a familiar story strictly from the standpoint of a character who could not have witnessed most of it. A reflexive thematic analysis of successive drafts from 59 students identified two recurring strategies for managing the constraint. Trimmers excised scenes their character could not access; Bridgers re-engineered the character's perceptual situation so that a needed scene became legitimately knowable. Both strategies required students to continuously track the boundary between what their narrator could know first-hand and what would otherwise be hearsay. The task is presented as a teachable mechanism for epistemic vigilance, positioning storytelling pedagogy as an infrastructure for digital citizenship.

Keywords: epistemic vigilance, perspective-taking, narrative constraint, digital citizenship, storytelling pedagogy

INTRODUCTION

The information environment rewards speed over scruple, and the cost of repeating an unverified claim has fallen close to nothing. Cognitive science offers a counterweight: human communication has never depended on blind trust, because people run epistemic vigilance, a set of mechanisms that weigh the trustworthiness of a source and the plausibility of a claim before granting belief (Sperber et al., 2010). The competence is real but effortful, and when it lapses the failure spreads. Education is asked to repair this, yet the work of teaching people to evaluate sources sits mainly in civics and library instruction, where assessments repeatedly find students unable to separate reliable from unreliable online material (Wineburg & McGrew, 2019). Language courses, by contrast, are still imagined as elementary exercises in syntax and vocabulary, a framing that hides the fact that deciding what may be said, on what grounds, and from whose vantage is epistemic work at its core.

Storytelling makes that work visible. LMCR2282: Building Confidence through Storytelling, an English-medium elective at Universiti Kebangsaan Malaysia, contains a task that turns an abstract epistemic principle into a rule of composition: students retell an omniscient story strictly from the standpoint of one character who could not have witnessed much of it. This task was originally examined alongside a separate peer-feedback exercise as part of a broader study of the course (Wan Mohamad & Paiman, in press). This extended abstract isolates the narrative-constraint strand

of that study and extends the discussion toward its pedagogical transfer: what the task reveals about training the discipline of asserting only within one's warrant (Barzilai & Chinn, 2020), and why that discipline generalises beyond a single language elective.

RESULTS AND DISCUSSION

The study is design-based and qualitative (Anderson & Shattuck, 2012). The corpus for this strand comprised successive drafts of the first-person narrative task from 59 students. Analysis followed the reflexive thematic procedure of Braun and Clarke (2006): familiarisation, coding, and the clustering of codes into themes reviewed against the full corpus. Early drafts consistently breached the standpoint constraint, importing details the narrating character could not have witnessed, a lapse akin to letting second-hand report pass for first-hand knowledge (Johnson et al., 1993). In revision, two strategies emerged, summarised in Table 1.

Table 1. Trimmers and Bridgers

Strategy	Working definition	Illustrative evidence
Trimmers	Excised scenes their character could not access, treating unwitnessable material as illegitimate to narrate.	Scenes involving other characters' private conversations were cut entirely from the retelling.
Bridgers	Re-engineered the character's perceptual situation so that a needed scene became legitimately knowable.	A character was recast as overhearing through a door, or as told the scene second-hand and flagged it as such.

Both strategies honour the constraint, and both require continuous tracking of the line between the known and the merely reported — the same discrimination Sperber et al. (2010) describe as the core of epistemic vigilance, and one implicated in narrative perspective-taking and social cognition more broadly (Mar, 2011). Framed this way, the task functions as an anti-hearsay principle made concrete: a narrator, like a citizen assessing a claim online, may either withhold judgement on what they cannot verify (the Trimmer's move) or actively establish a legitimate basis for knowing before asserting (the Bridger's move). Neither move is passive. Restraint is a decision, not an absence of one — a distinction that matters directly for digital citizenship, where the default failure mode is not malice but an unexamined willingness to repeat what one has not verified (Pennycook & Rand, 2021). As generative systems make fluent, unsourced text abundant, the decisive skill becomes evaluation rather than production, and uncritical acceptance the central risk (Nasr et al., 2025). A storytelling course that trains students to ask what a narrator could know rehearses exactly the discrimination a citizen needs when scrolling a contested feed, and the mechanism is not specific to language instruction: any course that asks students to reason from a bounded vantage point — case studies in law, ethics, or media studies, for instance — could embed the same constraint (Hwang et al., 2023; Roozenbeek & van der Linden, 2019).

CONCLUSION

This extended abstract examined one task within a larger storytelling elective: a first-person narrative constraint that required 59 students to track, continuously, the boundary between what their narrator could know and what would otherwise be hearsay. Two strategies, Trimmers and Bridgers, describe how students met that demand once the task made restraint a condition of finishing the work. The implication is that epistemic discernment need not be left as a hoped-for by-product of language instruction; it can be designed for directly, by writing the limits of knowing into the structure of a task. Because the underlying discipline is general rather than language-specific, the same design principle should transfer to any course built around bounded, first-person reasoning. Future work should test that transfer directly, alongside whether the constraint carries over to students' evaluation of real online claims.

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From Deliverable to Journey: A Staged-Feedback Approach to Persuasive Speech Assessment in the Generative AI Era

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ABSTRACT

Generative artificial intelligence (AI) exposes a structural weakness in conventional writing-based assessment: a single, one-time deliverable is exactly the format generative AI reproduces most convincingly. This paper describes how the persuasive speech outline assessment in LMCE2092: Speak to Persuade, a compulsory English proficiency course at Universiti Kebangsaan Malaysia, was operationalised into a series of concrete, scheduled checkpoints rather than a single review, without changing assessment weighting or course milestones. Students justify their topic choice against a rule-based checklist (Form A), present each main point of their argument live, one point per week (Form B), and attend a restructured practice-video review, the Final Video Viewing Together (FVVT) session, submitting only work they consider genuinely ready. The practice has run across six semesters and approximately 750 students to date. Drawing on recent literature on structural responses to generative AI and on scaffolded oral assessment, the paper offers this as a design account, with formal evaluation identified as future work, and closes with transferable principles for practitioners.

Keywords: authentic assessment, generative AI, academic integrity, staged feedback, oral presentation.

INTRODUCTION

LMCE2092: Speak to Persuade is a persuasive-speech and communication course for students at MUET Band 4.0–4.5 (approaching CEFR B2+), assessed through two components: a Speech Outline (40%) and a Speech to Persuade (60%), a 6–8-minute final oral presentation. The course's Teacher's Guide already calls for individual consultations, progressive skill-building from outline to polished presentation, and iterative review of a practice video before the final speech is submitted. In practice, however, feedback under this design tends to concentrate at a small number of points, namely topic approval, the returned outline, and a single practice-video review, with the outline itself submitted as one finished document in Week 6 or 7.

This concentration matters more than it once did. A single, polished document, due at one point in time, is exactly the format a generative AI model is best suited to produce: a generated outline is indistinguishable in form from a hand-written one, and nothing in the deliverable itself demonstrates how the underlying argument was constructed. Kofinas, Tsay, and Pike (2025) find that even assessments long considered resistant to misconduct are vulnerable once generative AI can convincingly simulate the reasoning behind them, and Arnold and Croxford (2025) caution against treating authentic assessment as an inherent safeguard rather than one design choice among several. Corbin, Dawson, and Liu (2025) distinguish discursive responses to generative AI, namely instructions and policies that rely on student compliance, from structural responses, which change the mechanics of the task itself. Farag, Nadeem, and Helal (2024) reach a related conclusion from a different angle, arguing that single, static deliverables should give way to live, competency-based, and collaborative assessment, while Babai Shishavan (2024), reviewing assessment-design guidance published by Australia's Group of Eight

universities, finds that process-oriented and staged assessment is among the structural responses institutions most commonly recommend. This paper describes how the methodology already named in the LMCE2092 Teacher's Guide was operationalised into a small number of concrete, scheduled checkpoints, so that the reasoning behind a persuasive speech becomes visible throughout its development rather than inferred from a single finished product.

RESULTS AND DISCUSSION

Description of the Practice

The practice operationalises three phases already named in the course's Teacher's Guide: topic selection, outline development with individual consultation, and iterative practice-video review. The staged presentations described below have been implemented since Semester 2 of the 2023/2024 session, and the FVVT format since Semester 1 of the 2024/2025 session; to date this spans six semesters (including one short semester) across approximately 25 class groups of about 30 students each, some 750 students in total.

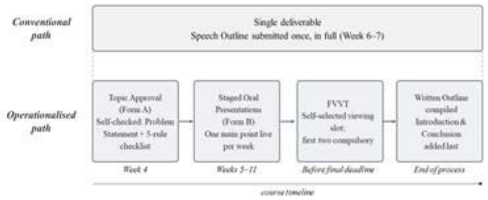

Figure 1. From conventional to operational path.

Topic Selection. Within the existing Week 4 topic-approval deadline, students evaluate their own choice against an explicit framework introduced in a recorded, in-class tutorial: a Problem Statement formula (Situation + Effect, written as one sentence), five rules distinguishing a persuasive from an informative topic, and a self-administered checklist, submitted as Form A. This replaces individual instructor sign-off with criteria the student must justify their choice against and can be asked to defend at any point; the deadline and eventual approval outcome are unchanged. This explicit, rule-based framing follows recent calls to treat assessment criteria as a redesign tool in their own right: Perkins, Roe, and Furze (2025) describe their AI Assessment Scale as functioning simultaneously as a communication device and a framework for redesigning tasks to strengthen validity, and Furze, Perkins, Roe, and MacVaugh (2024) report that making such criteria explicit to students was associated with a marked reduction in AI-related misconduct cases in their own pilot implementation.

Staged Oral Presentations. Between Weeks 5 and 11, within the course's existing outline-development window, students present their outline live, one main point per week: Problem, then Cause/Effect, then Solution/Benefit, corresponding to Form B. Across the project as a whole, students draw on a minimum of three credible sources, in line with the Teacher's Guide's reference requirement; the same source may be used to support more than one point, with excerpts annotated in the margin to show why each supports the specific claim being made. Two representative outlines illustrate this practice: one builds a Problem–Cause–Solution case for home cooking as a healthier, more affordable habit, drawing on newspaper reporting of declining home-cooking rates and public-health guidance on diet; another builds a Problem–Solution–Benefit case for more mindful social media use, drawing on peer-reviewed psychology research on social comparison and self-esteem. This withholding of the Introduction and Conclusion is standard procedure across the course, not specific to these two examples: neither section can be honestly written until the body of the argument has been tested aloud and revised through staged feedback, and the requirement also serves as evidence that a student has engaged with that process rather than submitted an outline recycled from a previous semester or another class group. This week-by-week progression is consistent with what Hutson (2025) describes as a scaffolded model of assessment in the generative AI era, in which students must demonstrate independent mastery at each stage before advancing to the next, higher-order task.

The Final Video Viewing Together (FVVT) Session. The course's existing practice-video review is restructured as a scheduled, self-selected viewing session rather than an

asynchronous submission. Students submit a video only once they consider it genuinely ready for final submission, which sets a higher floor than a rough first attempt: because format and technical requirements (timing, visibility, audio, professional delivery) have already been addressed before submission, the feedback given in session can move past repeated correction and toward the finer aspects of persuasive delivery: pacing, rhetorical choices, audience engagement, and argument emphasis. Students self-select a viewing slot from a shared, live schedule; attendance at the first two sessions is compulsory for the entire cohort, since these are where common errors are most frequent and most thoroughly addressed. Each one-hour session accommodates five to six students. Submissions that do not meet the required standard are disqualified from grading but are given one opportunity to resubmit an improved version before the final deadline; work already at the highest standard receives feedback aimed beyond the grading rubric. Final grading is completed only once every session has taken place. This live, one-to-one structure is consistent with what O'Riordan, Thangaraj, Girme, and Ward (2026) describe as a robust and authentic assessment design in their study of staff experience with interactive oral assessment, and with Davey, Birbeck, Nallaya, Sallows, and Della Vedova's (2025) finding, from a one-on-one interactive oral assessment used as the major final assessment in a bioscience course, that the format resisted inappropriate use of generative AI tools without any decline in student performance.

A small number of elements are held fixed (the Week 4 deadline, compulsory attendance at the first two FVVT sessions, minimum cohort size, a single resubmission deadline); how each checkpoint is reached is left flexible.

Discussion and Reflection

Framed this way, the practice changes how the required work is produced and reviewed, not what is assessed or how it is weighted: an operationalisation of existing methodology, not a departure from it.

Not every checkpoint carries equal weight against the concerns raised by Corbin, Dawson, and Liu (2025). The self-evaluated topic checklist remains closer to a discursive safeguard: nothing structurally prevents a student from disregarding the criteria, though the requirement to justify and defend the choice raises the cost of doing so. The staged oral presentations and the FVVT session are more clearly structural: live, scheduled, evidence-annotated presentation is considerably harder to simulate convincingly than a single finished document, and delayed, funnel-based grading is a constraint on the task's mechanics rather than an instruction a student could choose to disregard. The sequencing of the Introduction and Conclusion belongs in this structural category too: because their content must cohere with a body that has been tested and revised through staged, in-person feedback, an outline recycled from a previous semester or another class group is difficult to pass off convincingly, since its introduction and conclusion would not match this semester's actual revisions. A further live check closes a gap that scheduling alone leaves open: each Introduction must open with one of five taught attention-getter types (brief story, rhetorical question, startling statement or statistic, visual illustration, or quotation, singly or in combination), which the student must name and justify on the spot; a generically AI-phrased opening is stopped and questioned immediately rather than caught after the fact. This distinction echoes the redesign-versus-surveillance framing that Sangwa and Mutabazi (2025) apply to institutional policy more broadly, where higher scores on measures of assessment redesign correlate with lower reliance on AI-detection tools and proctoring, without any corresponding rise in misconduct. A comparable precedent exists in Sotiriadou, Logan, Daly, and Guest's (2020) finding that a suite of scaffolded assessment tasks culminating in interactive oral examinations helped deter academic misconduct while also developing students' real-world communication skills; the FVVT session plays a similar closing role here.

The requirement that students submit only work they consider final-quality to FVVT reflects a second, independent rationale beyond assessment security: it changes what the

instructor's feedback is able to address. When submissions arrive with basic format and technical requirements unresolved, session feedback is consumed by repeating the same corrections; when the floor is raised, the same session time can instead be spent on the finer craft of delivery and persuasion, and students already meeting the required standard receive feedback aimed beyond the grading rubric rather than none at all. Compulsory attendance at the earliest sessions further supports this: because every student, regardless of when they present, has already sat through feedback on the most common errors as an audience member, later presenters arrive having heard the same corrections named explicitly at least once before their own turn.

The practice is not without cost. Its central limitation is that it depends on the instructor's sustained personal engagement: hours of repeated, session-by-session feedback across a large cohort amount to a workload that is not trivially transferable, independent of the instructor's own capacity, and candidly, willingness, to sustain it. This mirrors workload and scheduling concerns O'Riordan, Thangaraj, Girme, and Ward (2026) report from academic staff delivering interactive oral assessment. The resubmission pathway is deliberately not punitive: a disqualified submission is treated as an opportunity to intervene during the semester, described by the instructor as “not zero-defect” rather than an expectation that every student will act on the feedback offered. The practice is offered here as a description of what has worked in one institutional context, not as a validated model for adoption elsewhere: this is a design account rather than an outcomes evaluation, and systematic assessment of its effect on submission quality and academic integrity remains a planned next step.

CONCLUSION

This paper has described a staged, checkpoint-based operationalisation of an existing course's assessment methodology. Four principles may be of use to practitioners considering a similar approach, independent of class size or discipline: operationalise existing consultation and feedback methodology into concrete, scheduled checkpoints rather than treating it as a general instruction; distinguish structural checkpoints, which change task mechanics, from discursive ones, which rely on compliance, and weight effort accordingly; raise the floor of what is submitted for high-value feedback sessions, so that time is spent on advanced coaching rather than repeated basic correction; and let the structure of the process, rather than the instructor's memory, carry fairness at scale. The practice is shared as one working example of these principles in a specific institutional context, offered for adaptation rather than replication.

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Merekonseptualisasikan Apel.C sebagai Mekanisme Berpaksikan Kemanusiaan dalam Pembelajaran Sepanjang Hayat

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ABSTRAK

Pengiktirafan Pembelajaran Berasaskan Pengalaman Terdahulu bagi Penganugerahan Kredit (APEL.C) sering dipandang menerusi kanta utilitarian sebagai instrumen pentadbiran semata-mata untuk pemindahan kredit dan penjimatan masa pengajian. Kertas kerja konseptual ini mengemukakan hujah bahawa pendekatan teknokratik sedemikian mengehadkan potensi sebenar APEL.C, serta merintis kehendak untuk merekonseptualisasikannya sebagai mekanisme berpaksikan kemanusiaan (human-centered mechanism) dalam ekosistem pembelajaran sepanjang hayat. Menerusi lensa teori andragogi Knowles dan falsafah pendidikan humanistik, kerangka yang dicadangkan meletakkan proses artikulasi pengalaman kerja sebagai wahana refleksi kritikal dan pemerkasaan kendiri pelajar matang. Dalam konteks ini, penyediaan portfolio APEL.C bertukar daripada sekadar pengumpulan bukti pencapaian mekanikal kepada proses pemaknaan pengalaman (meaning making) yang mengiktiraf agensi individu, mengesahkan pengetahuan bukan formal, serta merapatkan jurang antara amalan di tempat kerja dan teori akademik. Seterusnya, kertas kerja ini memperincikan implikasi kerangka konseptual ini terhadap reka bentuk taksiran dan sokongan institusi. Pemikiran semula ini menawarkan sudut pandang baharu buat pendidik dan penggubal dasar dalam memperkasakan pendidikan tinggi yang inklusif, fleksibel, serta menghormati martabat pelajar matang selaras dengan aspirasi pembelajaran sepanjang hayat.

Kata Kunci: APEL.C, pembelajaran sepanjang hayat, pembelajaran berpaksikan kemanusiaan

PENGENALAN

Perubahan landskap pendidikan tinggi dan tuntutan pembelajaran sepanjang hayat menjadikan pengiktirafan terhadap pengetahuan dan kemahiran yang diperoleh di luar laluan pendidikan formal semakin penting (Lee, 2025; Malaysian Qualifications Agency [MQA], 2020; Puteh & Kaliannan, 2016). Pelajar matang (didefinisikan secara umumnya sebagai pelajar institusi pengajian tinggi yang telah/sedang bekerja) datang ke institusi pendidikan tinggi membawa pengalaman kerja, pengalaman kehidupan, pengetahuan praktikal dan pelbagai bentuk pembelajaran bukan formal yang mempunyai nilai pendidikan yang signifikan (Knowles et al., 2020; Puteh & Kaliannan, 2016). Dalam konteks ini, APEL.C menyediakan satu mekanisme rasmi untuk menghubungkan pengalaman terdahulu tersebut dengan pengiktirafan kredit akademik (MQA, 2020).

Walau bagaimanapun, APEL.C berpotensi ditafsirkan secara sempit apabila keberhasilannya lebih banyak dilihat daripada perspektif pemindahan kredit, pengurangan tempoh pengajian, dan kecekapan pentadbiran semata-mata (MQA, 2020). Perspektif utilitarian sedemikian menyebabkan pengalaman pelajar hanya dilihat sebagai bahan bukti yang perlu disahkan untuk memenuhi keperluan kredit (MQA, 2020; Puteh & Kaliannan, 2016). Akibatnya, dimensi pembelajaran penting seperti refleksi, pembentukan identiti, agensi, dan pemaknaan pengalaman kurang diberi perhatian (Carney, n.d.; Kenyon et al., 2022). Persoalan utama yang timbul adalah bagaimana proses APEL.C dapat membantu individu memahami nilai pembelajaran yang telah mereka lalui dan menghubungkannya semula dengan pengetahuan akademik (MQA, 2020; Puteh & Kaliannan, 2016). Oleh itu, kertas kerja konseptual ini bertujuan

merekonseptualisasikan APEL.C sebagai mekanisme berpaksikan kemanusiaan dengan memanfaatkan teori andragogi Knowles dan falsafah pendidikan humanistik (Carney, n.d.; Knowles et al., 2020; Puteh & Kaliannan, 2016).

LATAR BELAKANG APEL DAN CABARAN PELAJAR MATANG

Pembelajaran sepanjang hayat merupakan anjakan strategik kebangsaan yang penting untuk memacu Malaysia ke arah status ekonomi berpendapatan tinggi dan negara maju (MQA, 2016, 2020). Bagi menyokong agenda ini, MQA di bawah Akta Agensi Kelayakan Malaysia 2007 (Akta 679) komited memperluas akses pendidikan melalui inisiatif APEL yang diwujudkan secara berperingkat.

APEL untuk Akses (APEL.A): Diperkenalkan pada tahun 2011 untuk menyediakan laluan alternatif kemasukan ke peringkat Sijil, Diploma, Ijazah Sarjana Muda, dan Ijazah Sarjana di institusi pengajian tinggi (MQA, 2016, 2020).

APEL untuk Penganugerahan Kredit (APEL.C): Menyediakan penganugerahan kredit bagi sesuatu kursus dalam program yang telah mendapat akreditasi di Pemberi Pendidikan Tinggi (PPT) bagi mengelakkan pertindihan pembelajaran serta menjatuhkan kos pengajian (MQA, 2016, 2020).

APEL untuk Kelayakan Akademik (APEL.Q): Diperkenalkan pada tahun 2021, membolehkan pelajar matang menerima kelayakan akademik penuh berasaskan pengalaman pembelajaran terdahulu tanpa perlu mengikuti program pengajian sepenuhnya.

Cabaran Pendidikan Tinggi kepada Pelajar Matang

Pelajar matang berhadapan dengan pelbagai bentuk cabaran unik dan kompleks apabila memutuskan untuk melanjutkan pengajian mereka ke peringkat lebih tinggi:

Cabaran Situasi: Mengalami kekangan masa atau "kemiskinan masa" akibat mengimbangi komitmen peranan sebagai pasangan, ibu bapa, penjaga, dan pekerja (Kenyon et al., 2022; Lee, 2025). Konflik peranan ini menjejaskan fokus akademik mereka (Bellare et al., 2023). Selain itu, kos yuran pengajian tinggi dan perbelanjaan sampingan (pengangkutan, bahan rujukan, penjagaan anak) mewakili beban kewangan utama (García & Leibrandt, 2020; Kenyon et al., 2022). Bagi pelajar wanita, beban pengurusan domestik dan penjagaan anak memberi kesan yang tidak seimbang (Lin, 2016).

Cabaran Institusi: Banyak universiti masih berorientasikan pelajar lepasan sekolah tradisional dan gagal menyediakan fleksibiliti jadual, struktur pembelajaran, serta sokongan inklusif yang disesuaikan untuk pelajar dewasa (Lee, 2025; Alshebou, 2019, seperti yang dinyatakan dalam Hardison, 2024). Pelajar dewasa kerap diperlakukan sebagai kelompok yang diabaikan (neglected species) tanpa sokongan khusus (Puteh & Kaliannan, 2016).

Cabaran Akademik dan Kognitif: Kesukaran kembali menyesuaikan diri dengan kemahiran akademik asas seperti penulisan esei, persediaan peperiksaan, dan kaedah rujukan (Fowle, 2018, seperti yang dinyatakan dalam Hardison, 2024; Lee, 2025). Faktor penuaan turut membawa perubahan proses kognitif yang boleh menjejaskan fokus memori dan memperlambatkan pemahaman (Schiller et al., 2020, seperti yang dinyatakan dalam Hardison, 2024).

Cabaran Psikologi: Keyakinan diri yang rendah (Kenyon et al., 2022), kebimbangan akademik yang tinggi dalam kalangan pelajar wanita (Lin, 2016), serta rasa takut terhadap ketidakabsahan kebolehan mereka dalam persekitaran akademik formal (García & Leibrandt, 2020; Leaker & Boyce, 2015, seperti yang dinyatakan dalam García & Leibrandt, 2020).

Cabaran Teknologi: Menghadapi jurang digital atau "grey digital divide" serta kesukaran menguruskan portal pembelajaran, perisian persidangan video (seperti Zoom, Teams, Meet), dan menangani gangguan teknikal (Hardison, 2024; Weil et al., 2021).

KERANGKA APEL.C BERPAKSIKAN KEMANUSIAAN

APEL.C berfungsi sebagai mekanisme kritikal untuk meruntuhkan halangan pembelajaran pelajar matang (MQA, 2020; Puteh & Kaliannan, 2016).

Mengatasi "Kemiskinan Masa": Dasar MQA membenarkan pemindahan kredit sehingga 60% daripada keseluruhan kredit bergraduat melalui APEL.C (MQA, 2020). Ini mengurangkan beban kredit semester dan masa interaksi di kampus (Kenyon et al., 2022; MQA, 2020).

Penjimatan Kewangan: Pemindahan kredit memendekkan masa pengajian dan mengurangkan kos yuran pengajian langsung serta perbelanjaan luar jangka (Kenyon et al., 2022; MQA, 2020). Transisi Akademik & Sokongan: Menggantikan kuliah pasif dengan pentaksiran berpusatkan pelajar yang disokong secara rasmi oleh Penasihat APEL.C (APEL.C Advisor) bagi meminimumkan risiko pemberhentian pengajian (stop-out) (Lee, 2025; MQA, 2020). Membina Identiti: Mengabsahkan pengetahuan praktikal dan pengetahuan tersirat (tacit knowledge) yang dimiliki pelajar, sekali gus membina harga diri (self-esteem) dan identiti pembelajaran yang kukuh (Kenyon et al., 2022; MQA, 2020; Puteh & Kaliannan, 2016).

Daripada Penganugerahan Kredit kepada Pemaknaan Pengalaman

Rekonseptualisasi APEL.C mengubah fokus daripada kuantiti kredit kepada kualiti 'apakah yang telah dipelajari melalui pengalaman dan bagaimana ia dimaknai' (Kenyon et al., 2022; MQA, 2020). Pengalaman kerja bukan sekadar bahan bukti statik, tetapi sumber pengetahuan dinamik yang terbentuk melalui penyelesaian masalah, amalan profesional, dan pengalaman kehidupan (Andreev, 2026; Puteh & Kaliannan, 2016). Proses APEL.C membolehkan pelajar mengartikulasikan pengetahuan tersirat (tacit knowledge) dan menghubungkannya dengan konsep akademik melalui refleksi kritikal yang mendalam (Andreev, 2026; Carney, n.d.; MQA, 2020; Puteh & Kaliannan, 2016).

Teori Andragogi dan Agensi Pelajar

Selaras dengan teori andragogi Knowles, pelajar matang memiliki pengalaman terdahulu yang kaya (Andreev, 2026; Knowles et al., 2020) serta orientasi pembelajaran yang berkait rapat dengan tugasan kehidupan dan kerjaya mereka (Lee, 2025; Puteh & Kaliannan, 2016). Pendekatan berpaksikan kemanusiaan mengiktiraf agensi pelajar (Lee, 2025); mereka bukan penerima pasif, sebaliknya terlibat aktif dalam mengartikulasikan dan menghubungkan amalan dengan teori akademik (Puteh & Kaliannan,

Portfolio sebagai Wahana Refleksi

Dalam pendekatan konseptual baharu ini, portfolio bukan sekadar himpunan sijil dan dokumen mekanikal semata-mata (MQA, 2020). Sebaliknya, ia diperkaya dengan unsur reflektif yang menjelaskan bagaimana pengetahuan diperoleh dan digunakan (MQA, 2020; Puteh & Kaliannan, 2016). Melalui kaedah ini, amalan bertukar menjadi 'pengetahuan yang difahami', membolehkan pelajar menilai jurang kompetensi mereka serta melihat proses pembelajaran sebagai transisi kendiri yang berterusan (*process of becoming*) (Kenyon et al., 2022; MQA, 2020; Puteh & Kaliannan, 2016).6).

Sinergi Akademia, Industri, dan Komuniti

APEL.C bertindak sebagai jambatan fleksibel yang membawa pengetahuan konteks amalan sebenar daripada industri dan komuniti ke dalam kerangka akademik universiti (MQA, 2020; Puteh & Kaliannan, 2016). Hubungan simbiotik dua hala ini membolehkan institusi memahami kompetensi terkini yang berkembang di luar kampus, selaras dengan aspirasi pendidikan tinggi holistik dan pembelajaran sepanjang hayat (Lee, 2025; MQA, 2020; Puteh & Kaliannan, 2016).

Implikasi terhadap Reka Bentuk Pentaksiran dan Sokongan Institusi

Pendekatan berpaksikan kemanusiaan ini tidak bermaksud melonggarkan standard kualiti pentaksiran (MQA, 2020). Sebaliknya, ia menuntut standard yang kukuh disokong oleh reka bentuk pentaksiran telus yang menggabungkan bukti pencapaian dengan elemen dialog, artikulasi, dan refleksi portfolio bagi menjamin kesahan (*validity*) dan kebolehpercayaan (*reliability*) (MQA, 2020).

Di peringkat institusi, ekosistem sokongan yang dinamik amat diperlukan (Lee, 2025; Puteh & Kaliannan, 2016). Pendidik, pentaksir, dan moderator mesti dilatih untuk menilai *tacit knowledge* dan membimbing pelajar dewasa menterjemahkan amalan mereka ke dalam bahasa akademik (MQA, 2020; Puteh & Kaliannan, 2016). Penyediaan garis panduan

portfolio, sesi bimbingan, serta mekanisme maklum balas yang tersusun harus diintegrasikan bagi memastikan persekitaran universiti menghargai pengalaman sebagai sumber pembelajaran yang sah (Kenyon et al., 2022; MQA, 2020; Puteh & Kaliannan, 2016).

KESIMPULAN

APEL.C mempunyai potensi melangkaui urusan pentadbiran pengiktirafan kredit (MQA, 2020). Melalui lensa andragogi dan falsafah humanistik, ia perlu direkonseptualisasikan sebagai mekanisme berpaksikan kemanusiaan yang menghargai agensi, pengalaman hidup, dan keupayaan refleksi pelajar matang (Andreev, 2026; Knowles et al., 2020; Puteh & Kaliannan, 2016). Proses ini mentransformasikan pentaksiran menjadi pengalaman pembelajaran yang memperkasa dan menghubungkan dunia kerja dengan teori akademik (Carney, n.d.; MQA, 2020; Puteh & Kaliannan, 2016). Penyelidikan empirikal masa hadapan amat digalakkan bagi menguji keberkesanan pelaksanaan prinsip berpaksikan kemanusiaan ini daripada perspektif pelajar, pentaksir, dan pentadbiran institusi secara menyeluruh (García & Leibrandt, 2020; Lee, 2025; MQA, 2020; Puteh & Kaliannan, 2016).

PENGHARGAAN

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Literasi Fesyen Hijau dalam Konteks Digital dalam Kalangan Belia di Lembah Klang

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ABSTRAK

Pencemaran alam sekitar yang berpunca daripada industri fesyen bukan lagi perkara yang boleh dipandang remeh. Amalan fast fashion yang kian berleluasa turut menyumbang kepada lambakan sisa tekstil yang dianggarkan mencecah 92 juta tan setiap tahun di peringkat global, sekali gus mendorong kemunculan fesyen hijau sebagai satu bentuk tindak balas yang lebih bertanggungjawab terhadap isu kelestarian. Golongan belia merupakan kumpulan pengguna yang berpotensi memainkan peranan penting dalam menyokong peralihan tersebut. Namun demikian, peningkatan kesedaran terhadap kelestarian tidak semestinya disertai dengan kefahaman yang menyeluruh tentang pelbagai bentuk fesyen hijau yang tersedia. Dalam konteks persekitaran digital yang menjadi ruang penting bagi belia mendapatkan dan menerima maklumat, pengetahuan terhadap konsep fesyen hijau boleh dilihat sebagai salah satu asas kepada pembentukan literasi fesyen lestari. Sehubungan itu, kajian ini bertujuan mengenal pasti tahap pengetahuan belia di Lembah Klang terhadap 11 kategori fesyen hijau sebagai asas untuk memahami keperluan pengukuhan literasi kelestarian dalam kalangan generasi muda. Menerusi tinjauan keratan rentas yang melibatkan 400 responden belia berumur 15 hingga 40 tahun, data dianalisis secara deskriptif menggunakan perisian SPSS versi 29. Dapatan menunjukkan bahawa tahap pengetahuan keseluruhan belia terhadap fesyen hijau berada pada paras tinggi (Min = 3.60). Pakaian terpakai mencatatkan skor tertinggi (Min = 4.42), manakala pakaian bersijil Perdagangan Adil mencatatkan skor terendah (Min = 2.86). Corak ini menunjukkan bahawa belia lebih arif tentang bentuk fesyen hijau yang bersifat harian, mudah diakses dan lazim ditemui dalam persekitaran sosial mereka, tetapi kurang memahami konsep yang lebih teknikal serta berasaskan piawaian antarabangsa. Dapatan ini menunjukkan bahawa pengukuhan literasi fesyen lestari dalam kalangan belia memerlukan pendekatan pendidikan yang lebih mudah difahami dan bersesuaian dengan persekitaran digital. Kandungan digital yang bersifat informatif dan mendidik berpotensi menjadi medium pembelajaran sepanjang hayat untuk membantu belia memahami konsep fesyen hijau yang kurang dikenali serta menyokong pembentukan pilihan penggunaan yang lebih bertanggungjawab.

Kata Kunci: fesyen hijau, tahap pengetahuan, belia, fesyen lestari, Lembah Klang

PENGENALAN

Industri fesyen global kini diiktiraf sebagai antara industri yang memberikan kesan besar terhadap alam sekitar, khususnya melalui penggunaan air dan tenaga yang tinggi serta penjanaan sisa tekstil dalam kuantiti yang besar (Kozlowski et al. 2012; Kamyar et al. 2020). Sebagai contoh, penghasilan sehelai t-shirt kapas memerlukan kira-kira 2,700 liter air, iaitu jumlah yang mencukupi bagi keperluan minuman seseorang selama dua setengah tahun (WWF 2013). Fenomena fast fashion turut mempercepatkan kitaran pengeluaran dan pembuangan pakaian, menyumbang kepada lebih 92 juta tan sisa tekstil setiap tahun (Ellen MacArthur Foundation 2017). Keadaan ini mendorong perkembangan konsep fesyen hijau atau fesyen lestari sebagai pendekatan yang lebih bertanggungjawab terhadap alam sekitar dan penggunaan sumber, selaras dengan Matlamat Pembangunan Mampan ke-12 (SDG 12) yang menekankan corak pengeluaran dan penggunaan yang bertanggungjawab (Gwilt & Rissanen 2011; Fletcher 2018).

Golongan belia dilihat memainkan peranan penting dalam menyokong peralihan ke arah fesyen hijau kerana sifat mereka yang responsif terhadap perubahan trend dan berpotensi bertindak sebagai agen perubahan sosial (Sharaf & Isa 2017). Di Malaysia, belia berumur 15 hingga 40 tahun merangkumi lebih 15 juta penduduk, dengan kepekatan tinggi di Lembah Klang (Jabatan Perangkaan Malaysia 2021), manakala lebih 90% daripada mereka aktif di media sosial (Hootsuite 2023). Persekitaran digital yang dekat dengan kehidupan belia menjadikan media sosial dan platform digital bukan sahaja ruang interaksi sosial, tetapi juga sumber maklumat yang berpotensi membentuk pengetahuan, kefahaman dan pilihan pengguna. Walaupun kesedaran terhadap kelestarian semakin meningkat, niat pembelian fesyen hijau dalam kalangan belia masih dilaporkan tidak

konsisten, dengan kebanyakan pengguna lebih mengutamakan harga dan gaya berbanding kelestarian (Hassan et al. 2020; Rahman et al. 2022). Dalam keadaan ini, pengetahuan terhadap sesuatu produk atau konsep menjadi penting kerana pengguna perlu mempunyai kefahaman asas untuk mengenal pasti, membezakan dan menilai pilihan fesyen yang lebih lestari. Pengetahuan tersebut boleh dilihat sebagai asas kepada literasi fesyen lestari, khususnya apabila maklumat berkaitan kelestarian semakin banyak disampaikan melalui medium digital.

Kajian terdahulu didapati lebih banyak memberikan tumpuan kepada kesedaran pengguna secara umum tanpa meneliti secara terperinci sejauh mana belia memahami pelbagai jenis atau kategori fesyen hijau. Pengetahuan berfungsi sebagai latar kognitif penting yang mempengaruhi keupayaan pengguna memproses rangsangan pemasaran sebelum niat pembelian terbentuk (Joergens 2006; Kim & Damhorst 1998). Justeru, mengenal pasti tahap pengetahuan terhadap pelbagai kategori fesyen hijau dapat memberikan gambaran awal tentang aspek literasi kelestarian yang telah difahami oleh belia serta konsep yang masih memerlukan penjelasan dan pendidikan.

Abstrak lanjutan ini melaporkan dapatan bagi Objektif 1 daripada satu kajian sarjana yang lebih luas mengenai pengaruh strategi pemasaran digital terhadap niat pembelian fesyen hijau dalam kalangan belia di Lembah Klang. Fokus perbincangan di sini secara khusus ditumpukan kepada tahap pengetahuan belia terhadap jenis-jenis fesyen hijau sebagai asas kepada pemahaman tentang literasi fesyen lestari dalam konteks digital. Dapatan ini seterusnya dibincangkan dalam kerangka bersepadu Model Stimulus-Organism-Response (Mehrabian & Russell 1974) dan Teori Tingkah Laku Terancang (Ajzen 1991).

METODOLOGI

Kajian ini menggunakan reka bentuk kuantitatif berbentuk tinjauan keratan rentas bagi membolehkan pengumpulan data daripada bilangan responden yang ramai dalam tempoh masa yang terhad. Populasi sasaran ialah belia berumur 15 hingga 40 tahun yang menetap atau bekerja di kawasan Lembah Klang, merangkumi Kuala Lumpur, Putrajaya dan Selangor. Oleh sebab kajian ini memerlukan responden yang mempunyai pendedahan sedia ada terhadap platform digital, teknik persampelan bertujuan *(purposive sampling)* digunakan bagi memastikan hanya individu yang menepati kriteria tersebut diambil kira. Berpandukan jadual penentuan saiz sampel oleh Krejcie dan Morgan (1970) serta kriteria 10-times rule yang disarankan Hair et al. (2022) bagi analisis PLS-SEM, seramai 400 responden berjaya dikumpulkan, iaitu melebihi keperluan minimum 384 responden. Dari segi profil, majoriti responden terdiri daripada perempuan (78.0%) dan berumur antara 21 hingga 30 tahun (67.8%), mencerminkan ciri populasi belia urban yang aktif dalam talian di Lembah Klang.

Instrumen kajian berbentuk soal selidik berstruktur yang diedarkan secara dalam talian. Bahagian B borang soal selidik secara khusus meminta responden menilai sendiri tahap pengetahuan mereka terhadap 11 kategori fesyen mampan, iaitu merangkumi pakaian terpakai, buatan tempatan, direka khas, vintaj, kitar semula, upcycle, organik, artisan, vegan, biofabrikasi, dan sijil Perdagangan Adil menggunakan skala Likert lima mata (1 = Sangat Tidak Tahu hingga 5 = Sangat Tahu).

Bagi memastikan kesahan kandungan (content validity) instrumen, draf soal selidik turut disemak oleh dua orang pakar bidang, iaitu pakar pemasaran dan pakar pembangunan lestari, sebelum kajian rintis dijalankan terhadap 50 responden belia di Selangor. Konstruk ini turut melalui proses kajian rintis tersebut sebelum digunakan sepenuhnya, dan mencatatkan nilai kebolehpercayaan Cronbach's Alpha sebanyak 0.938 (kategori sangat tinggi), yang menunjukkan item-item pengukuran adalah konsisten dan boleh dipercayai. Data yang diperoleh seterusnya dianalisis secara deskriptif dengan penekanan kepada nilai min dan sisihan piawai menggunakan perisian SPSS versi 29. Analisis ini digunakan bagi mengenal pasti pola tahap pengetahuan belia terhadap setiap kategori fesyen hijau serta mengenal pasti kategori yang mempunyai tahap pengetahuan tinggi dan sederhana.

HASIL DAN PERBINCANGAN

Belia di Lembah Klang didapati mempunyai tahap pengetahuan yang tinggi terhadap fesyen hijau, dengan nilai min keseluruhan sebanyak 3.60. Walau bagaimanapun, nilai keseluruhan tersebut menyembunyikan variasi yang ketara antara kategori. Perbezaan ini penting kerana ia menunjukkan bahawa pengetahuan belia terhadap fesyen hijau tidak berkembang secara sekata, sebaliknya dipengaruhi oleh sejauh mana sesuatu konsep dekat dengan kehidupan seharian dan mudah ditemui dalam persekitaran sosial serta digital mereka.

Seperti yang ditunjukkan dalam Jadual 1, item TAHU SEC yang mewakili pakaian terpakai mencatatkan tahap pengetahuan tertinggi dengan nilai min 4.42, diikuti oleh pakaian buatan tempatan (Min = 4.14) dan pakaian direka khas (Min = 4.13). Pakaian vintaj (Min = 3.89), pakaian bahan kitar semula (Min = 3.66), pakaian upcycle (Min = 3.61) dan pakaian bahan organik (Min = 3.53) turut mencatatkan tahap pengetahuan yang tinggi. Sebaliknya, pakaian artisan (Min = 3.39), pakaian vegan (Min = 3.10), pakaian biofabrikasi (Min = 2.96) dan pakaian bersijil Perdagangan Adil (Min = 2.86) berada pada tahap sederhana.

Skor tinggi bagi pakaian terpakai selaras dengan perkembangan budaya membeli pakaian terpakai atau 'bundle' yang semakin dinormalisasikan dalam kalangan generasi muda. Kandungan media sosial dan trend thrifting turut menjadikan amalan tersebut lebih mudah dilihat dan diakses oleh pengguna muda (Moitra et al. 2025; Azizah et al. 2024). Pola yang sama turut dilihat pada kategori pakaian vintaj, kitar semula, upcycle dan organik yang turut mencatatkan tahap pengetahuan tinggi. Keadaan ini menunjukkan bahawa belia lebih

mudah mengenali konsep fesyen hijau yang mempunyai bentuk penggunaan yang jelas dan telah lama berada dalam pasaran atau budaya popular.

Pakaian buatan tempatan dan pakaian direka khas juga menunjukkan tahap pengetahuan yang tinggi. Dapatan ini mencerminkan bahawa pengetahuan belia terhadap fesyen lestari bukan semata-mata berkaitan dengan aspek alam sekitar, tetapi turut melibatkan nilai keunikan, identiti tempatan dan pilihan pengguna. Perkara ini selari dengan Sulhaini et al. (2020), yang menegaskan bahawa kesedaran terhadap jenama tempatan serta keinginan untuk tampil unik turut mempengaruhi nilai emosi dan niat pembelian pengguna.

Sebaliknya, jurang pengetahuan yang ketara wujud bagi kategori fesyen yang lebih teknikal seperti biofabrikasi dan pakaian bersijil Perdagangan Adil. Kedua-dua konsep tersebut merupakan sebahagian daripada ekosistem fesyen lestari yang lebih luas, namun tahap pengetahuan belia terhadapnya masih sederhana. Salah satu kemungkinan penjelasannya ialah istilah dan konsep tersebut kurang lazim digunakan dalam pasaran runcit tempatan berbanding konsep seperti pakaian terpakai dan buatan tempatan. Konsep yang lebih kompleks juga mungkin memerlukan penerangan yang lebih terperinci sebelum dapat difahami dan dihubungkan dengan amalan penggunaan seharian.

Dapatan ini mempunyai implikasi terhadap pembentukan literasi fesyen lestari dalam kalangan belia. Literasi dalam konteks ini bukan sekadar mengetahui kewujudan isu alam sekitar, tetapi turut melibatkan keupayaan memahami pelbagai konsep, istilah dan bentuk amalan yang berkaitan dengan fesyen lestari. Berdasarkan dapatan kajian, belia mempunyai asas pengetahuan yang baik terhadap kategori yang lebih mudah diakses, tetapi masih memerlukan pendedahan tambahan terhadap konsep yang kurang dikenali. Jurang ini menunjukkan bahawa peningkatan kesedaran semata-mata belum mencukupi sekiranya maklumat yang disampaikan tidak membantu pengguna memahami perbezaan dan ciri setiap kategori fesyen hijau.

Dalam konteks digital, dapatan tersebut menunjukkan potensi penggunaan kandungan digital sebagai medium pendidikan dan pembelajaran yang lebih mudah dicapai oleh golongan belia. Platform digital boleh dimanfaatkan bukan hanya untuk mempromosikan produk fesyen hijau, tetapi juga untuk menerangkan konsep yang kurang difahami seperti biofabrikasi dan pensijilan Perdagangan Adil. Kandungan yang ringkas, visual, mudah difahami dan berasaskan contoh kehidupan sebenar berpotensi membantu belia membina kefahaman secara berperingkat.

Dalam kerangka bersepadu S-O-R dan Teori Tingkah Laku Terancang, pengetahuan berperanan sebagai pemudah cara kognitif yang menentukan sejauh mana seseorang pengguna mampu memproses rangsangan pemasaran digital secara bermakna sebelum niat pembelian benar-benar terbentuk (Joergens 2006; Kim & Damhorst 1998; Connell 2010). Apabila sesuatu konsep tidak difahami, pengguna mungkin menghadapi kesukaran untuk mengenal pasti nilai atau kelebihan produk tersebut walaupun maklumat pemasaran telah disampaikan. Oleh itu, kandungan pemasaran digital yang bersifat pendidikan boleh berfungsi sebagai jambatan antara penyampaian maklumat, pembentukan kefahaman dan pilihan penggunaan yang lebih bertanggungjawab.

Jadual 1. Analisis deskriptif tahap pengetahuan fesyen hijau

Jenis Fesyen Hijau	Indikator	Min	SP	Interpretasi
Pakaian terpakai	TAHU SEC	4.42	0.72	Sangat Tinggi
Pakaian buatan tempatan	TAHU LOKAL	4.14	0.83	Tinggi
Pakaian direka khas	TAHU KHAS	4.13	0.83	Tinggi
Pakaian vintaj	TAHU VTJ	3.89	0.92	Tinggi
Pakaian bahan kitar semula	TAHU REC	3.66	1.02	Tinggi
Pakaian upcycle	TAHU UPC	3.61	1.14	Tinggi
Pakaian bahan organik	TAHU ORG	3.53	0.97	Tinggi
Pakaian artisan	TAHU ART	3.39	1.16	Sederhana
Pakaian vegan	TAHU VEG	3.10	1.11	Sederhana
Pakaian biofabrikasi	TAHU BIO	2.96	1.13	Sederhana
Pakaian Sijil Perdagangan Adil	TAHU CERT	2.86	1.19	Sederhana
Min Keseluruhan		3.60	1.00	Tinggi

Rumusannya, dapatan menunjukkan bahawa pengetahuan belia terhadap fesyen hijau lebih tertumpu kepada bentuk yang praktikal, mudah diakses dan sudah menjadi sebahagian daripada budaya popular. Sebaliknya, konsep yang lebih teknikal dan memerlukan kefahaman khusus masih kurang dikuasai. Perbezaan ini memperlihatkan bahawa usaha membentuk literasi fesyen lestari dalam kalangan belia perlu bergerak daripada sekadar meningkatkan kesedaran kepada penyediaan maklumat yang dapat membantu mereka memahami konsep secara lebih menyeluruh.

KESIMPULAN

Kesimpulannya, belia di Lembah Klang mempunyai tahap pengetahuan yang tinggi terhadap fesyen hijau (Min = 3.60), namun pengetahuan tersebut tidak seimbang antara kategori. Belia lebih arif tentang fesyen hijau yang konvensional dan mudah diakses seperti pakaian terpakai, buatan tempatan dan pakaian direka khas, manakala konsep teknikal seperti biofabrikasi dan pensijilan Perdagangan Adil masih berada pada tahap sederhana.

Dapatan ini menunjukkan keperluan untuk memperkukuh literasi fesyen lestari melalui pendekatan pendidikan yang mudah diakses, khususnya dalam persekitaran digital. Kandungan digital bukan sahaja perlu berorientasikan promosi, tetapi turut berfungsi sebagai medium pembelajaran yang menerangkan konsep fesyen lestari secara jelas dan mudah difahami. Pendekatan ini berpotensi menyokong pembelajaran sepanjang hayat

serta membantu belia membuat pilihan penggunaan yang lebih bertanggungjawab.
Penggiat industri dan pihak berkaitan juga disarankan memperkukuh kandungan digital yang bersifat informatif dan mendidik bagi meningkatkan kefahaman belia terhadap konsep fesyen hijau yang kurang dikenali. Kajian akan datang boleh memperluaskan skop ke kawasan luar Lembah Klang serta meneroka bentuk kandungan digital yang paling berkesan dalam meningkatkan pengetahuan dan literasi fesyen lestari dalam kalangan belia.

PENGHARGAAN

Penyertaan dalam persidangan ini ditaja oleh Pusat Hal Ehwal Pelajar, Universiti Kebangsaan Malaysia (HEP-UKM) melalui Tabung Pembangunan Mahasiswa (TKP33) bagi penyertaan dalam Persidangan Antarabangsa Sains Citra (i-Citra 2026). Penghargaan dirakamkan kepada semua responden belia di Lembah Klang yang telah meluangkan masa menjawab soal selidik dalam talian serta berkongsi pandangan mengenai tahap pengetahuan mereka terhadap fesyen hijau, sekali gus menyumbang kepada kejayaan kajian ini.

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Pengajaran dan Pembelajaran Bahasa Melayu Sebagai Bahasa Asing: Pengaplikasian Teknologi Kecerdasan Buatan (AI)

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ABSTRAK

Pengantarabangsaan bahasa Melayu memerlukan pendekatan pedagogi berasaskan teknologi digital selari dengan perkembangan pesat era Revolusi Industri 4.0. Kekurangan bahan pembelajaran interaktif yang hanya berfokus kepada kaedah secara konvensional, keterbatasan persekitaran bahasa untuk melatih kemahiran bertutur dan sebutan serta sebahagian besar alatan Kecerdasan Buatan (AI) bahasa dibangunkan berteraskan bahasa Inggeris telah menjadi titik tolak kepada penelitian ini. Kajian ini bertujuan menilai keberkesanan, cabaran dan tahap penerimaan pengaplikasian teknologi AI dalam pengajaran dan pembelajaran Bahasa Melayu sebagai Bahasa Asing (BMA). Kajian ini mengaplikasikan Reka Bentuk Kaedah Campuran. Tinjauan soal selidik dijalankan kepada 60 orang pelajar antarabangsa yang mengambil kursus Bahasa Melayu Komunikasi Antarabangsa di Universiti Kebangsaan Malaysia (UKM). Responden dipilih dalam kalangan pelajar antarabangsa luar Nusantara tahap asas yang mempunyai akses kepada peranti digital. Dapatan kajian menunjukkan peningkatan yang signifikan dalam penguasaan kosa kata, tatabahasa dan kelancaran sebutan dalam kalangan pelajar yang memanfaatkan AI. Selain itu, penggunaan AI dijangka dapat meningkatkan motivasi, menurunkan tahap cemas ketika berbahasa dan memupuk autonomi pembelajaran kendiri. Walau bagaimanapun, kekangan dari segi ketepatan ragam bahasa semula jadi dan kefahaman konteks budaya tempatan oleh alatan AI masih menjadi cabaran utama. Impak kajian ini dijangka dapat memberi sumbangan strategik kepada pereka kurikulum dan tenaga pengajar dalam merangka modul BMA berintegrasi teknologi yang relevan dan berkesan.

Kata kunci: Kecerdasan Buatan (AI), Bahasa Melayu sebagai Bahasa Asing (BMA), Pembelajaran Bahasa Berbantu Teknologi, Inovasi Pengajaran, Pembelajaran Kendiri.

PENGENALAN

Era Revolusi Perindustrian 4.0 telah memangkinkan transformasi pesat dalam landskap pendidikan global melalui pengintegrasian teknologi berasaskan Kecerdasan Buatan (*Artificial Intelligence*/AI). Pemodenan ini bukan sahaja mengubah kaedah penyampaian maklumat, malah mentakrif semula strategi pemerolehan bahasa kedua dan bahasa asing. Bahasa Melayu (BM) sebagai salah satu bahasa utama di rantau Asia Tenggara yang kini giat diperluas ke peringkat antarabangsa, turut menerima impak langsung daripada gelombang digital ini. Pengaplikasian teknologi AI seperti pembantu maya dan sistem penilaian sebutan automatik telah membuka dimensi baharu dalam Pengajaran dan Pembelajaran Bahasa Melayu sebagai Bahasa Asing (BMA).

Menurut Zahara et al. (2023), sektor pendidikan tidak terkecuali daripada menerima arus pemodenan AI. Dalam bidang ini, aplikasi AI mampu meningkatkan keupayaan pengajaran dan pembelajaran. Antaranya, pembelajaran boleh dijadikan secara *hybrid* atau kaedah gabungan antara pembelajaran tradisional di dalam kelas serta boleh dijalankan secara dalam talian bagi pelajar-pelajar yang tidak boleh hadir secara fizikal atau berada di tempat yang jauh. Suariqi Diantama (2023) dalam kajiannya berkaitan pemanfaatan AI dalam dunia pendidikan pula menyatakan bahawa *Chat GPT* mampu menarik lebih 100 juta pengguna dalam waktu yang singkat. Dengan keupayaan mengembangkan daya dan keterampilan pengguna, aplikasi ini juga mampu mendapat sokongan dalam bentuk kepelbagaian bahan pembelajaran.

Usaha pengantarabangsaan bahasa Melayu yang diterajui oleh pelbagai Institusi Pendidikan Tinggi (IPT) di Malaysia telah menarik penyertaan ribuan pelajar antarabangsa setiap tahun. Walau bagaimanapun, pembelajaran bahasa asing secara konvensional sering berhadapan dengan beberapa kekangan dan halangan. Antaranya termasuklah masa interaksi di dalam bilik kuliah yang sangat terhad, keterbatasan rakan perbualan penutur jati dan kepelbagaian tahap kelajuan kognitif setiap pelajar adalah berbeza serta kurangnya sokongan

moral daripada warga kampus dan masyarakat sekeliling. Selari dengan perkembangan alatan berasaskan AI seperti *Chat GPT, Claude, Duolingo, Chatbot* dan perisian pengecam suara, pelajar kini mempunyai akses kepada persekitaran pembelajaran yang interaktif, peribadi dan berasaskan respons serta-merta.

Kajian mengenai AI dalam proses pengajaran dan pembelajaran (PdP) sangat penting bagi menyebarluaskan pemahaman penggunaan teknologi dalam pendidikan. Kesediaan penerimaan guru dalam melaksanakan AI, iaitu bahan berasaskan teknologi merupakan proses awal kepada kejayaan sesuatu anjakan dalam pendidikan. Hal ini kerana AI mempunyai potensi yang besar dalam meningkatkan mutu pendidikan kerana teknologi ini membawa kepada banyak perubahan untuk membantu guru merangka kaedah pengajaran dan strategi pembelajaran dengan lebih mudah dan bersesuaian dengan kepelbagaian murid (Elisnorazmaliza et al. 2023).

Dalam konteks pembelajaran bahasa, kecerdasan buatan (AI) berperanan menambah baik dan mentransformasi kaedah pembelajaran tradisional menjadi kaedah pembelajaran yang interaktif. Dunia pendidikan mampu memberikan pengetahuan kepada pelajar dengan memanfaatkan teknologi moden seperti AI. Namun, pemanfaatan teknologi AI ini bukan bertujuan menggantikan peranan pendidik atau guru kerana kepentingan pendidik untuk membangunkan keterampilan, pengetahuan dan akhlak, menjadi kunci kepada matlamat pendidikan (Karyadi, 2023). Justeru, satu kajian berstruktur berasaskan kaedah campuran amat diperlukan untuk menilai secara saksama keberkesanan, tahap penerimaan serta cabaran pragmatik dalam memanfaatkan teknologi AI bagi pengajaran BMA.

HASIL DAN PERBINCANGAN

Jadual 1 di bawah menunjukkan kekerapan dan peratusan maklumat demografi responden dalam kalangan pelajar antarabangsa yang terlibat dalam penelitian ini. Seramai 60 orang responden secara keseluruhan yang telah menjawab tinjauan soal selidik yang melibatkan 36 (60%) orang pelajar lelaki dan 24 (40%) orang pelajar perempuan. Pelajar tersebut merupakan pelajar antarabangsa yang mengambil Kursus Bahasa Melayu Komunikasi Antarabangsa di Universiti Kebangsaan Malaysia (UKM) di bawah seliaan pengkaji. 37 (61.7%) orang pelajar merupakan pelajar tahun satu, 18 (30%) orang pelajar tahun dua, empat orang pelajar tahun tiga dengan peratusan sebanyak 6.7% manakala seorang pelajar tahun empat (1.7%).

Empat bidang pengajian utama yang dikenal pasti, iaitu bidang Sains, Teknologi, Kejuruteraan, Matematik (STEM) 31.8%, bidang Sains Sosial, Sastera dan Kemanusiaan (21.7%), Perniagaan dan Pengurusan (35.1%) serta bidang Undang-Undang 11.7%. Responden yang terlibat dalam kajian ini berada dalam lingkungan umur 18 hingga 24 tahun seramai 22 orang (36.7%), umur 25-30 tahun seramai 16 orang (26.7%) manakala responden berumur 31 tahun ke atas seramai 22 orang (36.7%).

Responden yang mendaftar kursus ini adalah dari pelbagai negara seantero dunia. Antaranya termasuklah dari negara Iraq (5.8%), Algeria (1.9%), China (48.1%), Oman (5.8%), Emiriah Arab Bersatu (UAE) 11.5%, Pakistan (1.9%), Palestin (1.9%), Ghana (1.9%), Jepun (1.9%), Lubnan (1.9%), Arab Saudi (13.5%), Syria (1.9%) dan Bangladesh (1.9%). Peratusan terbesar responden adalah dari Tanah Besar China.

Tahap penguasaan bahasa Melayu responden adalah pada tahap asas, iaitu melibatkan 52 orang (86.7%) manakala selebihnya lapan orang responden (13.3%) berada pada tahap pertengahan. Kekerapan penggunaan alatan AI oleh responden dikategorikan kepada penggunaan pada setiap hari, iaitu 19 responden (31.7%), penggunaan dua atau tiga kali seminggu oleh majoriti responden sebanyak 61 orang (60%) manakala responden yang jarang-jarang menggunakan alatan AI adalah sebanyak 8.3%, iaitu menunjukkan peratus penggunaan yang terendah hanya seramai lima orang responden. Hal ini membuktikan bahawa responden sememangnya memerlukan alatan AI sebagai pembantu dalam proses pembelajaran kendiri mereka.

Jadual 1: Demografi Responden Kajian

Item	Perincian Item	Kekerapan	Peratus
Jantina	Lelaki	36	60.0%
	Perempuan	24	40.0%
Tahun Pengajian	Satu	37	61.7%
	Dua	18	30.0%
	Tiga	4	6.7%
	Empat	1	1.7%
Bidang Pengajian	Sains, Teknologi, Kejuruteraan, Matematik (STEM)	19	31.8%
	Sains Sosial, Sastera dan Kemanusiaan	13	21.7%
	Perniagaan dan Pengurusan	21	35.1%
	Undang-Undang	7	11.7%
Umur	18-24 tahun	22	36.7%
	25-30 tahun	16	26.7%
	31 tahun ke atas	22	36.7%
Tahap Penguasaan Bahasa Melayu	Asas	52	86.7%
	Pertengahan	8	13.3%
Kekerapan Penggunaan Alatan AI	Setiap hari	19	31.7%
	2-3 kali seminggu	36	60.0%
	Jarang-jarang	5	8.3%

Dapatan menunjukkan bahawa Min Keseluruhan bagi konstruk ini berada pada nilai 4.04, iaitu pada Tahap

Tinggi (Skala 3.67-5.00). Hal ini mengesahkan bahawa pengaplikasian teknologi AI mendapat penerimaan yang sangat positif dalam kalangan pelajar antarabangsa, terutamanya dalam aspek mempercepat perluasan kosa kata 4.20 dan menyokong pembelajaran mengikut kadar kendiri 4.12. Berdasarkan Jadual 2 di bawah, persepsi dan keberkesanan penggunaan teknologi AI dianalisis dalam dua kategori, iaitu item peningkatan kemahiran bahasa dan item motivasi pembelajaran yang mana kedua-duanya memperinci tentang tiga pernyataan.

Item pertama, iaitu peningkatan kemahiran bahasa menunjukkan bahawa nilai min 4.20 berada dalam julat 3.67-5.00, yang menunjukkan tahap persetujuan yang Tinggi dalam kalangan responden. Majoriti besar responden memberikan maklum balas positif (48.3% Setuju, 40.0% Sangat Setuju), membuktikan bahawa alatan AI diiktiraf secara meluas sebagai medium yang sangat berkesan dalam meningkatkan perbendaharaan kata bahasa Melayu. Penguasaan kosa kata yang luas dalam masa singkat membolehkan penutur menyampaikan idea, emosi, dan pendapat dengan jelas tanpa bergantung pada terjemahan terus atau jeda yang lama. Penguasaan kosa kata yang luas dalam sesuatu bahasa juga membolehkan pelajar menguasai kecekapan dalam berkomunikasi.

Pernyataan penggunaan AI meningkatkan keyakinan saya untuk bertutur pula menunjukkan penerimaan positif yang kuat (70.0%). Majoriti besar responden (36.7% Setuju + 33.3% Sangat Setuju) bersetuju bahawa alatan AI membina keyakinan mereka untuk bertutur dalam bahasa Melayu. Nilai min 3.95 turut mengesahkan bahawa interaksi bersama AI bertindak sebagai persekitaran latihan berisiko rendah yang membantu menurunkan rasa cemas semasa bertutur (*speaking anxiety*) sebelum pelajar berkomunikasi dengan penutur natif. Namun begitu, terdapat juga kehadiran kumpulan berkecuali (21.7%). Peratusan Kurang Setuju yang agak signifikan menunjukkan sebahagian pelajar masih berasa memerlukan latihan interaksi sosial sebenar di luar alam maya atau di luar bilik kuliah untuk berasa benar-benar yakin secara amali dan praktikal.

Pernyataan berkaitan sebutan pula boleh dirumuskan dengan penerimaan positif yang dominan daripada responden. Sebanyak 68.4% responden (36.7% Setuju + 31.7% Sangat Setuju) mengesahkan bahawa aplikasi AI membantu mereka memperbaiki sebutan bahasa Melayu melalui maklum balas secara automatik. Nilai min 3.89 menunjukkan bahawa tahap keberkesanan yang tinggi membuktikan pengecam suara AI berupaya membantu pelajar menguasai fonetik dan artikulasi bahasa Melayu secara kendiri. Sokongan sebutan berasaskan teknologi membina ruang latihan yang tidak menghakimi sekali gus meningkatkan keyakinan pelajar asing untuk bertutur dengan sebutan yang betul. Walau bagaimanapun, keperluan bimbingan lanjutan (21.7% KS + 10.0% STS/TS), iaitu gabungan 31.7% responden yang berkecuali dan tidak setuju menandakan perisian pengecam sebutan AI yang sedia ada masih mempunyai keterbatasan dalam mengecam pelbagai variasi loghat penutur asing atau kebiasaan sebutan berasaskan cara sebutan bahasa ibunda mereka. Hal ini menunjukkan bahawa alatan AI sedia ada masih mempunyai keterbatasan dalam pengecaman sebutan dengan kepelbagaian cara sebutan atau slang pelajar asing di samping memerlukan bimbingan susulan daripada tenaga pengajar.

Item kedua. iaitu Motivasi Pembelajaran, jawapan responden turut mencatatkan interpretasi pada Tahap Tinggi. Majoriti besar responden (46.7% Setuju + 35.0% Sangat Setuju) bersetuju bahawa alatan AI memberi mereka kebebasan untuk belajar mengikut kapasiti kognitif kendiri. Skor min 4.12 pada tahap persetujuan yang sangat tinggi menyokong prinsip pembelajaran berpusatkan pelajar, di mana pelajar tidak tertekan dengan kadar kemajuan rakan sebaya. Peratusan Ketidaksetujuan yang Sangat Rendah (5.0%), iaitu tiada responden yang memilih Sangat Tidak Setuju dan hanya 5.0% yang Tidak Setuju, membuktikan bahawa fleksibiliti masa dan aras pembelajaran adalah antara kelebihan utama AI yang paling diiktiraf oleh pelajar antarabangsa.

Seterusnya, dominasi persepsi positif (71.7%), iaitu majoriti responden (35.0% Setuju + 36.7% Sangat Setuju) bersetuju bahawa alatan AI menyuntik elemen keseronokan dan daya tarikan dalam proses pengajaran dan pembelajaran bahasa Melayu. Nilai min 4.03 yang merupakan tahap min tertinggi menunjukkan bahawa kepelbagaian elemen interaktif dan responsif dalam AI berjaya mengurangkan kebosanan pengajaran dan pembelajaran secara konvensional, sekali gus meningkatkan motivasi intrinsik pelajar. Namun begitu, terdapat juga kelompok berkecuali yang agak ketara dengan peratusan Kurang Setuju sebanyak 23.3% mengindikasikan bahawa sebahagian pelajar masih menganggap AI sebagai alat bantuan tugas semata-mata dan bukannya medium pembelajaran yang sepenuhnya menghiburkan.

Pernyataan yang terakhir menunjukkan sebanyak 76.6% responden bersetuju (33.3% Setuju + 43.3% Sangat Setuju), di mana peratusan Sangat Setuju (43.3%) merupakan antara yang tertinggi bagi konstruk ini. Min 4.03 pada tahap tinggi membuktikan bahawa persekitaran interaksi AI yang bersifat bebas penghakiman berjaya menurunkan rasa cemas kepada pelajar untuk bertutur. Pelajar antarabangsa juga berasa lebih selamat untuk melakukan kesilapan tatabahasa atau sebutan semasa berinteraksi dengan peranti AI berbanding situasi sosial yang terdedah kepada penilaian khalayak ramai. Situasi menjadi lebih parah apabila persekitaran kampus dan masyarakat sekeliling kurang memberikan sokongan untuk memotivasikan diri pelajar malah dipersenda dan diperlekeh.

Jadual 2: Persepsi dan Keberkesanan Penggunaan AI

Item/ Pernyataan	Kekerapan/Peratusan					Min
	STS	TS	KS	S	SS	
Peningkatan Kemahiran Bahasa						
Alatan AI membantu saya memperluas kosa kata bahasa Melayu dengan lebih pantas.	1 1.7%	3 5%	3 5%	29 48.3%	24 40%	4.20
Penggunaan AI meningkatkan keyakinan saya untuk bertutur dan berkomunikasi dalam bahasa Melayu.	0%	5 8.3%	13 21.7%	22 36.7%	20 33.3%	3.95
Aplikasi penilaian sebutan berasaskan AI membantu saya menyebut perkataan bahasa Melayu dengan betul.	1 1.7%	5 8.3%	13 21.7%	22 36.7%	19 31.7%	3.89
Motivasi Pembelajaran						
AI membolehkan saya belajar bahasa Melayu mengikut tahap dan kadar kelajuan kognitif saya sendiri.	0%	3 5%	8 13.3%	28 46.7%	21 35%	4.12
Penggunaan teknologi AI membuatkan proses pembelajaran bahasa Melayu lebih menarik dan seronok.	0%	3 5%	14 23.3%	21 35%	22 36.7%	4.03
Saya lebih selesa membuat kesilapan semasa berinteraksi dengan AI berbanding bercakap di hadapan orang ramai.	4 6.7%	2 3.3%	8 13.3%	20 33.3%	26 43.3%	4.03

KESIMPULAN

Secara keseluruhannya, berdasarkan dapatan kajian ini, pengaplikasian teknologi Kecerdasan Buatan (AI) terbukti membawa impak yang sangat positif dan signifikan terhadap Pengajaran dan Pembelajaran Bahasa Melayu sebagai Bahasa Asing (BMA). Min Keseluruhan (4.04) bagi instrumen ini berada pada Tahap Tinggi (Skala 3.67-5.00). Dapatan ini mengesahkan bahawa pengaplikasian teknologi AI mendapat penerimaan yang sangat positif dalam kalangan pelajar antarabangsa, terutamanya dalam aspek mempercepat perluasan kosa kata (4.20) dan menyokong pembelajaran mengikut kadar kendiri (4.12). AI juga bukan sekadar alat bantuan teknikal, malah bertindak sebagai tutor peribadi yang mempercepat proses pemerolehan bahasa. Peningkatan pemahaman kosa kata dan penterjemahan teks sukar menunjukkan bahawa AI berjaya meringankan beban kognitif pelajar asing semasa memproses struktur bahasa Melayu. Integrasi AI dalam BMA berjaya merapatkan jurang antara keperluan linguistik dengan kesediaan emosi pelajar antarabangsa. Walaupun alatan AI masih memerlukan penambahbaikan pada aspek pengecaman sebutan, teknologi ini amat berpotensi dijadikan modul sokongan rasmi bagi memodenkan serta memacu pengajaran dan pembelajaran bahasa sebagai bahasa asing seiring dengan teknologi dan inovasi mutakhir.

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Determinants of Core Self-Evaluations and Employee Happiness in Malaysian Higher Education Institutions: Technostress as a Boundary Condition

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ABSTRACT

Academic staff in Malaysian higher education institutions work in demanding organisational and increasingly digital environments, yet research has more often examined strain than the conditions that may support Employee Happiness. This conceptual paper develops a Stimulus-Organism-Response framework to explain how workplace conditions may influence Employee Happiness among academic staff. An integrative theory-building synthesis brings together Positive Work Climate, Work-Life Balance, Co-worker Support, Organisational Support, Core Self-Evaluations, Employee Happiness, and Technostress; no primary data are analysed. The framework positions the four workplace conditions as stimuli, Core Self-Evaluations as the organismic appraisal mechanism, and Employee Happiness as the response. It proposes positive relationships between workplace conditions and Core Self-Evaluations, a positive relationship between Core Self-Evaluations and Employee Happiness, positive specific indirect effects through Core Self-Evaluations, and Technostress as a boundary condition on the stimulus-organism relationships. Recent Malaysian evidence establishes contextual relevance, not empirical validation. The framework provides a focused basis for subsequent testing and cautious higher-education policy development.

Keywords: Employee Happiness, Core Self-Evaluations, Stimulus-Organism-Response, Technostress, Malaysian Higher Education

INTRODUCTION

Academic work encompasses teaching, research, publication, supervision, administration, community engagement, and institutional service. Digital platforms have added learning management systems, online assessment, institutional databases, artificial intelligence applications, and continuous electronic communication to this work. These systems can improve access and flexibility, but they may also increase workloads, extend availability expectations, and blur work-life boundaries. Employee Happiness is therefore relevant to how academic staff experience and sustain their work, but it should not be treated merely as the absence of stress.

This paper treats Employee Happiness as a positive work-related state encompassing positive affect, meaningful functioning, and a sense of growth at work. This interpretation aligns with research on workplace happiness and eudaimonic workplace well-being (Bartels et al., 2019; Joo & Lee, 2017). Malaysian evidence has begun to examine Employee Happiness explicitly in a public-university setting using the PERMAI model (Ismail et al., 2025), although that operationalisation differs from the present eudaimonic framing. Much higher education research, however, remains organised around adverse outcomes such as stress, burnout, and turnover. Less attention has been given to the mechanism by which supportive workplace conditions may translate into Employee Happiness, or to whether digital strain alters that process.

This study aims to develop a theory-driven framework for Employee Happiness among academic staff in Malaysian higher education institutions. The framework integrates Positive Work Climate, Work-Life Balance, Co-worker Support, and Organisational Support as workplace conditions; Core Self-Evaluations as an internal appraisal mechanism; and Technostress as a boundary condition. It addresses three questions: how workplace conditions relate to Core Self-Evaluations; how Core Self-Evaluations mediate effects on Employee Happiness; and whether

Technostress weakens the translation of workplace resources into positive self-evaluations.

Stimulus-Organism-Response theory holds that environmental stimuli shape internal states, which in turn influence behavioural or psychological responses (Mehrabian & Russell, 1974). Applied here, workplace conditions are the stimuli, Core Self-Evaluations represent the organismic appraisal, and Employee Happiness is the response. Technostress sits at the stimulus-organism boundary because digital demands may shape how academic staff interpret otherwise supportive conditions.

The paper offers an integrative theory-building synthesis of literature selected for construct definition, relationship specification, contextual relevance, and framework integration. Recent Malaysian studies and policy sources strengthen the contextual justification, while established theoretical and measurement sources anchor the constructs.

The paper is not presented as a systematic review and does not report primary data. It presents a conceptual model and hypotheses for subsequent empirical testing.

RESULTS AND DISCUSSION

As this is a conceptual paper, the result is the proposed framework rather than an empirically tested set of effects. The synthesis outlines theoretically plausible relationships among academic staff in Malaysian higher education institutions that remain to be tested.

Workplace conditions as stimuli

Positive Work Climate concerns shared perceptions of organisational practices and the quality of the work environment (Peña-Suárez et al., 2013). A climate characterised by clarity, fairness, recognition, and development should signal to academic staff that they are competent and valued. Work-Life Balance concerns the perceived compatibility of work and non-work activities (Brough et al., 2014). Greater balance should strengthen perceived control and reduce conflict between academic and personal roles. Co-worker Support provides practical and emotional assistance; prior service-sector research has linked such support to Core Self-Evaluations and engagement, although its transfer to higher education requires contextual testing (Karatepe et al., 2010). Organisational Support reflects the belief that the institution values employees' contributions and cares about their well-being (Eisenberger et al., 1986). Recent Malaysian evidence reinforces the distinction between these workplace conditions: public-university research identifies an implementation gap between Organisational Support and Work-Life Balance (Mohamed et al., 2026), while female academics in private HEIs report that blurred work-life boundaries, workload, resource constraints, and leadership behaviours influence Work-Life Balance (Ahangar et al., 2026). Accordingly, H1-H4 propose positive relationships between each workplace condition and Core Self-Evaluations.

Core Self-Evaluations as the appraisal mechanism

Core Self-Evaluations capture fundamental appraisals of self-worth, competence, emotional stability, and control (Judge et al., 2003). In SOR terms, this construct explains why academic staff exposed to similar workplace conditions may not experience the same level of Employee Happiness. Supportive conditions should strengthen favourable self-appraisals, whereas unfavourable appraisals may limit the psychological value derived from available resources. H5 therefore proposes a positive relationship between Core Self-Evaluations and Employee Happiness. Because the framework does not specify direct paths from the four workplace conditions to Employee Happiness, H6-H9 state positive, specific indirect effects through Core Self-Evaluations rather than claims of full or partial mediation.

Technostress as A Boundary Condition

Technostress arises when demands from information and communication technology are perceived as excessive, complex, intrusive, or difficult to manage (Ragu-Nathan et al., 2008). Evidence links Technostress to the well-being of academic staff (Truța et al., 2023). In Malaysia, Dong et al. (2026) found that Technostress moderated the digital literacy-performance relationship among 320 public-university lecturers, establishing the local plausibility of Technostress moderation without validating the specific relationships proposed here. High Technostress may erode attention and perceived control, thereby reducing the extent to which Positive Work Climate, Work-Life Balance, Co-worker Support, and Organisational Support strengthen Core Self-Evaluations. H10-H13 therefore propose negative moderation of the four stimulus-organism relationships.

The proposed negative direction should nevertheless be treated as a boundary hypothesis, not an established fact. Technology demands may also be appraised as challenging and energising when

adequate resources are available, producing techno-eustress rather than distress (Nascimento et al., 2024; Tarafdar et al., 2019). Empirical testing should therefore examine both the magnitude and the direction of the interaction, rather than assuming that Technostress is uniformly harmful.

Table 1. Proposed relationships

Hypotheses	Proposed Relationship
H1-H4	Positive Work Climate, Work-Life Balance, Co-worker Support, and Organisational Support positively relate to Core Self-Evaluations.
H5	Core Self-Evaluations positively relate to Employee Happiness.
H6-H9	Each workplace condition has a positive specific indirect effect on Employee Happiness through Core Self-Evaluations.
H10-H13	Technostress negatively moderates the relationship between each workplace condition and Core Self-Evaluations.

Figure 1. Proposed Stimulus-Organism-Response framework

Conceptual Contribution and Practical Relevance

The framework contributes by linking organisational conditions, an internal self-appraisal mechanism, a positive work outcome, and a digital boundary condition within a single SOR structure. It distinguishes workplace resources from the psychological process through which they may influence Employee Happiness. It also makes the role of Technostress conditional rather than assuming a direct, universally negative effect.

Practical implications remain provisional until the model is tested. If the proposed relationships are supported, higher education leaders could focus on fair workload allocation, clear boundaries around availability, recognition, supportive supervision, peer support, digital training, and responsive technical assistance. This aligns with the Malaysia Higher Education Blueprint 2026–2035, which identifies academic and administrative staff as part of higher-education talent and promotes holistic well-being, appropriate support systems, and improved work-life initiatives (Ministry of Higher Education Malaysia, 2025). Such practices should be evaluated not only for whether they reduce strain but also for whether they strengthen academic staff's perceived competence, worth, emotional stability, and sense of control.

CONCLUSION

This conceptual paper proposes an SOR framework in which Positive Work Climate, Work-Life Balance, Co-worker Support, and Organisational Support shape Employee Happiness through Core Self-Evaluations. At the same time, Technostress moderates the relationships between workplace resources and self-appraisal. The model offers a coherent explanation of why supportive institutional conditions may not translate uniformly into Employee Happiness.

The framework requires empirical assessment before drawing causal or practical conclusions. Future research should test the measurement and structural models across public and private Malaysian higher education institutions, assess the direction and practical magnitude of Technostress interactions, and examine whether digital resources alter the appraisal of Technostress from distress to challenge. Cross-sector comparisons should be undertaken only when theoretical and measurement conditions justify them. Such testing would establish whether the proposed mechanism is robust across institutional and demographic contexts.

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Analisis Pemilihan Kata dalam Media Sosial oleh Generasi Z

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ABSTRAK

Penggunaan aplikasi media sosial umumnya sudah menjadi gaya hidup masyarakat muda kini. Aplikasi tiktok khususnya merupakan aplikasi yang paling banyak penggunaannya masa kini. Kajian ini menganalisis corak pemilihan kata dalam kalangan Generasi Z di platform media sosial serta implikasinya terhadap perkembangan Bahasa Melayu. Generasi Z, yang lahir antara tahun 1997 hingga 2012, merupakan generasi yang membesar bersama revolusi digital dan sangat aktif menggunakan pelbagai platform media sosial seperti TikTok, X (Twitter), dan Instagram . Objektif kajian adalah untuk mengenal pasti bentuk-bentuk kata yang dominan digunakan, faktor yang mempengaruhi pemilihan kata, serta kesannya terhadap kualiti bahasa. Kajian kualitatif ini menggunakan kaedah analisis kandungan terhadap data daripada pelbagai platform media sosial. Dapatan menunjukkan bahawa Generasi Z cenderung menggunakan kata slanga, singkatan, dan kata dasar dengan lebih banyak berbanding generasi sebelumnya,ini dapat mencerminkan keutamaan terhadap komunikasi yang ringkas dan tidak formal . Pemilihan kata juga didapati berfungsi sebagai alat pembinaan identiti sosial dan *personal branding*, serta mencerminkan pengaruh budaya popular dan *trend* semasa . Kajian ini menyimpulkan bahawa walaupun pemilihan kata oleh Generasi Z menunjukkan kreativiti linguistik yang tinggi, ia turut menimbulkan cabaran terhadap pemeliharaan bahasa formal, justeru memerlukan pendekatan pendidikan bahasa yang inovatif di era digital.

Kata kunci: Generasi Z, pemilihan kata, media sosial, slanga, variasi bahasa

PENGENALAN

Generasi Z merupakan kelompok individu yang lahir dalam tempoh tahun 1997 hingga 2012 . Kajian Noor Aida et al (2014) menjelaskan bahawa media sosial seperti Facebook merupakan antara punca pencemaran bahasa berlaku dan terus berleluasa contohnya penggunaan bahasa rojak. Generasi ini dikenali sebagai generasi yang membesar dan berinteraksi dalam era kegemilangan telefon pintar dan media sosial. Sebagai *digital native*, Generasi Z sangat terhubung dengan pelbagai platform media sosial seperti TikTok, X (Twitter), Instagram, dan Facebook, yang menjadi ruang utama untuk mereka mengekspresikan diri, berinteraksi, dan membina identiti sosial.

Menurut Abrams (seperti yang dipetik dalam Nurgiyantoro, 2013), gaya bahasa ialah cara seseorang menyampaikan sesuatu yang ingin diungkapkannya melalui bahasa . Dalam konteks komunikasi digital, gaya bahasa memperhatikan struktur kalimat, pemilihan kata, serta elemen bukan lisan seperti emoji dan slanga untuk menyampaikan mesej dengan lebih efektif dan menarik .

Fenomena yang menarik perhatian ialah cara Generasi Z menggunakan bahasa dalam komunikasi digital. Kajian mendapati bahawa Generasi Z cenderung menggunakan kata slanga, singkatan, dan kata dasar dengan lebih banyak berbanding generasi sebelumnya . Hal ini mencerminkan keutamaan terhadap komunikasi yang ringkas, pantas, dan tidak formal, yang selari dengan sifat platform media

sosial yang mengutamakan kelajuan dan kemudahan. Kajian oleh Akbar et al. (2024) mendapati bahawa terdapat perbezaan ketara dalam penggunaan gaya bahasa antara Generasi Milenial dan Generasi Z. Generasi Z didapati lebih cenderung menggunakan kata slanga dan kata dasar berbanding Generasi Milenial, yang mencerminkan keutamaan mereka terhadap komunikasi informal.

Selain itu, terdapat juga fenomena penggunaan slanga dan singkatan. Penggunaan slanga merupakan ciri dominan dalam komunikasi Generasi Z di media sosial. Slanga digunakan untuk mengekspresikan kesan informalitas dan keakraban, serta mencerminkan identiti budaya pengguna . Menurut laporan Harian Metro (2025), Universiti Putra Malaysia (UPM) sedang membangunkan perisian kecerdasan buatan (AI) untuk mentafsir bahasa tidak formal termasuk slanga santai yang kerap digunakan Generasi Z . Inisiatif ini merupakan tindak balas kepada evolusi bahasa yang pesat, di mana penggunaan Bahasa Malaysia dan Inggeris semakin dipendekkan dengan kewujudan pelbagai istilah baharu, ringkasan, dan singkatan.

Nur Farahkhanna et al. (2022) menjelaskan bahawa kebebasan bersuara dalam media sosial telah mempengaruhi bentuk penggunaan bahasa yang salah seperti bahasa singkatan. Tambahnya, Malaysia memberikan kebebasan bersuara kepada rakyatnya sejajar dengan Perkara 10(1)(a) Perlembagaan Persekutuan. Namun, kebebasan bersuara ini digunakan secara tidak terkawal menyebabkan bahasa yang digunakan untuk meluahkan pendapat juga menjadi rancu. Media sosial sememangnya banyak membantu urusan komunikasi kerana sifatnya yang mudah, murah dan pantas. Namun, masalah kerancuan berbahasa yang digunakan dalam medium tersebut boleh menggugat kedudukan Bahasa Melayu sendiri apabila pengguna tidak menitikberatkan penggunaan bahasa yang betul. Kualiti bahasa dalam media sosial akan bercelaru dan pengguna akan mengalami kekeliruan dalam berbahasa kerana penggunaan bahasa yang tidak tepat telah menjadi amalan dalam komunikasi seharian.

Perkembangan media sosial telah membawa perubahan signifikan terhadap penggunaan bahasa. Dalam konteks Bahasa Melayu, fenomena pemilihan kata oleh Generasi Z di media sosial menimbulkan beberapa persoalan penting:

1. Apakah bentuk-bentuk kata yang dominan digunakan oleh Generasi Z di media sosial?
2. Apakah faktor yang mempengaruhi pemilihan kata dalam kalangan Generasi Z?
3. Bagaimanakah pemilihan kata ini memberi kesan terhadap kualiti dan pemeliharaan Bahasa Melayu?

Kajian ini bertujuan untuk menjawab persoalan-persoalan tersebut dengan menganalisis secara sistematik corak pemilihan kata dalam kalangan Generasi Z di pelbagai platform media sosial.

HASIL DAN PERBINCANGAN

Dapatan kajian menunjukkan bahawa, terdapat beberapa bentuk pemilihan kata yang dominan dalam kalangan Generasi Z, antaranya melibatkan kata slanga, penggunaan akronim, percampuran kod dan kata dasar. Selain daripada itu, terdapat juga faktor yang mempengaruhi pemilihan kata serta implikasi terhadap bahasa Melayu.

Kata slanga yang sering digunakan contohnya, istilah "gemoy" yang digunakan dalam konteks politik menunjukkan bagaimana slanga boleh menjadi alat penjenamaan diri yang efektif. Selain itu, penggunaan akronim yang ketara seperti GTG (got to go), "IMO" (*In My Opinion*), "blh" (boleh),"apa cer" (apa cerita),Ytjt (yang tau je tau) dan pelbagai lagi dapat dilihat dalam ruangan komen media sosial. Penggunaan singkatan ini sangat ketara dan semakin banyak digunakan oleh generasi Z.

Selain itu, generasi Z juga kerap menggunakan bahasa rojak atau mencampurkan bahasa antara bahasa Inggeris dengan bahasa Melayu serta penggunaan dialek dalam berkomunikasi di media sosial. Ini dikenali sebagai percampuran kod. Fenomena dan kebiasaan ini sekaligus membuatkan

penggunaan bahasa formal semakin sukar dipelihara. Manakala penggunaan bahasa rojak yang semakin berleluasa.

Contoh 1 (Komen di TikTok):

"Savage gila sis! Tapi jangan layan sangat, nanti dia makin over. Bagi chill je, nanti dia faham sendiri. Confirm dia akan back off."

Contoh 2 (Kapsyen Video di YouTube Shorts):

"Hari ni I nak buat challenge masak nasi goreng dalam 5 minit. Tapi sebab I terlalu overconfident, akhirnya hangit! Padahal I dah follow semua steps. Endingnya, I order GrabFood je la. Bye-bye challenge!"

Melalui contoh yang diberikan dapat dilihat impak yang diterima daripada penggunaan kata seru dan kata kerja bahasa inggeris yang menggantikan frasa Melayu yang setara. Ini menunjukkan bahawa terdapat kecenderungan memilih untuk menggunakan perkataan bahasa inggeris yang dilihat 'trendy' walaupun ada padanan bahasa Melayu. Dapat dilihat bahawa pemilihan kata oleh generasi Z lebih cenderung kepada bahasa inggeris yang ringkas berbanding menggunakan bahasa Melayu yang dianggap panjang dan kaku.

Namun jika fenomena ini berterusan tanpa kesedaran untuk memelihara bahasa formal, maka impaknya dapat dilihat pada generasi akan datang. Generasi akan datang mungkin menganggap penggunaan bahasa rojak ini merupakan satu penggunaan bahasa yang normal dan semestinya mereka akan mengalami kesukaran dalam membina ayat dalam surat rasmi, karangan atau teks akademik yang perlu mengikut tatabahasa Dewan Bahasa dan Pustaka (DBP).

Terdapat jugafaktor yang mempengaruhi pemilihan kata generasi Z dalam media sosial. Antaranya ialah pengaruh media sosial dan algoritma, pengaruh rakan sebaya dan tuntutan kreativiti kandungan. Namun, terdapat kesan penggunaan bahasa ini terhadap kualiti dan pemeliharaan bahasa Melayu seperti kreativiti dan inovasi bahasa, cabaran pemeliharaan bahasa formal dan herotan komunikasi.

KESIMPULAN

Kesimpulannya, kajian ini menganalisis pemilihan kata dalam media sosial yang digunakan oleh generasi Z dengan merujuk perlbagai kajian lepas dan dapatan menunjukkan bahawa generasi Z cenderung menggunaan kata slanga, percampuran kod, kata singkatan (akronim) dalam media sosial. Kebanyakan pemilihan kata juga dipengaruhi oleh beberapa faktor sosial iaitu pengaruh media sosial dan algoritma, pengaruh rakan sebaya dan tuntutan kreativiti kandungan. Pemilihan kata ini sebenarnya berfungsi sebagai alat pembinaan identiti serta ekspresi kreativiti. Fenomena ini memberikan cabaran besar kepada generasi akan datang untuk mengekalkan penggunaan bahasa formal. Beberapa usaha perlu dilakukan bagi memelihara bahasa Melayu formal iaitu dengan menganjurkan kempen kesedaran bahasa, pertandingan permainan bahasa di sekolah dan perbanyakan lagi kajian tentang rancu bahasa.

PENGHARGAAN

Penulisan ini merupakan sebahagian daripada kajian penyelidikan dalam Geran Galakan Pengurusan dan Profesional (GGPP) dengan kod CITRA-2020-004.

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Reaching the Surface of B1: A Grammatical and Lexical Profile of Scaffolded CEFR A2 Academic Writing

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ABSTRACT

Profiling learner writing against the criterial features of a target level promises a precise account of where students sit, but it is seldom applied to the scaffolded output of low-proficiency writers, where a model may lend a text features the writer does not own. This study profiles the end-of-semester essays of CEFR A2 undergraduates in a low-proficiency English course (LMCE) at a Malaysian public university, against the English Grammar Profile and an English Vocabulary Profile-aligned frequency analysis. The 22 scripts (5,453 words) followed a ten-lesson intervention teaching B1 grammar through model-text deconstruction. The grammatical profile realised the B1 descriptors for organising text but almost none for clause combination: conditional, concession, relative, and purpose structures were absent or vestigial. Lexically, 88.6 per cent of words fell in the two highest-frequency bands and only 11.2 per cent reached B1 or beyond, an A1-to-A2 signature. Recomputed over self-generated text, every band moved less than one percentage point, locating the floor in the writers themselves. The error families that depressed accuracy, agreement, articles, and number, were untaught. Profiling places these writers at the surface of B1 in organisation and at A2 in grammar and lexis, and shows that a scaffold can raise a text's visible architecture without raising the language that fills it.

Keywords: English Grammar Profile; English Vocabulary Profile; CEFR; lexical frequency profiling; learner corpus

INTRODUCTION

To say that a learner is at a level is a claim that corpus-based reference tools have made newly testable. The English Grammar Profile sets out, structure by structure, the grammar that learners are observed to control at each CEFR level (O'Keeffe & Mark, 2017); its companion English Vocabulary Profile does the same for words and their meanings (Capel, 2012); and both rest on the criterial-features programme that asks which forms reliably separate one level from the next (Hawkins & Filipović, 2012). Applied to learner writing, these inventories turn an impressionistic level label into a feature-level profile. They are seldom turned on the writing foundation courses actually produce, which is short, single-task, and often heavily scaffolded, conditions under which a profile can be read off a text that is not wholly the learner's own.

The LMCE course, for first-year undergraduates at Universiti Kebangsaan Malaysia, presents that case. Most students enter at A2, the institution operates under English-medium instruction (Macaro et al., 2018), and the course's ten-lesson module taught B1 grammatical structures through model-text deconstruction. Three questions follow. What does a grammatical profile of the output against the English Grammar Profile B1 inventory reveal? What does a lexical-frequency profile reveal about the writers' vocabulary range? And does removing language copied verbatim from the model change the profile?

METHODOLOGY

Design and corpus. The study is a corpus-based profiling analysis of the end-of-semester writing of one A2 cohort in the LMCE course: the 22 complete scripts, 5,453 words at a mean of 248, with one fragment excluded. Because all writers answered a single prompt, the figures profile these learners on this task and are not read as their general range, a caution the task-effects literature makes necessary (Alexopoulou et al., 2017).

Profiling instruments. The grammatical profile matched the taught and adjacent B1 structures against the English Grammar Profile B1 inventory, recording occurrence and dispersion across scripts. The lexical profile banded every running word by corpus frequency as a proxy for the English Vocabulary Profile levels, using Zipf thresholds (A1 core at 5.5 and above, A2 high 4.5 to 5.5, B1 mid 3.5 to 4.5, B2 and above below 3.5, off-list for unmatched tokens), after a normalisation pass correcting frequent misspellings so real words were not misclassified. A 0-to-3 severity scale recorded five error families.

Data analysis. We report band distributions and the proportion reaching B1 frequency or beyond, per-essay type-token ratios, and off-list rates before and after spelling normalisation. To test whether the profile was inflated by retained model wording, each script was partitioned into spans shared verbatim with the instructional corpus, four words or longer, and self-generated spans, and the lexical bands were recomputed over the self-generated text alone. The frequency banding is an interim proxy; the manuscript will recode the lexis through the English Vocabulary Profile and add the A2 inventory as a formal floor.

RESULTS AND DISCUSSION

Against the English Grammar Profile B1 inventory, the corpus realised the descriptors for organising text, the sequencing and contrast markers, but almost none for clause combination. The first and second conditional appeared once across the corpus, purpose and result clauses not at all, concession eight times and mostly as the looser while, and defining relative clauses seven times in five scripts. A profile is as informative in its absences as in its presences (Granger, 2015), and the absence here is systematic: the B1 grammar that distinguishes the level from A2 is the clausal grammar, and it is precisely that grammar the corpus lacks.

The lexical profile is consistent with the grammatical one. Of all running words, 57.3 per cent fell in the highest-frequency band and a further 31.3 per cent in the next, so 88.6 per cent of the text drew on the two most frequent bands, with 11.2 per cent reaching B1 frequency or beyond and 0.3 per cent off-list after spelling normalisation, against 1.0 per cent before it (Figure 1; Table 1). A profile weighted this heavily toward the commonest words is the established signature of limited productive vocabulary (Laufer & Nation, 1995), and the proportion reaching mid-frequency bands falls well short of the range associated with independent academic reading and writing (Nation, 2006).

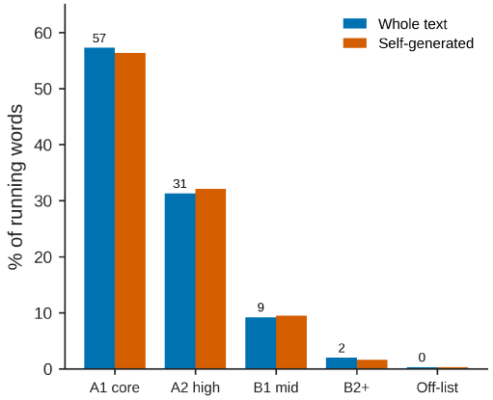

Figure 1. Lexical-frequency profile, whole text and self-generated text. Almost 89 per cent of tokens fall in the two highest-frequency bands, and the profile barely changes when borrowed wording is removed.

The decisive analysis removes the model's contribution. Recomputed over self-generated text only, every frequency band moved by less than one percentage point. The lexical floor is therefore the writers' own and not an artefact of retained model wording; the scaffold did not lend them vocabulary, it lent them only structure. The error record points the same way. The families that most depressed accuracy, subject-verb agreement at a mean severity of 1.77 of 3, article use at 1.68, spelling at 1.64, copula and verb form at 1.50, and number at 1.23, are the inflectional and determiner systems an A2 writer has not yet stabilised, and none belonged to the taught syllabus.

The profile that emerges is coherent and slightly paradoxical. On the surface of organisation these writers touch B1, because the course taught them to; in the grammar and vocabulary that define the level they remain at A2, because neither the clausal grammar nor the lexical range can be installed by imitation alone. Profiling scaffolded writing is feasible and informative provided the model's contribution is partialled out, and the exercise yields a sharper developmental target: the move from A2 to B1 for this population is a move in clause

grammar and mid-frequency vocabulary, not in the rhetorical staging they already manage.

Table 1. Lexical-frequency profile, whole text and self-generated text only.

Frequency band	Whole text	Self-generated text
A1 core (very high frequency)	57.3%	56.4%
A2 high	31.3%	32.1%
B1 mid	9.2%	9.5%
B2 and above (lower frequency)	2.0%	1.6%
Off-list (after spelling normalisation)	0.3%	0.3%

CONCLUSION

Profiled against the English Grammar Profile and an English Vocabulary Profile-aligned frequency analysis, the writing of these A2 undergraduates reaches the organisational surface of B1 while its grammar and lexis remain at A2: clause-combining structures are absent or vestigial, 88.6 per cent of words sit in the two highest-frequency bands, and the profile barely moves when model wording is removed. The study is bounded by one cohort, one prompt, a frequency proxy standing in for full English Vocabulary Profile coding, and the absence of the A2 inventory as a formal baseline. Its contribution is twofold: a method for profiling scaffolded low-proficiency writing that guards against crediting the model, and a precise developmental target for A2-to-B1 instruction that points at clause grammar and vocabulary depth rather than at the staging these writers have already acquired.

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The Borrowed and the Built: Formulaic Reliance and Content Intrusion in Model-Text Writing at CEFR A2

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ABSTRACT

Model-text pedagogy assumes that imitation is a route to construction, that copying a frame today seeds independent production tomorrow. This study asks what CEFR A2 writers borrow and what they build when they carry a taught model to a new topic. In a low-proficiency English course (LMCE) at a Malaysian public university, A2 undergraduates were taught a single argumentative model through deconstruction and substitution, then wrote an end-of-semester essay on an unrehearsed topic. Partitioning the 22 scripts (5,453 words) into spans shared verbatim with the model corpus and self-generated spans, verbatim borrowing reached 11.3 per cent of tokens overall, ranging from 1.5 to 23.0 per cent across writers. The productive discourse markers survived the partition almost intact, showing genuine control, but one feature behaved as pure formula: the two-sided on the one hand frame, present 31 times, fell to zero in self-generated text, reproduced as an unanalysed chunk and never rebuilt. Content from the model intruded into seven of the 22 scripts; the heaviest, topic-level intrusion coincided with the weakest substitution, yet single-phrase imports surfaced even in well-substituted scripts. The findings place this writing on a continuum from formula to construction and suggest model-text instruction can deliver chunk-based fluency that masks, rather than seeds, the grammar it is meant to build.

Keywords: formulaic language; lexical bundles; textual borrowing; model-text instruction; second language writing

INTRODUCTION

Much of fluent language is formulaic, stored and retrieved as whole sequences rather than assembled word by word (Wray, 2002), and the multi-word bundles that organise academic prose are among the most formulaic of all (Biber et al., 2004). For the second language writer this is a double inheritance. Control of the right formulas marks developing competence (Li & Schmitt, 2009), yet a formula can also be produced with no grasp of its internal grammar, retrieved as a chunk that looks more advanced than the system behind it. Model-text pedagogy leans on this property, handing learners ready-made frames to imitate, on the usage-based premise that frequent, salient sequences are the raw material from which grammar is later abstracted (Ellis, 2002). Whether that abstraction happens, or whether the chunk stands in for the grammar, is an empirical question the products of a model-based course can answer.

The LMCE course, for A2 undergraduates at Universiti Kebangsaan Malaysia (Macaro et al., 2018), has as its central method model-text deconstruction and substitution: a model essay is taken apart, its connective frame retained, and its content words replaced to fit a new title. The method sits close to a tension the field knows well, between sanctioned imitation and textual borrowing, where reusing another text's language is at once a normal stage of development and a practice that can shade into patchwriting (Keck, 2006; Pecorari, 2003). Three questions organise the analysis. How much of an A2 writer's independent essay is borrowed verbatim from the model, and how

much is self-generated? Which taught features survive when borrowed spans are removed, and which collapse? And how often does the model's content, not merely its structure, intrude into writing on a new topic?

METHODOLOGY

Design and corpus. The study is a corpus-based analysis of formulaic reliance in the end-of-semester writing of one A2 cohort in the LMCE course: the 22 complete scripts, 5,453 words, with one fragment excluded. A reference corpus of the instructional materials was assembled from the model essay used for deconstruction, the ten lesson model texts, and the substitution worksheet.

Partition procedure. Each script was tokenised and partitioned into borrowed spans, defined as any string of four words or longer shared verbatim with the reference corpus, and self-generated spans. This identifies copied wording while, by design, undercounting looser templating in which a frame is retained but its content words are swapped, so the borrowing figures are a floor rather than a ceiling.

Data analysis. We report the proportion of borrowed tokens per script and across the corpus, and recompute the count of each taught feature over self-generated text to distinguish features the writers controlled from features that appeared only inside borrowed spans. Separately, every instance in which the model's content, rather than its structure, appeared in a script was catalogued by source and cross-tabulated against the writer's substitution-success rating. The analysis is cross-sectional and so describes the state of these writers' production rather than its development.

RESULTS AND DISCUSSION

Verbatim borrowing accounted for 11.3 per cent of all tokens, ranging from 1.5 per cent in the most independent scripts to 23.0 per cent in the most template-bound, a spread that indexes how differently writers related to the model. The more telling result is what the partition did to each taught feature (Figure 1; Table 1). The productive markers barely moved: contrastive however fell only from 26 occurrences to 23 in self-generated text and sequencing from 52 to 45, showing these connectives were under the writers' own control. One feature behaved in the opposite way. The two-sided on the one hand frame, present 31 times across the corpus, fell to zero when borrowed spans were removed: it appeared only where it was reproduced whole and was never reconstructed independently. This is the empirical shape of a formula retrieved but not analysed, present in the product yet absent from the writer's generative system (Wray, 2002).

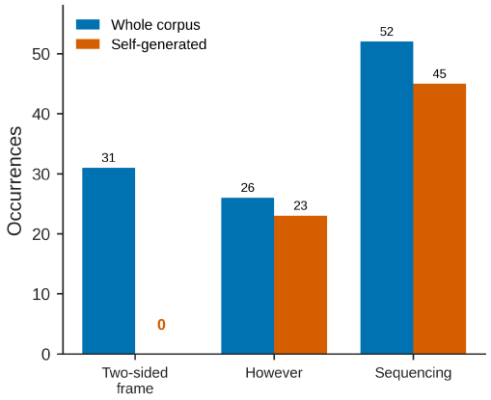

Figure 1. Occurrences of three taught markers in the whole corpus and in self-generated text. The two-sided frame falls to zero, reproduced only as a borrowed chunk.

Borrowing extended beyond structure to content. In seven of the 22 scripts, material from the instructional materials migrated into the new essay. The clearest case retained the model's topic wholesale, with one writer addressing studying alone yet producing "being heavily involved in club activities" and "wonderful opportunities to gain soft skill and build friendships," both lifted from the model on campus clubs; others imported a phrase about academic performance from the model's conclusion, or harmful content from a model used earlier in the course. Intrusion of this kind is the visible residue of incomplete substitution, continuous with the patchwriting that marks an early, transitional stage of second language source use (Keck, 2006; Pecorari, 2003). The relationship to control is partial rather than clean: the heaviest, topic-level intrusion occurred in the single script rated lowest for substitution, yet isolated single-phrase imports also surfaced in four otherwise well-substituted scripts, so competent re-topicalisation reduced but did not eliminate leakage.

Arranged along a continuum from formula to construction, the corpus separates into three layers: connectives the writers controlled and could deploy productively, a frame they could reproduce but not rebuild, and content they sometimes transplanted wholesale. The usage-based expectation that imitated chunks seed later grammar (Ellis, 2002) is not contradicted by these cross-sectional data, but neither is it supported: at this point the chunk is doing the work the grammar cannot, and whether it later decomposes into productive structure is what a single end-of-term snapshot cannot show. What the snapshot does show is a risk for assessment and teaching, since a model-text method can raise the surface fluency of A2 writing through

formulas that mask the absence of the underlying system.

Table 1. Borrowed versus self-generated language, key features.

Feature / measure	Whole corpus	Self-generated	Status
Two-sided frame (on the one/other hand)	31	0	reproduced as a chunk
Contrast: however	26	23	productively controlled
Sequencing (firstly, secondly, finally)	52	45	productively controlled
Verbatim borrowing (all tokens)	11.3%	—	range 1.5% to 23.0% per script
Content intrusion	7 / 22	—	model content imported

CONCLUSION

Partitioning A2 writing into the borrowed and the built locates it on a continuum: discourse markers the writers genuinely controlled, a two-sided frame reproduced as an unanalysed chunk and never independently rebuilt, and, in a third of scripts, content transplanted from the model into a new topic. The study is limited to one cohort and one prompt, its borrowing measure captures verbatim overlap and so understates looser templating, and its cross-sectional design cannot show whether today's chunk becomes tomorrow's grammar. Its contribution is a cautionary distinction for model-text pedagogy at low proficiency: imitation reliably delivers formulaic fluency, that fluency can mask an absent grammar, and instruction should therefore treat the borrowed frame as a starting scaffold to be dismantled, not as evidence that construction has been achieved.

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Integrating Integrity and Anti-Corruption Education in Malaysian Higher Education: The KIAR Course as a Framework for Multidisciplinary Lifelong Learning

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ABSTRACT

The Kursus Integriti dan Antirasuah (KIAR) – the Integrity and Anti-Corruption Course – is a landmark initiative by the Malaysian Ministry of Higher Education (KPT) to institutionalise integrity and anti-corruption values across all institutions of higher learning (IPT). Mandated as a compulsory university course (Mata Pelajaran Pengajian Umum, MPU), KIAR is designed to cultivate graduates who are not only academically competent but ethically grounded and socially responsible. This paper examines the development, structure, and pedagogical underpinnings of KIAR as implemented at Universiti Kebangsaan Malaysia (UKM), with particular reference to the course framework documented in Table 4 (LMCW2152) and the governance structure of the Technical and Development Committee (Jawatankuasa Teknikal dan Pembangunan KIAR, JPT, KPT, 2025). The paper argues that KIAR exemplifies a multidisciplinary, human-centred approach to lifelong learning – directly aligned with the theme of iCiTRA 2026: Multidisciplinary Education for Human-Centred Lifelong Learning. By integrating experiential learning methodologies, case-based instruction, and community-oriented assessments, KIAR models how to embed ethical education within liberal studies.

Keywords: Integrity Education, Anti-Corruption, Higher Education, MPU, Lifelong Learning.

INTRODUCTION

Corruption remains one of the most persistent obstacles to sustainable development, good governance, and social equity worldwide. In Malaysia, combating corruption has relied not only on legislation and enforcement – notably the Malaysian Anti-Corruption Commission Act 2009 (SPRM 2009) – but increasingly on education. Recognising that durable change must be rooted in culture and values rather than coercion alone, the Malaysian government has integrated anti-corruption and integrity education into the national higher education landscape through KIAR.

KIAR is a compulsory MPU course offered across all categories of Malaysian institutions of higher learning (IPT). It is premised on the conviction that universities are sites of character formation as much as knowledge production. By instilling understanding of integrity, awareness of corrupt practices, and commitment to ethical conduct, KIAR aims to produce graduates who act as agents of positive change within their organisations and communities.

The introduction of KIAR was driven by a convergence of national imperatives, most notably Malaysia's National Anti-Corruption Plan (NACP) 2019–2023, developed by the Centre for Governance, Integrity and Anti-Corruption (GIACC), which identified education as a key pillar in combating corruption (Pusat Governans, Integriti dan Antirasuah Nasional, 2019). The Ministry of Higher Education (KPT), through its Department of Higher Education (JPT), subsequently mandated KIAR as a compulsory component applicable across all accredited institutions – positioning the course simultaneously as a policy instrument, a values education framework, and a liberal studies requirement. This paper analyses the KIAR framework as implemented at UKM, drawing on the course information summary (Table 4, LMCW2152) and the governance structure of

the Jawatankuasa Teknikal dan Pembangunan KIAR (JPT, KPT, 2025).

RESULTS AND DISCUSSION

Course Design and Learning Outcomes. The KIAR course at UKM (course code LMCW2152) carries two credit hours, is classified as a compulsory university course, has no prerequisites, and is offered in both semesters to ensure broad access. It covers the fundamental concepts of corruption, integrity values, forms of corrupt behaviour, abuse of power, and methods of prevention, contextualised through real-world cases. Three progressive Course Learning Outcomes (CLOs) structure the course: CLO1 requires students to explain the concepts of integrity and anti-corruption; CLO2 requires evaluation of forms of corruption and abuse of power; and CLO3 requires students to relate integrity values to current issues. These CLOs are mapped onto the Malaysian Qualifications Framework (MQF) clusters of Ethics and Professionalism, Interpersonal Skills, and Personal Skills, and are further aligned with UKM's Programme Learning Outcomes (PLO11, PLO4, PLO9).

Pedagogical Approach and Assessment. KIAR is distinguished by its experiential pedagogy (pembelajaran berdasarkan pengalaman), delivered through interactive lectures, case-based learning, and individual and group activities across fifteen teaching weeks – spanning topics such as the foundations of integrity, corruption offences under the SPRM Act 2009, corporate liability, white-collar crime, and government reporting channels. Assessment is fully continuous, with no final examination, reinforcing the course's reflective and applied character (Table 1). The Student Learning Time (SLT) totals approximately 80 hours, with 33.3% allocated to face-to-face instruction and the remainder to technology-mediated and independent learning, aligned with UKM's EXCEL Framework and REAL (Research-Infused Experiential Learning) principle.

Table 1. KIAR assessment structure and corresponding learning outcomes

Assessment Component	Weighting	Corresponding CLO
Quiz	20%	CLO1 – Conceptual understanding of integrity and anti-corruption
Case Study Presentation	40%	CLO2 – Evaluation of corruption and abuse of power
Report / PSA Video	40%	CLO3 – Relating integrity values to current issues

Governance and Quality Assurance. The Jawatankuasa Teknikal dan Pembangunan KIAR, established under JPT-KPT, serves as the principal advisory and quality assurance body for the course nationally. Its Terms of Reference outline seven functions: advisory guidance to KPT; strategic (think-tank) planning; development of a standardised KIAR proforma; development of Training of Trainers (ToT) modules; implementation of ToT programmes; development of a digital KIAR module; and monitoring and evaluation of implementation quality across all IPTs. This multi-layered governance architecture combines centralised standard-setting with institutional flexibility, drawing expertise from academia, government agencies, professional bodies, and civil society.

KIAR as a Model for Multidisciplinary, Human-Centred Lifelong Learning. KIAR embodies the iCiTRA 2026 theme across three dimensions. Multidisciplinarity is evident as course content draws on law, sociology, psychology, communications, and public policy, with assessment tasks requiring students to synthesise knowledge across these domains. Human-centredness is reflected in the course's emphasis on values, character, and ethical agency, reinforced through personal narratives – including Mohd Firdaus Ramlan's (2021) Tumbuk Rusuk – and the PSA video assignment, which requires students to communicate integrity values to real members of the public. Lifelong learning is cultivated through transferable competencies in ethical reasoning and communication that extend beyond the semester into students' future professional and civic roles.

Challenges and the Way Forward. Implementation is not without challenges. Authentic engagement remains a perennial concern, as integrity education is susceptible to performative compliance rather than genuine internalisation of values. Instructor preparedness and pedagogical consistency across Malaysia's diverse IPT landscape require sustained investment in the ToT programme and communities of practice. The development of a digital KIAR module presents both opportunity and risk, as digital delivery must be balanced against the dialogic and relational dimensions central to values education. Finally, longitudinal impact assessment remains underdeveloped, and an alumni feedback and tracking mechanism – potentially in partnership with MACC, employers, and civil society – would strengthen the evidence base for the course.

CONCLUSION

KIAR is far more than a compulsory course requirement; it is an educational intervention

rooted in the conviction that universities bear responsibility for shaping the moral character and civic identity of their graduates, alongside their academic competence. Through its multidisciplinary content, experiential pedagogy, outcome-based design, and robust national governance framework, KIAR exemplifies human-centred, lifelong learning in practice. As implemented at UKM, the course demonstrates how abstract values of integrity and anti-corruption can be rendered tangible through case studies, video production, quiz-based reflection, and peer presentation. As Malaysia continues to advance its national integrity agenda, KIAR stands as both a policy achievement and an educational model with strong potential to inform similar initiatives across the region, contributing to the wider global conversation on how higher education can serve the cause of integrity, ethical governance, and human flourishing.

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From Linguistic Advantage to Employability: A Decade Review of Malaysian Students and Cross-Border Talent Development in Taiwan

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ABSTRACT

Over the past decade, This coincides with the promotion of the New Southbound Policy, the internationalization of higher education and the recruitment of international talent in Taiwan. In comparison with students from various other Southeast Asian countries, a large number of Malaysian students, especially students from Chinese-educated backgrounds, enter Taiwan with pre-existing Mandarin language skills, multilingual skills, and cross-cultural experience. These features are potential linguistic and cultural advantages in higher education and the labor market. Previous studies, however, have focused mainly on the motivations for studying abroad, learning adaptation and cultural integration, with relatively little research on how these pre-existing linguistic advantages are transformed into employability and cross-border career opportunities. Methodology of the article is literature review, policy analysis Data is from official statistics, government policies and regulations, domestic and foreign literature from 2016 to 2026. It addresses the development of Taiwan's higher education, policies on international students' employment and retention of talents, focusing on the interaction between Mandarin language skills and multilingualism on one hand and professional training, employment institutions and labor market opportunities on the contrary. Rather than seeing Mandarin proficiency as an educational output, this study conceptualizes linguistic competence as a kind of pre-existing human capital whose value of employment is determined by its transformation within the education-to-work transition process in Taiwan. The analysis suggests that Taiwan's international talent policy has gradually moved from an emphasis on overseas recruitment to talent retention. However, language skills do not necessarily mean successful integration into the labor market. However, there are still gaps between higher education and employment policy, industry-academia cooperation, and career support and pathways for international graduates to remain and work in Taiwan. The article asserts that Taiwan's talent development strategy should go beyond language education, and also enhance the integration of linguistic capital, professional skills, industry connection, and employment support. Such an approach would better enable Taiwan to harness the existing advantages of Malaysian students into sustainable cross-border talent development and retention.

Keywords: Malaysian Students, employability, Mandarin Proficiency, Labor Market Integration.

INTRODUCTION

Over the past decade, with the internationalization of higher education, the New Southbound Policy, and policies to attract overseas talent, Southeast Asian students have gradually become an indispensable part of Taiwan's higher education. For Taiwan, enrolling international students not only carries significance for educational exchange and campus internationalization but also begins to connect with issues such as declining birth rates, talent shortages, and international industrial layout. As a result, international students are no longer just short-term students coming to Taiwan for study; they are also expected to enter the Taiwanese labor market after graduation or serve as a talent bridge between Taiwan and Southeast Asia (Wong, 2016). With this policy shift, how to smoothly transition international students from "studying in Taiwan" to "graduation and employment" has become a challenge jointly faced by Taiwan's higher education and talent policies.

Among Southeast Asian students studying in Taiwan, Malaysian students occupy a relatively distinctive position. Educational exchanges between Taiwan and Malaysia did not begin with the New Southbound Policy. With the long-term development of Chinese language education, overseas Chinese student advancement systems, and private education networks, studying in Taiwan has long been an important choice for some Malaysian students. Especially those with independent Chinese secondary schools or other Chinese language education backgrounds usually already possess outstanding Mandarin skills before coming to Taiwan, and some can also use English, Malay, and other languages (Tang, 2019). Compared to international students who need to relearn Mandarin after arriving in Taiwan, these students may have lower language adaptation barriers in curriculum understanding, daily life, and interpersonal interactions.

However, simply assuming that Malaysian students have better employment conditions is still oversimplifying(Winnie Yee, 2024). Malaysia is a country with diverse ethnic groups and a multilingual environment. Students' language abilities are influenced by ethnicity(Huang, 2022), family background, schools, and education systems; not all Malaysian students have the same level of Mandarin. Even having good daily Mandarin communication skills does not mean they can directly handle professional writing, business communication, industry terminology, and organizational coordination requirements. In other words, language proficiency can help students enter Taiwan's educational and living environment, but it does not necessarily translate into stable job opportunities and long-term career development.

Therefore, "speaking Mandarin" and "having employability" are actually two different issues. Employability is influenced not only by language skills but also by professional training, internship experience, industry exposure, interpersonal networks, corporate attitudes, and work and residence systems. For Malaysian students, their Mandarin and multilingual abilities can be considered an existing advantage, but this advantage must be combined with professional knowledge and actual work experience and recognized by companies and systems to further transform into competitiveness in the labor market (Ball & Chik, 2001). If higher education still focuses on language learning and life adaptation for international students without comprehensive career guidance, industry matching, and post-graduation support, students' original language strengths may remain at the level of daily communication and cannot be extended into practical career opportunities.

A review of past research reveals that discussions about Malaysian students' experiences in Taiwan have mostly focused on study abroad motivation, learning adaptation (Huang, Zhou, 2014), cultural identity, and life integration. These studies help understand why students choose Taiwan and how they adapt to Taiwan's education and social environment, but there is still a lack of comprehensive discussion on how students enter the labor market after graduation and how language skills are transformed and applied in the process from education to employment. On the other hand, Taiwan's recent policies for overseas students have gradually shifted from expanding enrollment to encouraging graduates to stay and work in Taiwan. However, whether there is a smooth connection between education policy, talent policy, and actual corporate needs still requires further review.

This article argues that Malaysian students' multilingual abilities should not be seen merely as tools for adapting to life in Taiwan. Students with proficiency in Mandarin, English, Malay, or other languages may also play important roles in Southeast Asian market development, international trade, cross-border e-commerce, supply chain management, and overseas expansion of Taiwanese businesses. Therefore, the "cross-border talent development" discussed in this article is not only about whether Malaysian students stay in Taiwan after graduation but also includes whether they can use their study experience and language skills in Taiwan to participate in industrial and talent flows between Taiwan, Malaysia, and other Southeast Asian countries. Even if students eventually return to Malaysia or develop their careers in other countries, they may continue to maintain connections with Taiwanese enterprises and society. If policy outcomes are measured solely by the number of people remaining in Taiwan, the long-term value of such cross-border talent networks may be overlooked.

Based on the above background, this paper observes the period from 2016 to 2026, employing literature review and policy analysis methods to organize the development of Taiwan's policies for education, employment, and talent recruitment for overseas students, and analyzes Malaysian students in the transition from education to employment. This paper mainly focuses on three issues: First, how Taiwan's policies for recruiting and retaining Malaysian students have developed over the

past decade; Second, how Malaysian students' existing Mandarin and multilingual abilities can be linked to professional education, industry demands, and workplace opportunities; Third, what issues in the current higher education and employment systems hinder the conversion of language advantages into employability?
This article argues that the core issue for Malaysian students' development in Taiwan is not whether they possess Mandarin proficiency, but whether Taiwan's education and employment system can further transform existing language and cross-cultural skills into professional competencies recognizable by the labor market. Through a review of policies and literature over the past decade, this paper aims to explain the relationship among language advantages, professional training, industry connections, and employment systems, and to reconsider how Taiwan can move from recruiting international students to a more sustainable cross-border talent cultivation.

RESULTS AND DISCUSSION

This article organizes the topics discussed into the following three points:

1. The language and cross-cultural advantages of Malaysian students
This article summarizes the characteristics of Malaysian students studying in Taiwan. It can be seen that some students already possess Mandarin proficiency before coming to Taiwan, as well as English, Malay, and multicultural experience, giving them certain advantages in learning adaptation, interpersonal interaction, and cross-border communication. However, Malaysian students have ethnic and educational differences within their backgrounds, so it cannot be considered that all students have the same Mandarin proficiency.

2. The gap between language advantage and employability
Although discussing Chinese language proficiency can lower the threshold for learning and adapting to life, it does not naturally translate into employment outcomes. Whether students can smoothly enter Taiwan's labor market still depends on professional skills, internship experience, industry exposure, company hiring intentions, and employment and residency policies. Language employment advantages are fundamentally related to international students' career paths, so in-depth discussion is necessary.

3. From staying in Taiwan for employment to cross-border talent development
The value of Malaysian students should not be measured solely by whether they remain in Taiwan after graduation. Even if students return to Malaysia or travel to other countries, they may join Taiwanese businesses or multinational companies, becoming cross-border talents connecting Taiwan with Southeast Asian markets. Therefore, Taiwan's talent policy should shift from pursuing the number of students remaining in Taiwan to integrating language skills, professional training, industry collaboration, and career support.

CONCLUSION

This article reviews the development of Taiwan’s education and employment policies concerning Malaysian students between 2016 and 2026. It finds that although Mandarin proficiency and multilingual abilities can facilitate academic adjustment, social interaction, and cross-border communication, these advantages do not automatically translate into employability. Students’ transition into the labor market also depends on their professional skills, internship experience, industry exposure, employers’ willingness to hire international graduates, and the accessibility of work and residence pathways. Taiwan’s talent policy should therefore move beyond its emphasis on international student enrollment and graduate retention by strengthening the links between language abilities, professional training, career guidance, and industry needs. Moreover, Malaysian graduates who return home may continue to contribute as cross-border professionals connecting Taiwan with Malaysia and other Southeast Asian markets. Future research could include interviews with students, graduates, employers, and university representatives to examine how linguistic advantages are transformed into career opportunities in practice.

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THEME 4: POLICY AND GOVERNANCE OF LIBERAL, CITRA AND GENERAL STUDIES (MPU) EDUCATION

Conceptualizing Integrity in AI Governance: Extending Existing Frameworks Using the Malaysian Context

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ABSTRACT

Artificial intelligence (AI) governance frameworks have advanced rapidly in recent years, yet integrity and ethical accountability remain underdeveloped dimensions in many national approaches. Malaysia's performance in the 2025 AGILE Index illustrates this imbalance, where strong regulatory readiness and institutional capacity coexist with comparatively weaker transparency, accountability, and public trust. This paper introduces the AI Decision Integrity Framework (ADIF), a conceptual governance model that integrates ethical blindness theory and moral cognition principles into the evaluation of AI decision-making systems. The framework extends existing governance indices by embedding Integrity and Anti-Corruption as explicit governance pillars, operationalized through an Integrity Implementation Loop that supports continuous ethical reflection and accountability.

Keywords: AI governance, Decision integrity, Ethical AI, Public sector governance, Malaysia

INTRODUCTION

Artificial Intelligence (AI) is increasingly embedded in public administration and strategic governance systems. While regulatory frameworks and standards have evolved to address technical risks, many governance systems remain compliance-driven rather than integrity-driven. Compliance ensures adherence to rules, but it does not necessarily guarantee ethical decision outcomes or public trust. This study proposes the AI Decision Integrity Framework (ADIF) as a structured governance model that embeds integrity into decision processes.

Recent global governance assessments indicate that the effectiveness of artificial intelligence systems is increasingly judged not only by technical performance but also by ethical reliability, transparency, and accountability in decision outcomes. As AI systems influence public resource allocation, regulatory enforcement, and financial risk assessment, governance institutions must ensure that automated decisions remain aligned with societal values and public interest. In many emerging digital economies, including Malaysia, institutional readiness and regulatory infrastructure have advanced rapidly, yet mechanisms for continuous ethical oversight and integrity assurance remain unevenly implemented. This creates a governance gap between formal policy compliance and real-world ethical performance, highlighting the need for structured governance models capable of integrating ethical reflection into operational decision cycles.

Accordingly, the proposed AI Decision Integrity Framework positions integrity as a measurable governance variable, enabling institutions to systematically monitor ethical risk, strengthen transparency, and sustain public trust in AI-enabled decision systems.

RESULTS AND DISCUSSION

The AI Decision Integrity Framework introduces five governance pillars—Accountability, Transparency, Ethics, Integrity, and Anti-Corruption—supported by a cyclical Integrity Implementation Loop comprising awareness, assessment, alignment, action, and accountability stages. These mechanisms provide a structured process for identifying ethical risks, evaluating governance performance, and implementing corrective actions.

In operational terms, the five governance pillars function as institutional control points that translate ethical principles into measurable governance practices. Accountability ensures that decision responsibility remains traceable to identifiable actors, while transparency enables stakeholders to understand how algorithmic decisions are generated and reviewed. The ethics pillar promotes systematic evaluation of fairness

and bias risks, whereas the integrity pillar safeguards consistency between institutional values and operational behaviour. The anti-corruption pillar strengthens governance resilience by detecting undue influence, misuse of automated decision systems, and conflicts of interest.

The Integrity Implementation Loop provides the dynamic mechanism through which these pillars are continuously monitored and improved. Rather than treating ethical review as a one-time compliance exercise, the loop institutionalizes periodic assessment and corrective feedback within governance workflows. This iterative process enables early detection of ethical risk signals, supports adaptive policy adjustments, and reinforces organizational learning. As a result, governance performance shifts from static rule enforcement toward continuous ethical assurance, which is increasingly recognized as a critical determinant of public trust in digital governance environments.

Collectively, these mechanisms demonstrate how integrity can be operationalized as a governance capability rather than a symbolic value, thereby strengthening institutional legitimacy and long-term policy effectiveness.

Table 1. Comparative Governance Models: Compliance-Based vs Integrity-Based AI Governance

Governance Dimension	Compliance-Based Governance Model	Integrity-Based Governance Model (ADIF)	Operational Impact
Decision Focus	Rule adherence and regulatory conformity	Ethical reliability and accountable decision outcomes	Improves legitimacy of automated decisions
Risk Management	Reactive response to detected failures	Proactive identification of ethical and governance risks	Enables early intervention before system failure
Accountability	Distributed responsibility across departments	Clearly assigned decision ownership and oversight authority	Strengthens traceability and auditability
Transparency	Limited disclosure after decision execution	Continuous disclosure and explainability of decision logic	Enhances public trust and stakeholder confidence
Governance Cycle	Periodic compliance audits	Continuous ethical review through Integrity Implementation Loop	Supports adaptive governance and learning
Institutional Outcome	Regulatory compliance achieved	Sustainable ethical governance performance	Long-term governance resilience

This comparison demonstrates that the transition from compliance-based governance to integrity-based governance is not merely a regulatory shift but an operational transformation in how institutions monitor, evaluate, and improve decision integrity within AI-enabled systems.

Table 2. Example Operational Indicators for Measuring Integrity in AI Governance

ADIF Pillar	Example Indicator	Measurement Method	Governance Output
Accountability	Named decision owner assigned to AI system	Document verification	Clear responsibility chain
Transparency	Algorithm explanation provided to stakeholders	Audit checklist	Improved stakeholder understanding
Ethics	Bias risk assessment conducted before deployment	Risk scoring scale (0–5)	Reduced discriminatory outcomes
Integrity	Periodic ethical review completed	Review frequency monitoring	Consistent ethical oversight
Anti-Corruption	Conflict-of-interest declaration completed	Compliance verification	Reduced corruption risk

These indicators illustrate how ethical governance principles can be translated into measurable operational variables, enabling systematic monitoring of integrity performance within institutional decision systems.

Table 3. Example Application of the ADIF Framework in a Public Sector AI Decision System

Governance Component	Example Implementation Activity	Measurement Method	Expected Governance Outcome
Accountability	Assign a designated decision owner for each AI-assisted public service decision	Verification of documented responsibility assignment	Clear traceability and decision ownership
Transparency	Provide explainable outputs for automated eligibility or approval decisions	Review of algorithm explanation reports	Improved stakeholder understanding and public confidence
Ethics	Conduct pre-deployment ethical risk and bias assessment for datasets and decision rules	Structured ethical risk scoring checklist	Reduced risk of discriminatory or unfair outcomes
Integrity	Perform periodic governance review of AI system performance and decision consistency	Scheduled integrity audit review cycle	Alignment between institutional values and operational decisions
Anti-Corruption	Implement conflict-of-interest declarations and independent oversight mechanisms	Compliance verification and monitoring logs	Reduced corruption risk and strengthened governance credibility

This example demonstrates how integrity-based governance principles can be operationalized within routine decision workflows, enabling institutions to translate ethical commitments into measurable governance practices.

Critical Governance Debate: Regulation vs Integrity in AI Systems

A central debate in contemporary AI governance concerns whether regulatory compliance alone is sufficient to ensure trustworthy automated decision-making. Traditional governance models assume that adherence to technical standards guarantees safe and ethical system behaviour. However, recent governance analyses suggest that compliance without ethical oversight may allow systemic bias, decision opacity, and accountability gaps to persist even when regulations are formally satisfied.

The integrity-based governance perspective therefore argues that ethical judgment and institutional responsibility must be embedded within operational workflows rather than applied retrospectively. This shift reframes governance from a rule-enforcement function into a continuous decision-quality assurance process, where institutions actively monitor ethical risk and maintain transparency throughout the system lifecycle.

From a governance systems perspective, integrity functions as a control mechanism analogous to quality assurance in engineering systems. Just as technical systems require continuous monitoring to maintain performance reliability, governance systems require continuous ethical oversight to maintain decision legitimacy. The AI Decision Integrity Framework therefore operationalizes integrity as a governance control loop that stabilizes institutional performance in complex digital environments.

CONCLUSION

Sustainable AI governance requires continuous ethical accountability rather than periodic regulatory compliance. The AI Decision Integrity Framework provides a practical governance pathway for integrating ethical reflection into institutional decision cycles and strengthening public trust in AI-enabled systems.

This study contributes to the growing discourse on responsible artificial intelligence governance by introducing the AI Decision Integrity Framework (ADIF) as a structured approach to embedding ethical accountability within institutional decision-making processes. The framework extends existing governance models by positioning integrity and anti-corruption as operational governance dimensions rather than abstract ethical ideals. In doing so, the study provides policymakers and public sector institutions with a practical mechanism for translating ethical principles into measurable governance practices.

From a policy perspective, the study is particularly relevant for emerging economies undergoing rapid digital transformation, where regulatory readiness often outpaces ethical oversight capacity. By aligning institutional governance indicators with continuous ethical reflection through the Integrity Implementation Loop, the framework supports improved transparency, risk management, and public trust in AI-enabled systems. The study therefore offers both conceptual and practical value by bridging the gap between technological capability and ethical governance performance, while providing a scalable governance reference for national and regional policy development.

Future research should focus on empirical validation and operational testing of the AI Decision Integrity Framework across real-world governance settings. One important direction involves conducting pilot implementations within public sector agencies to evaluate how integrity indicators and ethical review cycles influence decision quality, transparency, and institutional trust. Quantitative assessment methods, such as expert surveys, Delphi panels, or governance performance metrics, may be used to refine measurement scales and establish reliability across institutional contexts.

Comparative studies across ASEAN member states or similar digital governance environments would further strengthen the framework's generalizability and policy relevance. Additional research may also explore the integration of ADIF with existing AI governance standards, risk management systems, and organizational audit processes to assess interoperability and implementation feasibility. Such investigations would provide the empirical evidence necessary to transform the framework from a conceptual governance model into a standardized integrity assessment tool for responsible AI governance.

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Memperkasakan Jati Diri dan Peradaban Mahasiswa Menerusi Reka Bentuk Governan Imersif Kurikulum Baharu MPU U1

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ABSTRAK

Pengajian umum di Institusi Pengajian Tinggi (IPT) bertindak sebagai pasak utama pembentukan sahsiah dan identiti kebangsaan. Menerusi Surat Siaran Jabatan Pendidikan Tinggi (JPT) bertarikh 26 Februari 2026, Kementerian Pendidikan Tinggi (KPT) menguatkuasakan penstrukturan semula modul MPU Kelompok U1 merangkumi empat kursus baharu iaitu *Citra Malaysia, Perlembagaan dan Masyarakat Berintegriti (PMB), Falsafah dan Cabaran Semasa (FCS)*, dan *Aspirasi Negara Bangsa (ANB)*, di samping menyerap *Kursus Integriti dan Antirasuah* (KIAR). Walau bagaimanapun, pengajaran MPU kerap terperangkap dalam kaedah pasif sehingga berisiko mengehadkan penghayatan nilai jati diri mahasiswa. Kajian konseptual ini bertujuan menganalisis penstrukturan MPU U1 serta mengemukakan cadangan kerangka awal (*conceptual model*) pelaksanaan menerusi pemetaan pentaksiran berterusan 100% dan pedagogi pengalaman (*experiential learning*). Menggunakan analisis kandungan kritikal terhadap dokumen dasar JPT 2026 dan silibus U1 baharu, dapatan merumuskan kerangka awal merangkumi tiga mekanisme utama iaitu pemerkasaan jati diri menerusi projek perkhidmatan komuniti (*service learning*), pembinaan adab digital mendepani cabaran kecerdasan buatan (AI), serta pembudayaan integriti menerusi analisis dilema etika. Kajian ini diharapkan menjadi panduan konseptual kepada pengurusan IPT dan pensyarah dalam menterjemahkan kurikulum MPU U1 baharu secara berkesan.

Kata Kunci: MPU U1 baharu, governan imersif, jati diri kebangsaan, peradaban mahasiswa, pendidikan citra

PENGENALAN

Pendidikan pengajian umum di peringkat pengajian tinggi memainkan peranan sebagai wahana strategik dalam melahirkan modal insan berilmu, berakhlak mulia, dan mempunyai daya tahan jati diri yang utuh selaras dengan aspirasi Falsafah Pendidikan Kebangsaan, Rukun Negara, dan Perlembagaan Persekutuan. Menerusi pelancaran Tujuh Fokus Utama Kementerian Pendidikan Tinggi (KPT) (khususnya Fokus 3: Governan dan Kepimpinan - Pemantapan MPU), Jabatan Pendidikan Tinggi (JPT) telah mengeluarkan Surat Siaran bertarikh 26 Februari 2026 (Ruj: JPT(A)1000/016/018/57 Jld.20(42)) berkenaan penguatkuasaan penstrukturan semula dan pengenalan kurikulum baharu Mata Pelajaran Pengajian Umum (MPU) Kelompok U1. Penstrukturan ini dijadualkan berkuat kuasa sepenuhnya mulai September 1 Sesi 2026/2027 bagi peringkat Ijazah Sarjana Muda dan Semester 2 Sesi 2026/2027 bagi peringkat Diploma di seluruh Institusi Pendidikan Tinggi (IPT) Malaysia.

Langkah penstrukturan ini menyaksikan peralihan paradigma yang ketara menerusi pembubaran struktur kursus MPU U1 terdahulu (seperti *Falsafah dan Isu Seamsa* serta *Penghayatan Etika dan Peradaban*) dan digantikan dengan empat kursus baharu bernilai 2 kredit iaitu:

1. Citra Malaysia (*Malaysian Citra*)
2. Perlembagaan dan Masyarakat Berintegriti (PMB)
3. Falsafah dan Cabaran Semasa (FCS)
4. Aspirasi Negara Bangsa (ANB)

Di samping itu, *Kursus Integriti dan Antirasuah* (*KIAR*) turut diletakkan secara rasmi di bawah struktur penawaran Kelompok U1. Surat Siaran JPT 2026 turut menegaskan bahawa bahasa Melayu wajib digunakan sebagai bahasa pengantar bagi pelajar tempatan, manakala bahasa Inggeris atau *Bahasa Melayu*

Komunikasi 1 (*BMK1*) disediakan khusus untuk pelajar antarabangsa.

Meskipun objektif dasar penstrukturan ini beraspirasi murni untuk memantapkan jati diri dan nilai peradaban, cabaran utama di peringkat pengoperasian IPT ialah kemunculan jurang perlaksanaan (*policy-to-practice gap*). Secara tradisinya, pengajaran MPU kerap terperangkap dengan kaedah syarahan sehala (*passive lecturing*) dan pentaksiran berasaskan hafalan fakta demi mengejar kelulusan gred semata-mata. Keadaan ini berisiko menafikan hakikat bahawa niai etika, integriti, dan jati diri kebangsaan merupakan kompetensi sahsiah yang perlu dirasai dan dihayati, bukannya sekadar dihafal (Kolb, 2014; Osman & Lay, 2021). Tambahan pula, ketetapan JPT yang mewajibkan perlaksanaan 100% Penilaian Berterusan (*Continuous Assessment*) tanpa peperiksaan akhir bagi kursus U1 baharu memerlukan satu kerangka governan pedagogi dan tadbir urus imersif yang segar di peringkat universiti mahupun kolej universiti.

Oleh hal yang demikian, kertas kerja konseptual ini digubal dengan dua (2) objektif utama:

1. Menganalisis mandat penstrukturan MPU Kelompok U1 menerusi Surat Siaran JPT 2026 dari perspektif penyejajaran kurikulum baharu (*ANB, FCS, Citra Malaysia, PMB,* dan *KIAR*).
2. Mengemukakan cadangan kerangka awal (*conceptual model*) pelaksanaan MPU Kelompok U1 menerusi pemetaan pentaksiran berterusan 100% dan pedagogi pengalaman (*experiential learning*) bagi memperkasakan jati diri serta peradaban mahasiswa.

METOLOGI

Kajian ini menggunakan reka bentuk kualitatif konseptual menerusi kaedah analisis kandungan kritikal (*critical content analysis*) terhadap dokumen dasar, silibus, dan literatur berkaitan. Dokumen primer utama yang dianalisis secara mendalam merangkumi:

1. Surat Siaran Jabatan Pendidikan Tinggi (JPT) bertarikh 26 Februari 2026
2. Kerangka Silibus Rasmi empat kursus MPU U1 baharu (*ANB, FCS, Citra Malaysia,* dan *PMB*) serta dokumen integrasi *KIAR*.
3. Falsafah Pendidikan Kebangsaan dan Panduan Kerangka Pendidikan Citra Kebangsaan.

Analisis kandungan kritikal dilakukan menerusi teknik pemetaan konseptual (*conceptual mapping*). Topik-topik teras dalam silibus U1 baharu – seperti kedaulatan negara, Falsafah Sejahtera, etika Kecerdasan Buatan (AI), fitnah siber, serta akauntabiliti tatakelola – dianalisis dan dipetakan kepada empat fasa pembelajaran berasaskan Teori Pembelajaran Berasaskan Pengalaman (*Experiential Learning Theory*) oleh David Kolb (2014) iaitu:

1. Pengalaman Konkrit (*Concrete Experience*)
2. Pemerhatian Reflektif (*Reflective Observation*)
3. Pengkonsepan Abstrak (*Abstract Conceptualization*)
4. Pengekperimenan Aktif (*Active Experimentation*).

HASIL DAN PERBINCANGAN

Berdasarkan analisis kandungan kritikal terhadap dokumen dasar JPT 2026 dan struktur kurikulum U1 baharu, kajian ini merumuskan Cadangan Kerangka Awal Governan Imersif MPU U1. Kerangka konseptual ini mencerakinkan tiga (3) mekanisme pengoperasian utama untuk mentransformasikan pengajaran MPU daripada hafalan teori kepada pemerkasaan sahsiah yang praktikal.

Rajah 1 Kerangka Governan Imersif MPU U1

1. Mekanisme 1: Pemerkasaan Jati Diri Kebangsaan Menerusi Pentaksiran Imersif (*ANB* dan *Citra Malaysia*)

Bagi kursus *Aspirasi Negara Bangsa* (*ANB*) dan *Citra Malaysia*, pembentukan jati diri mahasiswa dilaksanakan secara praktikal menerusi pentaksiran imersif perkhidmatan komuniti (*service learning*) dan kajian kes lapangan. Berbanding kaedah peperiksaan bertulis tradisional, ketetapan pentaksiran berterusan 100% dimanfaatkan untuk membawa mahasiswa keluar dari bilik kuliah bagi merasai sendiri realiti kepelbagaian masyarakat Melayu dan etnik tempatan. Mahasiswa ditugaskan

untuk mengendalikan projek kemasyarakatan, mendokumentasikan warisan sejarah tempatan, serta merancang aktiviti perpaduan. Pengalaman konkrit ini membina rasa bangga terhadap sejarah dan kebudayaan kebangsaan secara organik, sekali gus mengukuhkan jati diri watan.

2. Mekanisme 2: Pembinaan Peradaban Moden dan Etika Digital (*FCS*)

Silibus baharu kursus *Falsafah dan Cabaran Semasa* (FCS) ditransformasikan untuk menangani isu-isu realiti era digital. Menerusi kerangka imersif ini, Falsafah Sejahtera tidak sekadar dibahas secara teoritis, sebaliknya dijadikan alat analisis kritis (*critical tool*) bagi menilai cabaran kontemporari seperti implikasi etika Kecerdasan Buatan (*Artificial Intelligence* – AI), fenomena pascakebenaran (*post-truth*), penyebaran fitnah siber, dan ketertagihan teknologi. Menerusi tugasan refleksi siber dan perbahasan etika, mahasiswa dilatih membina adab digital iaitu keupayaan mempertahankan etika, adab, dan jati diri Melayu-Islam semasa mengendalikan ruang digital dan teknologi moden.

3. Mekanisme 3: Pembudayaan Integriti Kebangsaan (*PMB* dan *KIAR*)

Penyerapan elemen integriti menerusi kursus *Perlembagaan dan Masyarakat Berintegriti* (*PMB*) serta *Kursus Integriti dan Antirasuah* (*KIAR*) dilaksanakan berasaskan pemikiran analisis dilemma etika dan pengurusan tatakelola. Mahasiswa didedahkan dengan kajian kes realiti mengenai impak rasuah, penyelewengan kuasa, dan kepincangan tadbir urus terhadap sejarah keruntuhan peradaban. Pentaksiran berbentuk simulasi sidang jawatankuasa dan laporan analisis dilemma etika menanam rasa kebertanggungjawaban moral yang tinggi. Hal ini memastikan kefahaman Perlembagaan Persekutuan dan nilai integriti bertindak sebagai kompas etika tatakelola mahasiswa melangkah ke alam kerjaya kelak.

4. Penyejajaran Governan dan Tadbir Urus IPT

Bagi menyokong ketiga-tiga mekanisme di atas, pengurusan di peringkat IPT perlu menyediakan struktur penyelerasan kurikulum yang dinamik. Ini merangkumi pengurusan pemetaan kredit (6 kredit bagi Sarjana Muda/ 2 kredit bagi Diploma), latihan penyelerasan piawaian pentaksiran 100% untuk para pensyarah, serta pengukuhan pematuhan bahasa Melayu sebagai bahasa pengantar wajib bagi memperkasakan peradaban kebangsaan.

KESIMPULAN

Dapatan kajian konseptual ini merumuskan bahawa penstrukturan semula MPU Kelompok U1 menerusi Surat Siaran JPT 2026 bukan sekadar penyesuaian dasar atau pematuhan pentadbiran, sebaliknya merupakan peluang emas untuk mentransformasikan pendidikan umum di IPT. Menerusi Cadangan Kerangka Awal Governan Imersif yang dianjurkan, penterjemahan empat kursus baharu (*ANB, FCS, Citra Malaysia, PMB*) dan penyerapan *KIAR* dapat digerakkan secara berkesan menerusi gabungan pentaksiran berterusan 100% dan pembelajaran berasaskan pengalaman.

Mekanisme ini membuktikan bahawa pemerkasaan jati diri dan peradaban mahasiswa tidak lagi sekadar menjadi slogan abstrak dalam silibus, sebaliknya boleh diukur, dihayati, dan diterjemahkan secara amali menerusi projek perkhidmatan komuniti, pembinaan adab digital, dan analisis integriti. Kajian ini memberikan implikasi praktikal kepada pihak pengurusan IPT, penggubal kurikulum, dan pensyarah dalam mereka bentuk modul pengajaran yang kalis masa hadapan. Bagi penyelidikan lanjutan, adalah dicadangkan agar pengujian empirikal dan kajian keberkesanan dilaksanakan terhadap kerangka awal ini sebaik sahaja modul MPU U1 baharu dilaksanakan secara rasmi di IPT selepas Sesi 2026/2027.

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Memperkasa Kepimpinan Pelajar dan Pembangunan Bakat Melalui Kerangka Tadbir Urus Organisasi: Kajian Kes Persatuan Mahasiswa Citra (PESISTRA)

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ABSTRAK

Tadbir urus organisasi yang sistematik merupakan asas penting kepada kesinambungan kepimpinan serta pembangunan bakat dalam kalangan pelajar di institusi pengajian tinggi. Dalam konteks Persatuan Mahasiswa Fakulti (PMF), antara cabaran utama yang perlu diberi perhatian ialah ketiadaan struktur governan yang jelas dan terdokumentasi. Cabaran ini mungkin dapat ditangani melalui pewujudan kerangka tadbir urus yang tersusun dan komprehensif. Kertas kerja ini bertujuan memperkasa kerangka tadbir urus organisasi bagi menyokong kelestarian kepimpinan pelajar dan pembangunan bakat dengan menggunakan Persatuan Mahasiswa Citra (PESISTRA) sebagai kajian kes. Kerangka yang dibangunkan disandarkan kepada tiga Lonjakan Rancangan Pendidikan Tinggi Malaysia (RPTM) 2026-2035. Kajian ini menggunakan reka bentuk analisis dokumen tematik terhadap Perlembagaan PESISTRA, 12 Modul Manual Tadbir Urus dan Poster Induk rasmi PESISTRA sesi 2026/2027. Dapatan kajian menunjukkan bahawa struktur 35 ahli teras PESISTRA selaras dengan prinsip pengurusan bakat holistik, tadbir urus terangkum dan penyampaian responsif yang digariskan dalam RPTM 2026-2035. Namun, penetapan indikator prestasi utama (KPI) yang lebih spesifik dan boleh diukur perlu diberi perhatian bagi memastikan keberkesanan pelaksanaan kerangka governan ini dapat dinilai secara objektif. Kajian ini menawarkan satu model rujukan empirik bagi menterjemahkan aspirasi dasar pendidikan tinggi kebangsaan kepada amalan governan di peringkat persatuan mahasiswa fakulti. Selain itu, templat tadbir urus tiga peringkat yang dicadangkan juga berpotensi diadaptasi oleh PMF lain untuk memperkukuh kesinambungan kepimpinan, meningkatkan kecekapan pengurusan organisasi dan menyokong pembangunan pelajar secara lebih holistik.

Kata Kunci: Tadbir Urus Organisasi, Kepimpinan Pelajar, Pengurusan Bakat, RPTM 2026-2035, Persatuan Mahasiswa Fakulti

PENGENALAN

Tadbir urus (governance) merujuk kepada sistem, struktur dan proses yang menentukan bagaimana kuasa dilaksanakan, keputusan dibuat, dan akauntabiliti dipertahankan dalam sesebuah organisasi. Tadbir urus yang baik penting kerana ia menjamin ketelusan, kecekapan operasi dan legitimasi kepimpinan. Tanpa tadbir urus yang baik, organisasi berisiko menghadapi ketidakcekapan, konflik kuasa dan kehilangan kepercayaan ahli (Adagbabiri, 2015). Bagi mahasiswa, pendedahan awal kepada amalan tadbir urus formal dapat membentuk kompetensi kepimpinan, disiplin organisasi dan tanggungjawab kolektif yang menjadi asas kepada pembangunan modal insan holistik. Dalam konteks Persatuan Mahasiswa Fakulti (PMF), tadbir urus berfungsi sebagai rangka rujukan yang menyelaraskan struktur kepimpinan, pembahagian kuasa dan mekanisme akauntabiliti bagi memastikan kesinambungan organisasi merentasi pertukaran kepimpinan tahunan. Objektif penubuhan PMF secara umum adalah untuk membantu pengurusan fakulti menguruskan kebajikan pelajar, menjadi medium perantaraan antara pentadbiran fakulti dan pelajar, serta melahirkan mahasiswa yang berdisiplin dan berciri kepimpinan (Universiti Teknologi Malaysia [UTM], 2023). Selaras dengan ini, PESISTRA sebagai Persatuan Mahasiswa Fakulti di bawah naungan Pusat Pengajian Citra Universiti Kebangsaan Malaysia telah menggubal Perlembagaan rasmi, disokong 12 Modul Manual Tadbir Urus dan lima Poster Induk rasmi sebagai rujukan governan bagi Sesi Kepimpinan 2026/2027.

Kata kunci utama kertas kerja ini ialah tadbir urus (governance), iaitu keseluruhan sistem pengurusan kuasa, struktur kepimpinan dan mekanisme akauntabiliti dalam organisasi. Dalam konteks PESISTRA, tadbir urus dizahirkan melalui tiga peringkat dokumen: Perlembagaan sebagai landasan perundangan tertinggi, Manual Tadbir Urus sebagai prosedur operasi terperinci, dan Poster Induk sebagai rujukan visual ringkas. Ketiga-

tiga peringkat dokumen ini membentuk kerangka tadbir urus bersepadu yang menjadi fokus kertas kerja ini.
Kajian ini bertujuan (1) menganalisa struktur hierarki tadbir urus PESISTRA merentasi tiga peringkat dokumen governan; (2) mengenal pasti mekanisme pengurusan bakat dan perancangan kepimpinan berstruktur dalam kerangka tersebut; dan (3) menilai sejauh mana kerangka governan PESISTRA selari dengan tiga Lonjakan RPTM 2026-2035 terpilih, iaitu Lonjakan 2 (Bakat Berprestasi Tinggi Dipacu Matlamat), Lonjakan 5 (Tadbir Urus Tangkas dan Berdaya Tahan), dan Lonjakan 10 (Penyampaian Responsif dan Dinamik).

Isu yang cuba dikupas oleh kajian ini adalah berkaitan kurangnya penggunaan kerangka tadbir urus yang jelas dalam pentadbiran persatuan mahasiswa di universiti. Kebanyakan Persatuan Mahasiswa Fakulti (PMF) di Malaysia beroperasi tanpa kerangka tadbir urus formal yang didokumentasikan secara sistematik, menyebabkan pertindihan bidang kuasa dan kehilangan pengetahuan institusi (tacit knowledge loss) apabila kepimpinan bertukar setiap sesi (Muniz, 2013). Kajian berkaitan asas-asas tadbir urus baik (good governance) menegaskan bahawa ketiadaan ketelusan, akauntabiliti dan penyertaan dalam sesebuah entiti pentadbiran menyebabkan kelemahan struktur yang berpanjangan (Mabillard & Zumofen, 2017). Justeru, pendedahan tadbir urus yang baik kepada organisasi pelajar bukan sekadar keperluan pentadbiran, tetapi asas penting bagi kesinambungan institusi dan pembangunan kepimpinan pelajar yang bertanggungjawab.

Kajian ini disandarkan kepada RPTM dan beberapa kajian lepas. Rancangan Pendidikan Tinggi Malaysia (RPTM) 2026-2035 merupakan aspirasi kerajaan untuk membina belia dan bakat generasi akan datang melalui sepuluh Lonjakan strategik, dengan penekanan khusus terhadap pembangunan kepimpinan berstruktur, tadbir urus tangkas dan berdaya tahan, serta penyampaian perkhidmatan yang responsif dan dinamik. Lonjakan 2 RPTM menegaskan keperluan pengurusan bakat bersepadu dan pelan penggantian kepimpinan yang mantap bagi melahirkan tenaga kerja tangkas dan berprestasi tinggi, diterajui pada peringkat kebangsaan oleh Akademi Kepimpinan Pendidikan Tinggi (AKEPT). Prinsip ini relevan bukan sahaja pada peringkat institusi, tetapi juga pada peringkat mikro seperti badan pelajar fakulti, kerana kepimpinan pelajar merupakan medan latihan awal bagi bakal pemimpin negara.

Kepimpinan penting kepada pembangunan pelajar kerana ia memupuk kemahiran membuat keputusan, tanggungjawab kolektif dan keupayaan menyelesaikan masalah dalam persekitaran sebenar. Kajian lepas mendapati bahawa asas-asas tadbir urus baik (good governance) iaitu merangkumi ketelusan, akauntabiliti, penyertaan dan responsif, menjadi penentu utama kepada keberkesanan sesebuah entiti pentadbiran, tidak kira peringkat kerajaan atau organisasi kecil. Dapatan ini disokong oleh kajian kepimpinan belia di Malaysia yang menunjukkan bahawa pengetahuan dan amalan kepimpinan tertinggi dalam badan belia banyak dipengaruhi oleh kejelasan struktur organisasi dan mekanisme pengurusan bakat yang sistematik.

Kajian mengenai organisasi mahasiswa di institusi pengajian tinggi turut menunjukkan bahawa gaya kepimpinan dan struktur tadbir urus dalaman organisasi pelajar secara langsung mempengaruhi pencapaian program kerja dan kepuasan ahli (Hidayah & Rahmawati, 2022) . Tanpa kerangka tadbir urus yang jelas, organisasi pelajar berisiko mengalami pertindihan bidang kuasa dan kehilangan pengetahuan institusi apabila kepimpinan bertukar setiap sesi. Justeru, kertas kerja ini menyandarkan perbincangannya kepada tiga Lonjakan RPTM terpilih sebagai kerangka rujukan bagi menilai sejauh mana dasar pendidikan tinggi kebangsaan dapat diterjemahkan kepada amalan governan peringkat persatuan mahasiswa fakulti, khususnya PESISTRA.

HASIL DAN PERBINCANGAN

Struktur tadbir urus yang dicadangkan untuk PESISTRA ini dibangunkan dengan mengambil inspirasi struktur dan prinsip perundangan daripada Perlembagaan Persekutuan Tanah Melayu 1957 sebagai asas pembentukan dokumen perundangan dalaman organisasi, serta disandarkan kepada Rancangan Pendidikan Tinggi Malaysia (RPTM) 2026-2035 sebagai kerangka dasar kebangsaan yang menetapkan hala tuju strategik pembangunan bakat dan kepimpinan pelajar. Gabungan kedua-dua rujukan ini membolehkan kerangka tadbir urus PESISTRA diselaraskan antara keperluan operasi organisasi di peringkat mikro dan aspirasi dasar pendidikan tinggi di peringkat makro.

Struktur tadbir urus PESISTRA terdiri daripada 35 ahli teras yang dibahagikan kepada:

1. 9 ahli Majlis Tertinggi, yang terdiri dari Yang Dipertua, Timbalan Yang Dipertua, Setiausaha Agung dan Bendahari Kehormat
2. 16 Pemimpin Ahli Jawatankuasa Eksekutif, yang mengetuai lapan Portfolio, serta

3. 10 Ahli Unit Fungsi.

Perlembagaan PESISTRA ini berstatus draf dan sedang disemak dan dibincangkan oleh Majlis Tertinggi PESISTRA bersama Penasihat PMF. Perlembagaan yang dicadangkan ini mengandungi 115 fasal yang disusun merentasi 10 Bahagian. Iaitu Bahagian I Perkara Asas (identiti, falsafah dan kod etika organisasi), Bahagian II Keahlian (kategori, pendaftaran dan penamatan keahlian), Bahagian III Struktur Organisasi (hierarki, syarat kelayakan dan proses pemilihan Majlis Tertinggi), Bahagian IV Kuasa dan Bidang Tugas (skop kuasa setiap jawatan), Bahagian V Mesyuarat (tatacara Mesyuarat Agung, Majlis Tertinggi dan Portfolio), Bahagian VI Kewangan (prinsip, kawalan dan audit kewangan), Bahagian VII Tatatertib (kesalahan dan prosedur tindakan), Bahagian VIII Pindaan Perlembagaan, Bahagian IX Pembubaran, dan Bahagian X Peruntukan Am (hubungan antara dokumen governan dan penambahbaikan berterusan). Struktur ini menetapkan landasan perundangan tertinggi organisasi sebagaimana digambarkan dalam Rajah 1.

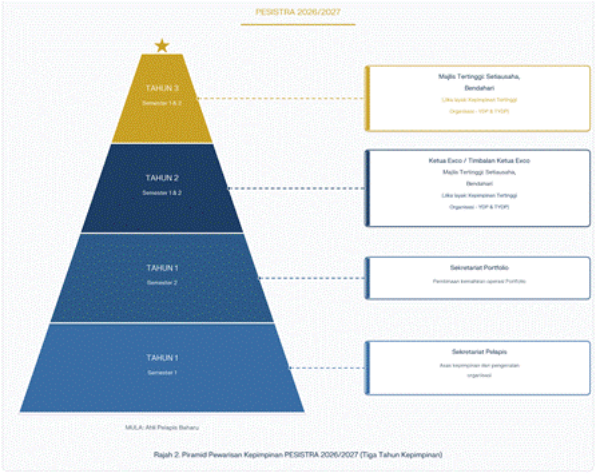
Rajah 1. Carta Struktur 10 Bahagian dan 115 Fasal Perlembagaan PESISTRA 2026/2027

RAJAH 1: Carta Struktur 10 Bahagian dan 115 Fasal Perlembagaan PESISTRA 2026/2027

Kepentingan 10 Bahagian ini terletak pada prinsip pengasingan tanggungjawab (separation of concerns), iaitu setiap domain governan seperti identiti, keahlian, struktur, kuasa, mesyuarat, kewangan, tatatertib, pindaan dan pembubaran ditadbir secara jelas tanpa pertindihan bidang kuasa. Susunan ini selari dengan tuntutan Lonjakan 5 RPTM (Tadbir Urus Tangkas dan Berdaya Tahan) yang menekankan kerangka perundangan berstruktur sebagai asas ketangkasan organisasi. Bahagian VIII hingga X khususnya (Pindaan, Pembubaran dan Peruntukan Am) memastikan Perlembagaan kekal relevan dan mampu disesuaikan mengikut keperluan semasa, sekali gus menyokong kelestarian institusi jangka panjang, bukan sekadar dokumen statik, tetapi rangka hidup yang berkembang bersama organisasi.

Bagi menyokong pelaksanaan Perlembagaan, PESISTRA turut membangunkan 12 Modul Manual Tadbir Urus yang secara kolektif menstrukturkan Prosedur Operasi Standard (SOP) merentasi tiga kluster fungsian utama: kluster tadbir urus kepimpinan (meliputi SOP Majlis Tertinggi, Portfolio dan Pilihan Raya), kluster pengurusan prestasi dan kewangan (Dashboard KPI serta Kewangan dan Audit), dan kluster kesinambungan institusi (Buku Pewarisan serta Pengurusan Dokumen). Pengelompokan ini memastikan setiap Bahagian dalam Perlembagaan diterjemahkan kepada prosedur operasi yang boleh dilaksanakan, sekali gus mengukuhkan hubungan langsung antara landasan perundangan dan amalan harian organisasi.

Tadbir urus yang dicadangkan turut disokong oleh Model Pewarisan Kepimpinan yang menstrukturkan laluan pembangunan pemimpin merentasi tiga tahun kepimpinan, iaitu Tahun 1 Semester 1 (Sekretariat Pelapis), Tahun 1 Semester 2 (Sekretariat Portfolio), Tahun 2 Semester 1 dan Semester 2 (Timbalan Ketua Exco, Ketua Exco dan Majlis Tertinggi), sehingga Tahun 3 Semester 1 dan Semester 2 (Majlis Tertinggi, iaitu Yang Dipertua & Timbalan Yang Dipertua), sebagaimana digambarkan dalam Rajah 2. Model tiga tahun ini membolehkan setiap ahli pelapis dibimbing secara berstruktur dan bertahap daripada peringkat asas sehingga peringkat kepimpinan tertinggi organisasi, sekali gus memastikan kesinambungan kepimpinan yang lancar merentasi setiap Sesi Kepimpinan.



Rajah 2. Piramid Pewarisan Kepimpinan PESISTRA 2026/2027 (Tiga Tahun Kepimpinan)

RAJAH 2: Model Pewarisan Kepimpinan PESISTRA 2026/2027 - Tiga Tahun Kepimpinan

Analisis tematik kerangka tadbir urus juga mempamerkan triangulasi pemetaan kepada penjajaran tiga hala antara

tiga Lonjakan RPTM terpilih dengan elemen sepadan dalam Perlembagaan, Manual Tadbir Urus, dan Poster Induk telah menunjukkan bagaimana dasar pendidikan tinggi kebangsaan diterjemahkan secara konsisten merentasi tiga peringkat dokumen governan mikro peringkat persatuan mahasiswa fakulti.

KESIMPULAN

Kertas kerja ini mencadangkan bahawa kerangka tadbir urus PESISTRA, melalui triangulasi tiga peringkat dokumen iaiu Perlembagaan, Manual Tadbir Urus dan Poster Induk. Secara konseptual selari dengan tiga Lonjakan RPTM 2026-2035 iaitu pengurusan bakat bersepadu melalui Akademi Sekretariat (Lonjakan 2), tadbir urus terangkum melalui struktur 35 ahli dan prinsip semak dan imbang (Lonjakan 5), serta penyampaian responsif melalui Dashboard KPI Tahunan (Lonjakan 10). Kerangka tiga peringkat dokumen ini berpotensi diadaptasi oleh PMF lain. Kerangka tadbir urus yang baik mampu membentuk wadah pembangunan pelajar yang komprehensif, berintegriti dan amanah, sekali gus membantu pelajar meningkatkan bakat dan potensi diri melalui fasa-fasa teras yang sistematik. Kerangka ini bertujuan melahirkan pelajar yang bukan sahaja bersedia memasuki dunia pekerjaan, malah berupaya menjadi pemimpin dan agen perubahan yang menyumbang kepada pembangunan negara. Sehubungan itu, kerangka ini berperanan dalam menterjemahkan aspirasi RPTM berkaitan pembangunan bakat dan kepimpinan pada peringkat organisasi pelajar.

PENGHARGAAN

Setinggi-tinggi penghargaan diucapkan kepada Bahagian Hal Ehwal Pelajar (HEP) UKM atas geran yang menyokong penulisan kertas kerja ini. Juga kepada Fakulti Pengajian Sains Citra dan Majlis Tertinggi PESISTRA Sesi 2026/2027 atas sokongan.

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Cabaran Perubahan Silibus MPU dan Implikasi Amalan Pengajaran Dan Pembelajaran MPU di Universiti Swasta

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ABSTRAK

Kajian ini meneliti cabaran perubahan silibus Mata Pelajaran Pengajian Umum (MPU) dan implikasinya terhadap amalan pengajaran dan pembelajaran di universiti swasta. Masalah utama yang dikaji ialah jurang antara hasrat dasar MPU dengan kapasiti operasi institusi swasta, khususnya dari segi tempoh penyesuaian, saiz kelas dan sumber tenaga pengajar. Kajian ini bertujuan mengenal pasti cabaran dasar perubahan silibus, kekangan operasi pelaksanaan dan implikasinya terhadap pengajaran, pentaksiran serta kepakaran pensyarah. Pendekatan kualitatif digunakan menerusi temu bual separa berstruktur terhadap lima orang pensyarah MPU (PK1 hingga PK5) di universiti swasta terpilih, dianalisis secara tematik mengikut kaedah Braun dan Clarke. Dapatan mengenal pasti tujuh tema utama, iaitu perubahan struktur dan falsafah silibus, penyampaian dasar dan kesediaan bahan, saiz kelas besar, pergantungan kepada pensyarah sambilan, penyesuaian pentaksiran, pengajaran di luar bidang kepakaran dan keperluan kontekstualisasi bagi pelajar antarabangsa. Kajian ini menyimpulkan bahawa kelestarian kualiti pelaksanaan MPU memerlukan penyelarasan yang lebih baik antara penggubal dasar, badan kawal selia dan pelaksana di peringkat institusi swasta.

Kata Kunci: perubahan silibus MPU, kurikulum, universiti swasta, amalan pengajaran dan pembelajaran, kesediaan pensyarah.

PENGENALAN

Mata Pelajaran Pengajian Umum (MPU) merupakan komponen penting dalam pendidikan tinggi Malaysia kerana berfungsi membentuk graduan yang mempunyai pengetahuan umum, kesedaran sivik, penghayatan nilai dan kefahaman terhadap masyarakat dan negara. Pelaksanaan MPU berkembang daripada kerangka Mata Pelajaran Wajib (MPW) kepada kerangka MPU yang lebih tersusun, termasuk penstrukturan Pengajian Malaysia mengikut tahap, pengenalan Khidmat Masyarakat dan penggantian Hubungan Etnik dengan Penghayatan Etika dan Peradaban (PEP). Perubahan ini menuntut bukan sekadar pertukaran kandungan, tetapi turut melibatkan perubahan falsafah pendidikan, hasil pembelajaran, kaedah pengajaran dan kaedah pentaksiran.

Masalah utama yang menjadi tumpuan kajian ini ialah kemungkinan berlakunya ketidakselarasan antara hasrat dasar MPU dengan kapasiti operasi universiti swasta. Universiti swasta lazimnya beroperasi dengan kelas gabungan yang besar, sistem trimester atau semester pendek, kebergantungan kepada pensyarah sambilan dan bilangan pelajar antarabangsa yang tinggi, berbeza daripada acuan universiti awam yang menjadi asas penggubalan silibus. Keadaan ini boleh menimbulkan jurang antara reka bentuk dasar dengan realiti pelaksanaan di bilik kuliah.

Sehubungan itu, kajian ini bertujuan: (i) menganalisis cabaran dasar perubahan silibus MPU berdasarkan pengalaman pensyarah universiti swasta; (ii) mengenal pasti kekangan operasi pelaksanaan MPU di universiti swasta; dan (iii) menghuraikan implikasi perubahan silibus terhadap kaedah pengajaran, pentaksiran serta kepakaran pensyarah. Bagi mencapai objektif tersebut, kajian ini menggunakan pendekatan kualitatif menerusi temu bual separa berstruktur terhadap lima orang pensyarah MPU di universiti swasta yang dirujuk sebagai PK1 hingga PK5, dengan data dianalisis secara tematik berpandukan langkah Braun dan Clarke (2006).

HASIL DAN PERBINCANGAN

Analisis tematik terhadap temu bual lima orang pensyarah MPU (PK1 hingga PK5) mengenal pasti tujuh tema utama. Tema pertama ialah perubahan struktur, kandungan dan falsafah silibus. PK1 menghuraikan peralihan daripada Mata Pelajaran Wajib (MPW) kepada MPU, penstrukturan Pengajian Malaysia mengikut tahap, pengenalan Khidmat Masyarakat dan penggantian Hubungan Etnik dengan Penghayatan Etika dan Peradaban (PEP), manakala PK4 menekankan penyesuaian kandungan dengan etika, nilai dan identiti nasional. Tema kedua berkaitan penyampaian dasar dan kesediaan bahan. PK2 menyatakan bahawa maklumat perubahan kerap sampai secara '*last minute*' sehingga pensyarah terpaksa 'buat sambil belajar', manakala PK3 mencadangkan agar bahan pengajaran disediakan lebih awal sebelum silibus baharu diperkenalkan supaya pelaksanaan tidak berlaku secara tergesa-gesa.

Tema ketiga ialah saiz kelas besar dan kekangan operasi, iaitu tema paling konsisten disebut oleh kesemua informan. PK1 melaporkan kelas gabungan seramai 100 hingga 200 pelajar yang menyukarkan perbincangan reflektif dan pemantauan projek Khidmat Masyarakat, manakala PK4 menambah bahawa saiz kelas turut menyukarkan interaksi dengan pelajar antarabangsa. Tema keempat berkaitan tenaga pengajar dan sokongan pentadbiran; PK2 menjelaskan bahawa keperluan *Teaching Permit* dan pertukaran pensyarah sambilan yang kerap menyukarkan penyelarasan kandungan dan kualiti pengajaran. Tema kelima ialah penyesuaian pentaksiran, dengan PK1 dan PK3 menjelaskan penggunaan rubrik ringkas, tugasan berkumpulan dan penilaian berasaskan projek bagi menangani beban penyemakan dalam kelas besar. Tema keenam ialah pengajaran di luar bidang kepakaran, yang dialami oleh keempat-empat PK dengan kesan awal terhadap keyakinan sebelum beransur pulih melalui pembelajaran kendiri dan bengkel *Train-of-Trainers*. Tema ketujuh ialah keperluan kontekstualisasi bagi pelajar antarabangsa, sebagaimana ditekankan oleh PK4

Jadual 1. Ringkasan tema utama dapatan kajian merentas informan PK1–PK5

Tema	Subtema	Informan
1. Perubahan silibus	Struktur, kandungan dan falsafah MPU	PK1, PK2, PK3, PK4, PK5
2. Kesediaan pelaksanaan	Penyampaian dasar, tempoh dan bahan	PK1, PK2, PK3, PK4, PK5
3. Kekangan operasi	Saiz kelas, hibrid dan logistik	PK1, PK2, PK3, PK4, PK5
4. Sumber manusia	Pensyarah sambilan, permit dan sokongan pentadbiran	PK1, PK2, PK3, PK5
5. Pedagogi dan pentaksiran	Inovasi, rubrik dan tugasan projek	PK1, PK2, PK3, PK4, PK5
6. Kepakaran	Pengajaran di luar bidang kepakaran	PK1, PK2, PK3, PK4, PK5
7. Keterangkuman	Pelajar antarabangsa dan kontekstualisasi	PK2, PK4

Secara keseluruhan, dapatan ini menunjukkan bahawa perubahan silibus MPU digubal berdasarkan acuan universiti awam yang mempunyai pensyarah tetap dan kelas bersaiz kecil, sedangkan realiti universiti swasta melibatkan kos operasi, kelas gabungan dan kebergantungan kepada pensyarah sambilan. Dapatan ini selari dengan Md Soh dan Ismail (2021) serta Saili, Mustapa dan Arishin (2024) yang turut mendapati bahawa kesediaan pensyarah dan kesinambungan pelaksanaan kursus umum banyak dipengaruhi oleh sumber dan struktur pengurusan institusi. Keperluan kontekstualisasi bagi pelajar antarabangsa turut disokong oleh Mohd Sohaimi, Irma Wani, Saifulazry dan Romzi (2023) serta Mohamad Akhir et al. (2023), manakala keperluan bahan pengajaran yang jelas dan awal selari dengan cadangan Khairul Hamimah, Mohd Syariefudin dan Ahmad Zahiruddin (2022).

KESIMPULAN

Kajian ini menganalisis pengalaman lima orang pensyarah universiti swasta dalam melaksanakan perubahan silibus MPU. Dapatan menunjukkan bahawa perubahan silibus melibatkan struktur kursus, kandungan, falsafah pengajaran dan kaedah pentaksiran, manakala saiz kelas besar, kebergantungan kepada pensyarah sambilan dan keperluan Teaching Permit muncul sebagai kekangan operasi yang paling konsisten dirasai. Keberkesanan perubahan silibus MPU di universiti swasta bergantung pada kesepadanan antara dasar, kapasiti institusi dan realiti bilik kuliah. Dasar yang baik perlu disertai komunikasi yang jelas, bahan yang tersedia lebih awal, tempoh persediaan yang munasabah, penglibatan pensyarah pelaksana dan sokongan operasi, supaya pelaksanaan MPU dapat menjadi lebih realistik,

inklusif dan berkesan dalam mencapai matlamat pembangunan graduan holistik.

PENGHARGAAN

Penulis merakamkan penghargaan kepada kelima-lima informan (PK1 hingga PK5) yang telah berkongsi pengalaman dan pandangan secara terbuka sepanjang proses temu bual bagi kajian ini.

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The Limits of Outcome-Based Education in the AI Era: Why General Studies Should Lead Educational Transformation

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ABSTRACT

In the age of artificial intelligence (AI), humans can remain competitive only by developing capabilities that AI cannot yet replicate, including empathy, innovation, intellectual curiosity, interdisciplinary synthesis, etc. In Malaysian Higher Education, Outcome-Based Education (OBE) has become dominant to govern curriculum design and teaching practices. OBE requires every learning activity and course to achieve predetermined learning outcomes. By emphasizing predefined knowledge and competencies, OBE primarily prepares students to master knowledge that AI can also acquire and apply efficiently, thereby placing students at a competitive disadvantage in areas where AI already excels. To achieve those capabilities, higher education should make better use of the unique characteristics of General Subjects (Matapelajaran Pengajian Umum, MPU). While professional programmes may continue to adopt OBE to ensure disciplinary competence, MPU should be freed from the prescriptions of OBE and given greater flexibility without requiring predetermined outcomes for every learning activity. This paper argues that MPU should become the pioneer of this educational transformation. It explores how MPU can move beyond rigid outcome-based requirements while maintaining essential academic quality, thereby creating an educational environment that maximizes the potentialities of both educators and students in the AI era.

Keywords: Outcome-based Education, Artificial Intelligence, Higher Education, General Subjects, Predetermined Learning Outcomes, Developmental Learning Outcomes

INTRODUCTION

In 2023, the United Nations Educational, Scientific and Cultural Organization (UNESCO) published a report titled *Guidance for Generative AI in Education and Research*, calling for attention to the impacts brought by Generative Artificial Intelligence (GenAI) to education and research, while establishing a framework for the ethical use of GenAI in both areas (UNESCO, 2023).

Today, knowledge and skills are not scarce. Many of the competencies that students learn in higher education institutions can already be performed by AI. Consequently, education is called to shift toward cultivating capabilities that AI cannot replicate, such as innovation, empathy, intellectual curiosity, interdisciplinary synthesis, etc.

Outcomes-Based Education (OBE) has occupied a dominant position in Malaysian higher education as all programmes must be implemented according to this model. Whether OBE can still cultivate competitive students with capabilities that AI cannot replicate is a question worth exploring. This article claims that while OBE can effectively develop students' professional competencies, it places greater emphasis on existing, specified, and predetermined knowledge and skills, and cannot effectively foster the above-mentioned capabilities. On the contrary, MPU possesses the conditions to complement these shortcomings in OBE. This article argues that MPU can be liberated from conventional OBE constraints to develop students' capabilities in open-ended inquiry, evaluative judgment, and interdisciplinary synthesis, thereby making students competitive. Therefore, MPU can

serve as a vanguard for Malaysian higher education.

WHAT IS OBE?

OBE is an educational approach proposed by American scholar William Spady. According to the definition, "outcome-Based Education means clearly focusing and organizing everything in an educational system around what is essential for all students to be able to do successfully at the end of their learning experiences" (Spady, 1994). Traditional pedagogical approaches are educator-centered, emphasising what content educators have taught; in contrast, OBE is student-centered, emphasising what content students have learned. Spady argues that a successful education depends on whether students have achieved predetermined learning outcomes at the end of their learning.

What are outcomes? Spady defines as follows: "outcomes are clear learning results that we want students to demonstrate at the end of significant learning experiences…Instead, outcomes are what learners can actually do with what they know and have learned – they are the tangible applications of what has been learned" (ibid.).

OBE adopts a backward design: prior to commencing teaching, educators must first predetermine the learning outcomes to be achieved by students, with appropriate teaching content and assessment methods. Hence, teaching content and assessment methods are aligned with learning outcomes consistently.

Spady asserts that all learning outcomes must ultimately be demonstrated by students through performances and are therefore measurable. When designing courses, educators must use a set of observable action verbs to measure students' learning outcomes (ibid.).

A learning outcome can be exhibited by students through their performance in a specified context. Educators use this as evidence to assess the level of competencies students have achieved regarding a particular knowledge or skill. Here, the well-known models of Bloom, Simpson, and Krathwohl have been adopted to describe the level of competencies students possess across the cognitive, psychomotor, and affective domains (MQA, 2014; 2017; 2023).

The advantages of OBE lie in its demonstrability, measurability, specificity, objectivity, transparency, and standardisation. It has been regarded as an effective mechanism for quality assurance. Consequently, OBE gained prominence in the 1990s, was gradually adopted by many countries, and has now become the mainstream of curriculum design. Malaysian Qualifications Agency (MQA) has also adopted OBE. Higher education institutions must design and implement their professional programmes based on OBE (MQA, 2017; 2023).

ASSUMPTION AND IMPLICATIONS OF OBE

OBE provides an effective method to objectively verify whether students achieve predetermined learning outcomes. When OBE asserts that outcomes can be measured through concrete action verbs, it consists of an assumption:

Assumption: Learning experiences can be demonstrated through concrete actions.

Education needs to focus on these concrete actions and observable performances because they are evidence for competencies, such as understanding, analyzing, imitating, and evaluating. According to OBE's backward design, educators must determine learning outcomes and desirable abilities that students should achieve in advance before arranging appropriate teaching content and assessment methods. By relying on these observable performances, educators are able to measure whether students have achieved predetermined outcomes and acquired expected competencies.

One should note that this characteristic of OBE carries two important and related implications:

Implication 1: Not all learning experiences can be observed, described, or measured through concrete actions.

Implication 2: Only abilities that can be demonstrated through performances can be

observed, described, or measured, and therefore become learning outcomes.

In fact, students' learning experience is holistic, and it is possible that evidence demonstrated through actions cannot encompass the entirety of student learning experiences. This indicates that OBE may not be adequate to develop and cover all abilities essential for education.

Logically, we cannot rule out the possibility that during this learning process, students can simultaneously acquire other abilities and knowledge that simply lie outside the scope of observation and assessment. While implementing OBE, educators can only set learning outcomes based on established knowledge; unknown or uncertain elements fall outside consideration because they cannot yet be regarded as observable and measurable.

THE IMPACTS OF OBE ON HIGHER EDUCATION

As emphasised by the National Philosophy of Education, education strives to cultivate students into holistic and integrated individuals. In Malaysian higher education, professional programmes and MPU constitute two major pillars, emphasising depth and breadth of student development, respectively. All professional programmes and MPU must adopt OBE. However, if we acknowledge that student learning experiences are holistic, several insights can be derived from the aforementioned analysis of OBE.

First, if student learning experience is rich and holistic, it cannot completely be externalized through observable performance. More importantly, performance does not necessarily reflect student learning experience fully. For example, when evaluating students' understanding, two students may produce the same correct answer, but Student A truly understands the concept while Student B relies on rote memorisation. Although both students display identical performance, their internal learning experiences are vastly different. OBE cannot adequately capture this distinction.

Second, while OBE is indeed suitable for professional and disciplinary training where desired outcomes can be specified in advance, it may not be suitable for fostering students' exploration of unknown, open-ended, creative and innovative domains, in which OBE cannot predetermine any specific outcomes via measurable performances.

Professional programmes in engineering, computation, accounting, statistics and related fields possess highly practical and applied natures, where target abilities can be concretely characterized. However, programmes in humanities and social sciences, including MPU, are not of a practical and applied natures. These programmes rely much on capabilities related to empathy, innovation, intellectual curiosity, interdisciplinary synthesis, which cannot be fully demonstrated or measured through OBE.

Third, by overemphasizing observable performances and measurable outcomes, OBE risks underestimating the importance of unobservable learning experiences and processes. Capabilities such as empathy, innovation, and interdisciplinary synthesis are difficult to predetermine or specify concretely through OBE. Educators may be forced to abandon setting such capabilities as learning outcomes simply because they cannot be easily measured and assessed. However, this does not imply that these capabilities are trivial, nor that they cannot be cultivated and demonstrated throughout the learning process.

Furthermore, certain learning outcomes may be deemed inappropriate under OBE simply because the capabilities they consist of cannot be concretely demonstrated, such as making sound judgments, identifying good questions, or even inadvertently discovering new directions of inquiry. One should also note that all these capabilities are much broader than the clusters introduced in MQF 2.0. Consequently, OBE may unintentionally undervalue these vital capabilities.

Today, AI can perform as well as humans, particularly in cognitive domains. Students are encouraged to leverage AI as an auxiliary learning tool. However, doubts remain as to whether OBE can still effectively measure students' performances. For example, when assessing students' understanding, two students may produce identical correct answers; yet

Student A truly understands the material independently, while Student B arrived at the understanding through AI. Since OBE focuses on the final output, this divergence in learning experience appears irrelevant although they differ significantly.

Nevertheless, the value of education resides precisely in the cumulative learning process, making it impossible to predetermine a specific outcome. For example, innovation is so crucial for higher education. It could stem from long-term accumulation, interdisciplinary synthesis, continuous trial and error, embracing uncertainty, and even unexpected discoveries. Yet this capability lacks a predetermined outcome or measurement criterion and cannot be considered by OBE adequately.

MPU AS A LEAD FOR EDUCATIONAL TRANSFORMATION

Against these limitations in OBE, MPU differs from professional programmes in the sense that it should not be fully restricted to predefined, observed, measured learning outcomes. MPU emphasises holistic perspectives and humanistic concern, aiming to foster students' intellectual curiosity, open-ended inquiry, and interdisciplinary synthesis. The capabilities developed by MPU are developmental, rather than predetermined, striving for a more balanced and holistic development of individuals. Meanwhile, these capabilities will serve as crucial for students because they are hard to replicate and replace by AI.

While professional programmes may continue to retain conventional OBE, MPU should be granted greater flexibility to be freed from the mindset of predetermined learning outcomes and move toward developmental learning outcomes, fostering students' capabilities for empathy, curiosity, interdisciplinary integration, etc.

To shed light on development learning outcomes, let us take MPU subject Philosophy and Current Issues as an example. CLO 1 states:

CLO 1: Analyse the fundamental concepts, branches, and major philosophers in philosophy and their relevance to contemporary challenges.

This CLO aligns with conventional OBE requirements by setting a predetermined outcome aimed at training students' analytical skills. Educators already know what philosophical concepts and theories students should learn, what relevant issues exist, and how student performance should be assessed. Thus, upon the end of learning, educators can evaluate student performance against a standardized set of criteria.

However, within the existing OBE framework, the course leaves little room for open-ended exploration and intellectual curiosity. Therefore, this CLO fails to encompass key dimensions that are close to philosophy: allowing students to formulate their own philosophical questions, shape their own interpretations of existing theories, or even construct their own perspectives.

Yet if MPU were freed from conventional OBE constraints to emphasize developmental learning experiences, this CLO can be rewritten as follows:

CLO 1’: Explore philosophical perspectives on contemporary challenges through critical engagement with diverse philosophical traditions.

Compared to the existing CLO, this revised CLO is developmental. While it still fosters students' analytical skills, it refrains from establishing a predetermined, concrete learning outcome, but remains constructive. More importantly, this CLO encourages students to engage in open-ended inquiry, permitting them to forge distinct paths in intellectual exploration.

The value of MPU will be unleashed as developmental outcomes are more suitable in developing those capabilities which are unable to be considered under the conventional OBE framework. It is significant in the age of AI because these capabilities pertain to humans and are hard to replicate and replace. Students will have greater opportunities to cultivate competitive capabilities.

CONCLUSION

As UNESCO emphasised, amidst the impact of generative AI, education must reorient learning outcomes toward capabilities that AI cannot replicate, to meet real-world challenges (UNESCO, 2025). Education must focus on developing holistic and integrated individuals. While we cannot deny the efficacy of OBE in professional programmes, we must simultaneously leverage the unique nature of MPU to maximize its strengths in developing the capabilities that are indispensable in the age of AI.

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THEME 5: STUDENT DEVELOPMENT AND GRADUATE EMPLOYABILITY

From Oral Health to Human-Centred Advocacy: Pedagogical Evolution and Digital Scaling in Liberal Studies

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ABSTRACT

In line with the goals of human-centred lifelong learning, liberal education plays an important role in turning passive undergraduates into health-literate, active citizens. Dental caries and periodontal diseases are the most common chronic conditions worldwide. However, formal oral health literacy is seldom included in non-dental undergraduate programs. This gap leaves non-dental majors at risk for lifelong health issues, disconnected from the important link between oral and systemic health. To close this gap, we created a liberal studies elective focused on lifelong oral health. This paper outlines the nine-year structural and educational development (2017–2026) of this elective, showing how complex oral wellness ideas can be made accessible in a flexible, high-demand general education format. By using an online teaching approach that includes baseline knowledge tests, interactive lectures, and collaborative public health video projects, the course successfully increased enrollment from 20 students each year in 2017 to 80 students each semester by 2026. To meet the growing demand, the course shifted from being offered once a year to every semester. This change supports the main goal of modern liberal education: equipping graduates with practical skills to enhance societal well-being.

Keywords: Dental caries, oral health, periodontal disease, undergraduate.

INTRODUCTION

In modern higher education, liberal studies and general elective structures play an essential role in shaping well-rounded, socially responsible citizens. While traditional undergraduate programs often separate professional clinical knowledge from the general student body, human-centred lifelong learning requires that health literacy be available to everyone.

Oral health issues, particularly dental caries and periodontal diseases, are among the most common chronic conditions affecting people worldwide (Elamin & Ansah, 2023; Tu et al., 2023). The World Health Organisation estimates that billions of people are affected, yet these conditions can be almost entirely preventable through behaviour change and primary prevention (Duangthip & Chu, 2020).

However, formal dental health education is rarely part of undergraduate general studies (Gill et al., 2022; Ahmad et al., 2021). Non-dental students often enter adulthood with significant gaps in their understanding of oral biofilm control, the effects of nutrition on oral health, and the important links between oral health and systemic diseases like diabetes, heart disease, and complications during pregnancy (Correa et al., 2023).

To address this educational gap, an elective course on lifelong oral health care was developed and offered to undergraduate majors outside dentistry. This extended abstract examines the course's development, curriculum changes, and digital expansion over a nine-year period from 2017 to 2026. It shows how complex clinical concepts can be turned into community-focused, empathetic skills.

MATERIALS AND METHODS

Course History and Structural Evolution

The curriculum saw significant changes over nearly a decade to meet evolving educational needs, public health requirements, and growing student interest:

• The Pilot Phase (2017-2019): This phase started as a 1-credit, in-person elective offered once a year. The number of students was limited to 20 to encourage focused, instructor-led classroom activities.

• The Restructuring and Digital Pivot Phase (2020-2025): The COVID-19 pandemic and the introduction of National Movement Control Orders (MCO) in 2020 led to a restructure of the course. To promote more engagement, the course credit was increased to 2 credits. At the same time, the teaching model shifted entirely to an online management system, but it continued to be offered annually.

• The Biannual Scaled Phase (Beginning 2026): With the improved digital system, the course significantly increased its capacity to support 80 students per cohort. Additionally, to handle the surge in student interest, the course offered changed from annual to biannual, now taking place every semester (two semesters each academic year).

Curriculum Mapping and Learning Outcomes

The instructional design was grounded in three core Course Learning Outcomes (CLOs), mapping directly onto cognitive and social-agency domains:

1. CLO 1 (Theoretical Comprehension): The ability to explain the theoretical aetiology and biological mechanisms of common oral diseases (caries and periodontal disease).
2. CLO 2 (Preventive Conceptualisation): The ability to describe and critique foundational concepts of oral disease prevention and professional therapies.
3. CLO 3 (Applied Advocacy): The competency to organise and apply appropriate, effective preventive oral health methods for oneself, family, and peers.

Instructional Workflow and Pedagogical Interventions

The operational workflow of the online course follows a multi-stage progressive scaffolding design:

Baseline Pre-Test ➔ Theoretical E-Lectures ➔ Collaborative Video Campaigns ➔ Final Synthesis Report

Step 1: Baseline Assessment: At the start of the semester, students sit for a comprehensive pre-test on general oral health knowledge. This diagnostic tool evaluates baseline literacy, targeting misconceptions about brushing techniques, the utility of fluoride, sugar exposure frequency, and links to systemic disease.

Step 2: Scaffolding Content Delivery: Core knowledge is delivered through interactive synchronous and asynchronous e-lectures, supplemented by professional clinical videos. Instruction focuses heavily on the "decay balance scale" (pathological vs. protective factors) and the anatomy of periodontal bone loss. Additionally, students are exposed to preventive therapies commonly prescribed by general practitioners, giving them a patient-centred understanding of clinical dental care.

Step 3: High-Impact Collaborative Group Work: Moving away from traditional rote-memorisation examinations, students are placed into pairs or small collaborative teams. Each group is assigned a distinct oral health topic. They must synthesise their knowledge to produce an original public health campaign video. Crucially, the video must be pedagogically designed to serve as an active asset in a real-world oral health campaign targeted at laypeople.

Step 4: Summative Reporting: Alongside the media asset, groups submit a comprehensive written final report analysing their topic from both a clinical-preventive standpoint and a socio-behavioural change framework.

RESULTS AND DISCUSSION

Enrolment Growth and Scalability Data

The 400% increase in enrollment from 2017 (N=20) to 2026 (N=80) indicates that oral health wellness, when simplified and integrated into a liberal arts framework, attracts undergraduate students from various fields, including the humanities, business, engineering, and law.

Table 1. The longitudinal data indicate that the structural shift from a restricted, annual face-to-face elective to a biannual, 2-credit online course dramatically amplified student demand and institutional reach.

Academic year	Delivery mode	Freq. per Year	Credit Unit	Student enrolment/ year
2017-2019	Face-to-Face	1	1	20
2020-2025	Online (MCO)	1	2	30
2026-	Fully Online	2	2	160

Diagnostic and Learning Progression Outcomes

Analysis of baseline tests across several semesters revealed a significant initial gap in basic dental knowledge among non-majors. For example, while most students recognised that sugar causes decay, fewer than 15% could correctly identify the importance of how often

sugar is consumed compared to the total amount or explain how gum inflammation affects heart health.

Focusing on the digital media course significantly increased students' understanding. The group campaign videos demonstrated a solid grasp of the material. Students effectively transformed complex biological processes—like bacterial biofilm buildup, acid demineralisation, and calculus formation—into engaging, culturally relevant, and easy-to-understand visual content.

Alignment with Human-Centred Lifelong Learning

From a teaching perspective, creating a public health campaign video meets the higher levels of Bloom's Revised Taxonomy (Creating and Evaluating) (Koumi, 2015). Instead of just memorising information for a test, students needed to express their learning in ways that would benefit their immediate social circles, such as family and friends. This directly meets CLO 3 and aligns with the iCitra conference theme of human-centred learning. The course effectively changes the student's role from a passive learner to an empowered public health advocate.

CONCLUSION

The nine-year journey of this undergraduate elective offers a clear model for incorporating specialised health sciences effectively into a modern liberal studies curriculum. By transitioning to an online format, the program moved beyond the limits of physical classrooms and successfully made important wellness knowledge accessible to a growing student population.

The key takeaway from this teaching evolution is that human-centred lifelong learning occurs when assessments connect with community needs. Requiring non-major undergraduates to create public health video campaigns ensures that the influence of university education extends well beyond graduation. This approach has a lasting effect on the health behaviours of Malaysian families and communities.

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HADHARI dan Harapan Mahasiswa: Menelusuri Strategi Pemerkasaan Mahasiswa di Lima Universiti Awam Malaysia melalui Pemerhatian Media Sosial Rasmi 2023-2025

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ABSTRAK

Struktur pendidikan tinggi yang dipengaruhi oleh transformasi digital, media sosial bukan lagi sekadar medium penyebaran maklumat, sebaliknya telah berkembang sebagai ruang representasi identiti, kepimpinan dan pemerkasaan mahasiswa. Kajian ini bertujuan meneliti strategi pemerkasaan mahasiswa di lima universiti awam Malaysia, iaitu Universiti Kebangsaan Malaysia, Universiti Malaya, Universiti Putra Malaysia, Universiti Teknologi Malaysia dan Universiti Sains Malaysia melalui pemerhatian terhadap kandungan Instagram rasmi badan kepimpinan mahasiswa bagi tempoh 2023 hingga 2025. Kajian menggunakan kerangka HADHARI yang merangkumi tujuh elemen utama, iaitu Hope, Aspiration, Discipline, Harmony, Action, Responsive dan Innovation. Pendekatan berbentuk kualitatif digunakan melalui analisis pemerhatian kandungan digital. Aspek yang diperhatikan termasuk jenis program, mesej nilai, visual naratif, konsistensi hantaran, penglibatan mahasiswa, testimoni pelajar serta bentuk kolaborasi dengan industri, badan bukan kerajaan dan komuniti. Dapatan kajian menunjukkan bahawa setiap universiti mempunyai strategi pemerkasaan mahasiswa yang berbeza berdasarkan identiti institusi masing-masing. UM lebih menonjol dalam aspek kebajikan dan kesejahteraan mahasiswa, UKM menyerlah dalam kepimpinan strategik, jaringan dan respons terhadap isu global, UTM dominan dalam inovasi teknologi dan kebolehpasaran industri, UPM memperlihatkan pembangunan mahasiswa yang paling holistik, manakala USM kuat dalam advokasi, intelektualisme dan keharmonian sosial. Kesimpulannya, elemen Hope, Action dan Responsive merupakan elemen paling konsisten merentas universiti. Kajian ini mencadangkan bahawa kerangka HADHARI dijadikan model analisis pembangunan mahasiswa yang lebih menyeluruh dalam konteks pendidikan tinggi Malaysia.

Kata Kunci: HADHARI, harapan mahsiswa, pemerkasaan mahasiswa, universiti penyelidikan, media sosial rasmi, kepimpinan pelajar.

PENGENALAN

Mahasiswa merupakan kelompok strategik dalam ekosistem pendidikan tinggi kerana mereka bukan sahaja berperanan sebagai penerima ilmu, tetapi juga sebagai agen perubahan sosial, pemimpin masa hadapan dan penggerak pembangunan negara. Dalam konteks universiti penyelidikan, peranan mahasiswa menjadi lebih signifikan kerana mereka berada dalam persekitaran akademik yang menekankan kecemerlangan ilmu, inovasi, kepimpinan, jaringan industri dan keterlibatan masyarakat. Penubuhan Universiti Penyelidikan

Malaysia sendiri bertujuan memperkukuh penyelidikan, pembangunan dan inovasi negara, dengan UM, UKM, UPM dan USM diiktiraf pada tahun 2006, manakala UTM diiktiraf pada tahun 2010 (Academy of Sciences Malaysia, 2019). Justeru, pemerkasaan mahasiswa di universiti penyelidikan perlu dilihat secara lebih menyeluruh, merangkumi pembangunan nilai, aspirasi kepimpinan, kesejahteraan, kepekaan sosial, kebolehpasaran dan keupayaan bertindak terhadap cabaran semasa. Hal ini selari dengan penekanan Pelan Pembangunan Pendidikan Malaysia 2015–2025 (Pendidikan Tinggi) yang menggariskan keperluan melahirkan graduan holistik, berciri keusahawanan dan seimbang (Ministry of Higher Education Malaysia, 2015).

Dalam era transformasi digital, media sosial telah menjadi ruang penting dalam membentuk naratif, identiti dan keterlihatan mahasiswa. Platform seperti Instagram bukan sahaja berfungsi sebagai medium hebahan program, tetapi juga sebagai arkib digital yang memperlihatkan nilai, keutamaan, budaya kepimpinan dan strategi pemerkasaan mahasiswa sesebuah universiti. Kajian terkini menunjukkan bahawa media sosial dalam pendidikan tinggi berkait rapat dengan pembangunan identiti, sokongan pembelajaran dan penglibatan pelajar (Astleitner & Schlick, 2025). Selain itu, komunikasi institusi melalui media sosial juga semakin dikaitkan dengan pembinaan kepercayaan, rasa keterangkuman dan penglibatan warga universiti (Galioto et al., 2025). Oleh itu, media sosial rasmi mahasiswa boleh dibaca sebagai ruang representasi strategik yang mencerminkan bagaimana badan kepimpinan pelajar menyampaikan mesej kebajikan, advokasi, inovasi, solidariti, kepimpinan dan aspirasi masa depan.

Sehubungan itu, kajian ini menggunakan kerangka HADHARI dan Harapan Mahasiswa sebagai asas analisis bagi meneliti strategi pemerkasaan mahasiswa di lima Universiti Penyelidikan Malaysia, iaitu Universiti Kebangsaan Malaysia, Universiti Malaya, Universiti Putra Malaysia, Universiti Teknologi Malaysia dan Universiti Sains Malaysia. Kerangka HADHARI merangkumi tujuh dimensi utama, iaitu *Hope*/Harapan, *Aspiration*/Aspirasi, *Discipline*/Disiplin, *Harmony*/Harmoni, *Action*/Tindakan, *Responsive*/Responsif dan *Innovation*/Inovasi.
Dimensi ini membolehkan pemerkasaan mahasiswa dianalisis secara lebih menyeluruh, meliputi aspek nilai, tindakan sosial, kepimpinan, kesejahteraan, inovasi dan respons terhadap isu semasa. Pemilihan lima universiti penyelidikan ini juga selari dengan fokus kajian yang meneliti kandungan media sosial rasmi badan kepimpinan mahasiswa bagi tempoh 2023 hingga 2025, merangkumi aspek jenis program, mesej nilai, naratif visual, penglibatan mahasiswa dan bentuk kolaborasi dengan industri, badan bukan kerajaan serta komuniti.

Kajian ini penting kerana media sosial kini bukan lagi sekadar alat promosi, tetapi sebahagian daripada ekosistem komunikasi strategik universiti. Kajian literatur terkini menunjukkan bahawa media sosial dalam pendidikan tinggi digunakan untuk memperkukuh penglibatan pelajar, penjenamaan universiti, komunikasi institusi dan hubungan dengan komuniti akademik yang lebih luas (Pawar et al., 2024). Dalam masa yang sama, penggunaan teknologi digital dalam pendidikan tinggi turut mempengaruhi bentuk penglibatan pelajar secara akademik, tingkah laku, kognitif dan afektif (Balalle, 2024). Maka, analisis terhadap media sosial rasmi mahasiswa berupaya memberikan gambaran alternatif tentang bagaimana pemerkasaan mahasiswa dibina, dipersembahkan dan dikomunikasikan dalam konteks universiti penyelidikan Malaysia.

HASIL DAN PERBINCANGAN

Panjang Hasil pemerhatian menunjukkan bahawa strategi pemerkasaan mahasiswa di lima Universiti Penyelidikan Malaysia mempunyai corak yang berbeza mengikut identiti, kekuatan institusi dan orientasi program masing-masing. Secara keseluruhan, elemen *Hope*/Harapan, *Action*/Tindakan dan *Responsive*/Responsif muncul sebagai dimensi paling konsisten merentas universiti. Dapatan ini menunjukkan bahawa program mahasiswa bukan sahaja berfungsi sebagai aktiviti sokongan kampus, tetapi turut menjadi medium pembinaan harapan, kepimpinan, kepekaan sosial dan tindakan kolektif mahasiswa. Hal ini selari dengan matlamat pendidikan tinggi negara yang menekankan pembentukan graduan holistik, berciri keusahawanan dan seimbang, serta berupaya menyumbang kepada masyarakat dan negara (Ministry of Higher Education Malaysia, 2015). Dalam konteks Universiti Penyelidikan Malaysia, pemerkasaan mahasiswa juga berkait rapat dengan persekitaran institusi yang menekankan kecemerlangan ilmu, inovasi, kebolehpasaran dan jaringan strategik, selari dengan peranan universiti penyelidikan sebagai pemangkin pembangunan ilmu dan inovasi negara (Academy of Sciences Malaysia, 2019).
Dapatan kajian memperlihatkan bahawa UM lebih menonjol dalam aspek kebajikan dan kesejahteraan mahasiswa melalui program yang bersifat *student-centred* dan *welfare-oriented*. UKM pula menyerlah melalui kepimpinan strategik, jaringan luar, solidariti dan respons terhadap isu masyarakat serta global. UTM

menunjukkan kekuatan paling jelas dalam elemen inovasi, teknologi, industri dan kebolehpasaran, manakala UPM memperlihatkan model pemerkasaan yang lebih holistik melalui gabungan akademik, kerjaya, keusahawanan, kelestarian, kesihatan mental dan kepimpinan global. USM pula cenderung menonjol dalam advokasi, pembangunan intelektual, keharmonian sosial dan kesedaran komuniti. Perbezaan ini menunjukkan bahawa pemerkasaan mahasiswa di universiti penyelidikan tidak berlaku secara seragam, sebaliknya dibentuk oleh budaya institusi, kekuatan akademik, orientasi kepimpinan pelajar dan strategi komunikasi masing-masing. Dapatan ini menyokong pemerhatian bahawa setiap universiti mempunyai identiti pemerkasaan tersendiri, dengan UM menonjol dalam kebajikan, UKM dalam kepimpinan strategik, UTM dalam inovasi, UPM dalam pembangunan holistik dan USM dalam advokasi serta keharmonian sosial.

Dari sudut media sosial, kajian ini menunjukkan bahawa platform rasmi mahasiswa, khususnya Instagram, tidak lagi boleh dilihat hanya sebagai ruang hebahan program. Sebaliknya, media sosial berfungsi sebagai arkib digital, ruang representasi identiti, medium komunikasi strategik dan saluran pembinaan keterlihatan kepimpinan mahasiswa. Kajian terkini menunjukkan bahawa penggunaan media sosial dalam pendidikan tinggi berkait rapat dengan pembangunan identiti, sokongan pembelajaran dan pengalaman penglibatan pelajar (Astleitner & Schlick, 2025). Selain itu, media sosial dalam konteks universiti juga berperanan dalam membina kepercayaan, komuniti digital, rasa keterangkuman dan komunikasi institusi yang lebih dekat dengan pelajar (Galioto et al., 2025). Oleh itu, hantaran media sosial rasmi mahasiswa boleh dibaca sebagai dokumen sosial yang mencerminkan nilai, keutamaan, budaya kepimpinan dan strategi pemerkasaan mahasiswa sesebuah universiti.

Perbincangan ini juga menunjukkan bahawa elemen *Action* menjadi komponen penting dalam kerangka HADHARI kerana hampir semua universiti memaparkan program berbentuk tindakan nyata seperti forum, kempen, bantuan kebajikan, program komuniti, aktiviti solidariti, pertandingan inovasi dan kolaborasi strategik. Elemen ini menggambarkan mahasiswa sebagai aktor aktif dalam ekosistem universiti, bukan sekadar penerima dasar atau peserta program. Dalam masa yang sama, elemen *Responsive* memperlihatkan keupayaan mahasiswa bertindak balas terhadap isu semasa seperti kesihatan mental, bencana, kos sara hidup, kebajikan pelajar, kelestarian dan solidariti kemanusiaan. Hal ini bertepatan dengan perkembangan pendidikan tinggi digital yang menuntut pelajar bukan sahaja terlibat dalam pembelajaran formal, tetapi juga aktif dalam ruang sosial, teknologi dan komuniti yang lebih luas (Balalle, 2024; Pawar et al., 2024).

Walau bagaimanapun, dapatan turut menunjukkan bahawa elemen *Innovation* tidak muncul secara seimbang di semua universiti. UTM dan UPM menunjukkan kekuatan yang lebih jelas melalui program berkaitan teknologi, *hackathon*, keusahawanan, AI, kelestarian dan penyelesaian komuniti, manakala UM dan USM lebih sederhana dalam aspek ini. Perbezaan ini memberi implikasi bahawa badan kepimpinan mahasiswa dan universiti perlu memperkukuh program berasaskan inovasi secara lebih menyeluruh, tanpa mengabaikan dimensi kebajikan, harmoni dan pembangunan nilai. Justeru, kerangka HADHARI dan Harapan Mahasiswa berpotensi digunakan sebagai model analisis pembangunan mahasiswa yang lebih sistematik kerana ia menilai pemerkasaan bukan hanya dari sudut aktiviti, tetapi juga dari sudut nilai, tindakan, respons sosial dan inovasi. Kajian ini mencadangkan agar media sosial rasmi mahasiswa digunakan secara lebih strategik dengan memasukkan maklumat impak program, testimoni peserta, statistik penyertaan, bentuk kolaborasi dan hasil pelaksanaan bagi memperkukuh naratif pemerkasaan mahasiswa di universiti penyelidikan Malaysia.

KESIMPULAN

Secara keseluruhannya, kajian ini menunjukkan bahawa strategi pemerkasaan mahasiswa di lima Universiti Penyelidikan Malaysia mempunyai corak yang tersendiri berdasarkan identiti, budaya institusi dan kekuatan program masing-masing. Melalui kerangka HADHARI dan Harapan Mahasiswa, pemerkasaan mahasiswa dapat difahami secara lebih menyeluruh melalui tujuh dimensi utama, iaitu *Hope*/Harapan, *Aspiration*/Aspirasi, *Discipline*/Disiplin, Harmony/Harmoni, *Action*/Tindakan, *Responsive*/Responsif dan *Innovation*/Inovasi. Dapatan kajian memperlihatkan bahawa Hope, Action dan Responsive merupakan elemen paling konsisten merentas universiti, sekali gus menggambarkan bahawa mahasiswa bukan sahaja dilihat sebagai harapan masa depan, tetapi juga sebagai kelompok yang aktif bertindak dan peka terhadap isu semasa. Hal ini selari dengan aspirasi pendidikan tinggi negara yang menekankan pembentukan graduan holistik, seimbang, berdaya saing dan mampu menyumbang kepada masyarakat serta negara.

Kajian ini juga mendapati bahawa media sosial rasmi mahasiswa, khususnya Instagram, berperanan sebagai ruang penting dalam membina naratif pemerkasaan mahasiswa. Media sosial tidak lagi terhad sebagai medium hebahan program, tetapi turut berfungsi sebagai

arkib digital, ruang representasi identiti, saluran komunikasi strategik dan medium keterlihatan kepimpinan mahasiswa. Dalam konteks ini, UM menonjol melalui pendekatan kebajikan dan kesejahteraan, UKM melalui kepimpinan strategik dan jaringan, UTM melalui inovasi teknologi dan industri, UPM melalui pembangunan holistik, manakala USM melalui advokasi, intelektualisme dan keharmonian sosial. Perbezaan ini membuktikan bahawa pemerkasaan mahasiswa di universiti penyelidikan tidak bersifat seragam, sebaliknya berkembang mengikut kekuatan dan orientasi institusi masing-masing.

Justeru, kerangka HADHARI dan Harapan Mahasiswa berpotensi dijadikan sebagai model analisis pembangunan mahasiswa yang lebih sistematik, seimbang dan relevan dengan cabaran pendidikan tinggi semasa. Kerangka ini bukan sahaja membantu menilai jenis program mahasiswa, tetapi juga meneliti nilai, tindakan, respons sosial, keharmonian dan inovasi yang terkandung dalam program tersebut. Kajian ini mencadangkan agar universiti dan badan kepimpinan mahasiswa menggunakan media sosial secara lebih strategik dengan menonjolkan impak program, testimoni peserta, statistik penyertaan, bentuk kolaborasi dan hasil pelaksanaan. Dengan pendekatan ini, pemerkasaan mahasiswa dapat diperkukuh bukan sahaja sebagai agenda aktiviti kampus, tetapi sebagai sebahagian daripada usaha membina generasi muda yang berilmu, berdaya tindak, beretika, responsif dan bersedia memimpin masa depan negara.

PENGHARGAAN

Penulis merakamkan setinggi-tinggi penghargaan kepada Etika Info Sdn. Bhd. atas sokongan melalui geran penyelidikan RH-2025-001 bagi menjayakan kajian ini. Penghargaan turut diberikan kepada Pusat Pengajian Citra Universiti, Institut Islam Hadhari dan Felo Muda AKEPT atas kerjasama, sokongan akademik serta sumbangan strategik dalam pelaksanaan kajian HADHARI dan Harapan Mahasiswa. Semoga kerjasama ini dapat terus memperkukuh agenda pembangunan mahasiswa yang berilmu, beretika, responsif dan berdaya saing dalam ekosistem pendidikan tinggi Malaysia.

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AI-Assisted Programming Learning for Enhancing Graduate Employability: A Case Study of Java OOP Learning

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ABSTRACT

Novice Java learners often receive a score or compiler message without sufficient guidance on why their code failed or what to do next. This study designed and preliminarily evaluated LearnAIJava Desktop, a human-centred, rule-based AI-assisted assignment and feedback system for programming practice. The prototype uses local Java compilation and execution, weighted sample and hidden test cases, error classification, targeted recommendations, and analytics for students and instructors. Evaluation included functional, workflow, regression, and AI-feedback scenario tests, followed by user acceptance testing with 10 anonymous participants (eight students and two instructors). The core assignment, evaluation, feedback, and analytics functions passed their specified tests. Mean user ratings were 4.80/5 for Java Run/Evaluate and AI feedback, 4.90 for data ownership, 4.50 overall, and 3.70 for speed and stability. These results provide preliminary acceptance evidence for a design that separates official scoring from formative feedback. They do not establish learning or employability gains. Loading time, interface guidance, sandboxing, and the small non-comparative sample remain limitations. LearnAIJava offers a concrete model for supporting debugging, reflection, and self-directed practice while leaving code revision to the learner.

Keywords: AI-assisted learning, programming education, formative feedback, Java, graduate employability

INTRODUCTION

Programming competence develops through repeated attempts, error diagnosis, and revision. In introductory Java, learners must coordinate syntax, input handling, control flow, object-oriented concepts, and output requirements. A final mark or raw compiler message may identify failure without helping a novice decide what to change. Effective feedback should therefore be timely, connected to the learner's action, and directed towards the next step (Hattie & Timperley, 2007).

Automated programming assessment provides rapid and repeatable evaluation, but its feedback often identifies mistakes without helping students correct them (Keuning et al., 2018). Dynamic testing is common, and system evaluations frequently use student surveys or comparisons with human grading (Messer et al., 2024). A learning system should keep scoring evidence separate from explanatory guidance and preserve assessment boundaries.

Systematic debugging, problem solving, and self-directed learning are relevant to future work, but graduate employability is broader than technical performance (Tomlinson, 2012). This study does not measure employability. It examines how LearnAIJava Desktop combines Java evaluation, rule-based feedback, and analytics, and reports preliminary functional and user-acceptance evidence.

RESULTS AND DISCUSSION

LearnAIJava Desktop implements a class-based assignment workflow. Students edit Java code and use Run for non-scoring practice or Evaluate for official assessment. The local judge compiles *Main.java*, executes visible and hidden cases, compares outputs, and calculates a weighted score. Instructors manage private

questions, test cases, assignments, submissions, and class analytics. Role and ownership checks restrict data access.

The rule-based engine reads judge status, compiler or runtime messages, output mismatches, hidden-case status, code patterns, topics, and analytics. It maps this evidence to error categories, explanations, hints, and recommended checks. Test-case weights alone determine the official score; feedback cannot change marks, reveal hidden answers, or generate complete solutions. Figure 1 shows the separation between assessment and guidance.

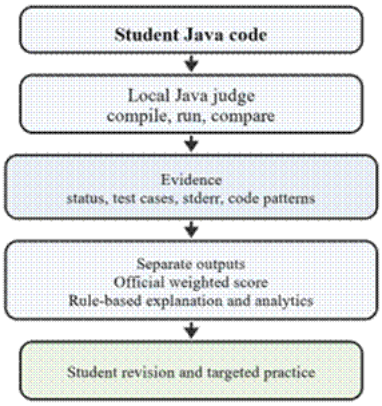

Figure 1. Evidence flow in the LearnAIJava human-centred feedback model.

Evaluation combined functional, workflow, regression, and AI-feedback scenario testing with a small user acceptance test (UAT). Recorded tests covered role routing, class joining, question and test-case creation, Run, Evaluate, hidden-case protection, submission, instructor review, analytics, and feedback. All met their specified acceptance conditions. Scenario tests also covered compilation, runtime, timeout, input, and output errors.

The UAT involved 10 anonymous participants: eight students and two instructors. Students tested the assignment and feedback workflow; instructors tested content management, review, and analytics. Table 1 reports mean ratings on a five-point scale.

Table 1. Preliminary UAT ratings for LearnAIJava Desktop (n = 10)

Dimension	Mean (/5)
Ease of use	4.60
Interface clarity	4.50
Function completeness	4.70
Speed and stability	3.70
Java Run/Evaluate	4.80
AI feedback	4.80
Data ownership	4.90
Overall satisfaction	4.50

Data ownership, Java evaluation, and AI feedback received the highest ratings. Comments described automatic checking as useful for instructors and feedback as helpful for identifying mistakes. The results concern usability and perceived usefulness, not learning improvement. Loading time and page guidance were the main weaknesses.

Judge evidence supports both the official result and the explanation. Students receive a reproducible score and guidance from the same execution record, while instructors can inspect submissions and case results. The rule path is traceable, but revision stays with the student. Analytics identify weak topics and repeated errors across attempts.

The sample was small and contained no control group, pre-test, or post-test. Programming gains, self-regulation, and employment outcomes were not measured. Some analytics thresholds are design rules rather than validated cut-offs, and the Java runner requires stronger production sandboxing. Debugging and self-directed practice are therefore plausible employability-related contributions, not demonstrated effects. A larger classroom study should compare outcomes over time and examine how students act on feedback.

CONCLUSION

LearnAIJava Desktop pairs deterministic Java assessment with rule-based formative feedback. Functional and scenario tests confirmed the specified workflow, and the 10 UAT participants rated Java Run/Evaluate, AI feedback, and data ownership positively. The study does not show improved learning or employability. It shows that scoring and feedback can share evidence while remaining separate: the judge determines marks, and the rules explain the result without supplying a

complete answer. Further work should strengthen sandboxing and performance, validate feedback thresholds, and test learning and employability-related capabilities with larger longitudinal samples.

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Analisis Penglibatan Mahasiswa, Pencapaian TERAS UKM dan Kesediaan Kerjaya dalam Kalangan Mahasiswa FST UKM

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ABSTRAK

Penglibatan mahasiswa sebagai ahli jawatankuasa (AJK) dalam program anjuran mahasiswa adalah sebuah platform pembelajaran berasaskan pengalaman yang menyokong pembangunan holistik mahasiswa di institut pengajian tinggi (IPT). Kajian empirikal ini menilai hubungan antara penglibatan tersebut dengan pencapaian lima (5) TERAS Kebitaraan Universiti Kebangsaan Malaysia (UKM) serta kesediaan mahasiswa menghadapi alam pekerjaan yang masih terhad, terutamanya dalam kalangan mahasiswa Fakulti Sains dan Teknologi (FST). Kajian tinjauan kuantitatif ini melibatkan 157 responden mahasiswa FST yang mengisi soal selidik dalam talian dan data ini dianalisis menggunakan statistik deskriptif serta korelasi Pearson menggunakan perisian R. Dapatan kajian bagi tahap penglibatan, pembangunan kemahiran (M = 4.39), pencapaian lima (5) TERAS UKM (M = 4.49) serta kesediaan menghadapi alam pekerjaan ((M = 4.43) menunjukkan hasilnya berada pada tahap tinggi. Analisis ini juga menunjukkan hubungan positif yang kuat dan signifikan antara pembangunan kemahiran ($r = 0.736$, $p < 0.001$) dan pencapaian lima (5) TERAS UKM ($r = 0.784$, $p < 0.001$) dengan kesediaan mahasiswa menghadapi alam pekerjaan. Dapatan ini membuktikan bahawa penglibatan mahasiswa sebagai AJK program mahasiswa menyumbang kepada pembentukan kemahiran insaniah dan kesediaan kerjaya graduan secara signifikan, maka pembelajaran ini wajar untuk diperkukuh sebagai komponen strategik dalam pembangunan mahasiswa holistik di IPT.

Kata Kunci: ahli jawatankuasa program, pembangunan kemahiran, TERAS UKM, kesediaan kerjaya, kebolehpasaran graduan.

PENGENALAN

Institut pengajian tinggi (IPT) berperanan sebagai pusat penyampaian ilmu, malah turut bertanggungjawab untuk melahirkan graduan dengan kompetensi profesional, kemahiran insaniah serta nilai kepimpinan yang mampu memenuhi keperluan industri. Seiring dengan aspirasi lima (5) TERAS Kebitaraan Universiti Kebangsaan Malaysia iaitu Bakat, Etika, Memperkasa, Tangkas dan Jiwa, pembangunan mahasiswa tidak terhad kepada pencapaian akademik, bahkan merangkumi pembentukan sahsiah, kepimpinan, pemikiran kritikal, tanggungjawab sosial dan kesejahteraan diri (Buckley & Lee, 2021; De Sisto et al., 2022).

Antara platform utama yang menyokong pembangunan holistik mahasiswa adalah penglibatan dalam penganjuran program mahasiswa sebagai ahli jawatankuasa (AJK). Mahasiswa didedahkan dengan situasi sebenar sekali gus menimba pengalaman seperti mengurus projek, membuat keputusan, berkomunikasi dengan pelbagai pihak, menyelesaikan konflik serta bekerjasama dalam sebuah pasukan (de Prada Creo et al., 2021; Balwant, 2022). Pengalaman ini merupakan bentuk pembelajaran berasaskan pengalaman yang sukar diperoleh melalui pembelajaran dalam bilik kuliah dan telah terbukti lebih berkesan dalam membina keyakinan serta keberkesanan kepimpinan mahasiswa berbanding kaedah simulasi atau kajian kes (Torrico et al., 2025).

Kajian empirikal yang menilai hubungan antara pengalaman sebagai AJK program mahasiswa dengan pencapaian lima (5) TERAS UKM serta kesediaan mahasiswa menghadapi alam pekerjaan masih terhad, terutamanya dalam kalangan mahasiswa Fakulti Sains dan Teknologi (FST) UKM, walaupun penglibatan kokurikulum sering dikaitkan dengan pembangunan kemahiran insaniah dan kebolehpasaran graduan (Razalli et al., 2025; Foley et al., 2023; Zahn et al., 2024). Oleh itu, kajian ini dijalankan untuk menilai impak penglibatan mahasiswa sebagai AJK terhadap pembangunan diri dan persediaan mereka memasuki alam pekerjaan.

Kajian ini mempunyai tiga objektif, iaitu (1) menganalisis tahap dan corak penglibatan mahasiswa FST sebagai AJK dalam program anjuran mahasiswa; (2) menilai sumbangan penglibatan tersebut terhadap pembangunan kemahiran serta pencapaian lima (5) TERAS Kebitaraan UKM; dan (3) menilai sejauh mana penglibatan dan kemahiran yang diperoleh menyumbang kepada kesediaan mahasiswa menghadapi alam pekerjaan.

HASIL DAN PERBINCANGAN

Kajian tinjauan kuantitaif melalui soal selidik dalam talian ini melibatkan 157 orang mahasiswa FST UKM yang mengukur demografi, corak penglibatan sebagai AJK, pembangunan kemahiran, pencapaian TERAS UKM dan kesediaan menghadapi alam pekerjaan menggunakan skala likert lima mata. Data dianalisis menggunakan perisian R melalui statistik deskriptif, Cronbach's Alpha dan korelasi Pearson.

Majoriti responden adalah perempuan (79.6%) dan hampir semua (99.4%) pernah menjadi AJK program anjuran mahasiswa dengan lebih separuh menyertai 11 hingga 50 program pada tahap penglibatan tinggi hingga sangat tinggi seperti Karnival Konvokesyen UKM, *Multidisciplinary Regional Conference in Science and Technology* dan *Ungku Omar Festival*. Dapatan ini menyangkal tanggapan stereotaip yang sering melihat mahasiswa FST sebagai lebih berorientasikan akademik semata-mata dengan andaian penglibatan kokurikulum bukan sebuah keutamaan. Sebaliknya kadar penglibatan yang hampir menyeluruh ini membuktikan mahasiswa FST juga mampu mengimbangi tuntutan akademik berteraskan sains dengan penglibatan kepimpinan yang aktif. Jawatan yang paling banyak disandang ialah Exco, diikuti sebagai AJK Biasa dan Setiausaha. Seterusnya, mahasiswa bergiat aktif dalam program berbentuk latihan, kursus dan bengkel yang selari dengan dapatan bahawa aktiviti pembelajaran berasaskan pengalaman dan latihan vokasional mendapat penilaian tertinggi dari segi kepentingan dalam kalangan mahasiswa. Semua konstruk kajian memperoleh nilai kebolehpercayaan sangat tinggi (Cronbach's Alpha = 0.90–0.92).

Ketiga-tiga konstruk utama berada pada tahap tinggi seperti dalam Jadual 1 dengan pembangunan kemahiran (M = 4.39, SP = 0.58), diterajui oleh kemahiran komunikasi, kerja berpasukan dan kepimpinan. Dapatan ini sejajar dengan dapatan aktiviti kokurikulum menjadi medium utama penguasaan kemahiran tersebut (de Prada Creo et al., 2021; Kim, 2022). Seterusnya, pencapaian TERAS UKM (M = 4.49, SP = 0.56), diterajui oleh kepimpinan, jati diri, pemikiran kritikal dan tanggungjawab sosial (Kim, 2022; Torrico et al., 2025). Walau bagaimanapun, dimensi kesejahteraan diri menunjukkan skor lebih rendah sekali gus membuktikan bahawa penglibatan kokurikulum memerlukan sokongan yang lebih holistik terhadap kesejahteraan mahasiswa (De Sisto et al., 2022). Akhir sekali, dapatan kesediaan menghadapi alam pekerjaan (M = 4.43, SP = 0.59) selari dengan kajian tempatan bahawa penglibatan kokurikulum menyumbang kepada kebolehpasaran graduan IPT awam Malaysia secara signifikan (Razalli et al., 2025).

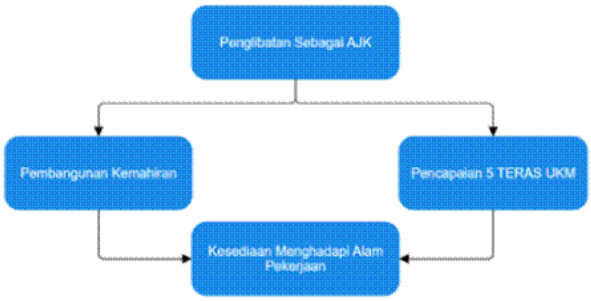
Jadual 1. Nilai Cronbach's Alpha, Min dan Sisihan Piawai

Konstruk	Bilangan Item	Cronbach's Alpha	Purata	Sisihan Piawai
Kemahiran	6	0.90	4.39	0.58
5 TERAS UKM	5	0.90	4.49	0.56
Kesediaan Kerjaya	5	0.92	4.43	0.59

Analisis korelasi Pearson seperti dalam Jadual 2 selari dengan kajian Buckley dan Lee (2021) serta Chapman et al. (2023) di mana dapatan menunjukkan hubungan positif yang kuat dan signifikan antara pembangunan kemahiran ($r = 0.736$, $p < 0.001$) dan pencapaian TERAS UKM ($r = 0.784$, $p < 0.001$) dengan kesediaan mahasiswa menghadapi alam pekerjaan. Maka, dapatan ini membuktikan pembelajaran berasaskan pengalaman sebenar mahasiswa sebagai AJK program mahasiswa mampu memperkukuh kompetensi graduan (Torrico et al., 2025; Balwant, 2022) dan mengesahkan bahawa perkara ini merupakan komponen penting dalam pembangunan graduan yang bersepadu (de Prada Creo et al., 2021) seperti yang ditunjukkan dalam Rajah 1.

Jadual 2. Korelasi Pearson

Hubungan	Nilai r	Nilai-p	Interpretasi
Kemahiran dan Kesediaan Kerjaya	0.736	<0.001	Kuat
TERAS UKM dan Kesediaan Kerjaya	0.784	<0.001	Kuat



Rajah 1 Kerangka Konseptual Kajian

KESIMPULAN

Kajian ini menunjukkan bahawa penglibatan mahasiswa sebagai AJK program anjuran mahasiswa memberikan impak signifikan terhadap pembangunan kemahiran, pencapaian lima (5) TERAS Kebitaraan UKM serta kesediaan menghadapi alam pekerjaan. Mahasiswa yang aktif dalam penganjuran program memperoleh pengalaman kepimpinan dan pengurusan, malah menunjukkan tahap keyakinan serta kebolehpasaran yang lebih tinggi.

Dapatan kajian ini juga membuktikan bahawa pembangunan kemahiran dan pencapaian nilai-nilai TERAS UKM mempunyai hubungan positif yang kuat dengan kesediaan menghadapi alam pekerjaan. Maka, pihak universiti disarankan untuk terus memperkukuh dan menyokong pelaksanaan program mahasiswa melalui penyediaan peluang seperti dana dan tempat yang bersesuaian. Langkah ini mampu menyokong usaha melahirkan graduan yang cemerlang dari aspek akademik, berdaya saing dan bersedia memenuhi keperluan industri seiring dengan aspirasi pendidikan tinggi negara. Kajian lanjutan disarankan untuk meneroka hubungan secara kualitatif serta merangkumi mahasiswa daripada seluruh fakulti dan pusat pengajian di UKM untuk meningkatkan kebolehgeneralisasian dapatan kepada keseluruhan populasi mahasiwa universiti.

PENGHARGAAN

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Pengalaman Pendidikan Global melalui Program Mobiliti Antarabangsa dalam Membentuk Kemenjadian Pelajar

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ABSTRAK

Kajian ini membincangkan pengalaman pendidikan global melalui program mobiliti antarabangsa dalam membentuk kemenjadian pelajar institusi pendidikan tinggi. Pendedahan pelajar terhadap pengalaman pendidikan global masih terhad walaupun pelajar masa kini perlu memiliki pemikiran global, kemampuan komunikasi rentas budaya dan kebolehan menyesuaikan diri dalam persekitaran antarabangsa. Oleh itu, kajian ini dijalankan bagi mengenal pasti pengalaman pendidikan global yang diperoleh pelajar melalui program mobiliti antarabangsa serta membincangkan peranan program tersebut dalam membentuk kemenjadian pelajar melalui pengalaman rentas budaya dan pembelajaran kolaboratif. Kajian ini menggunakan pendekatan kualitatif melalui kaedah pemerhatian sepanjang program berlangsung serta sesi maklum balas selepas program tamat. Data dianalisis secara tematik bagi mengenal pasti tema utama kajian. Dapatan kajian menunjukkan bahawa program mobiliti antarabangsa memberi impak positif terhadap pembangunan pelajar melalui pengalaman pendidikan global, interaksi rentas budaya, pembentukan keyakinan diri dan pembelajaran kolaboratif. Program ini turut membantu meningkatkan keterbukaan pemikiran, kemampuan komunikasi dan penyesuaian diri pelajar dalam persekitaran antarabangsa. Kajian ini menyumbang kepada pemahaman berkaitan kepentingan program mobiliti antarabangsa sebagai medium pembangunan holistik dan pemerkasaan pelajar universiti.

Kata Kunci: program mobiliti antarabangsa, pendidikan global, kemenjadian pelajar, interaksi rentas budaya, pembelajaran kolaboratif.

PENGENALAN

Dalam era globalisasi dan pendidikan rentas sempadan, institusi pendidikan tinggi bukan sahaja berperanan melahirkan pelajar yang cemerlang dalam bidang akademik, malah turut bertanggungjawab membentuk pelajar yang memiliki pemikiran global dan kebolehan komunikasi rentas budaya (Impak & Mustapha, 2020; Yusuf et al., 2022). Selain itu, pelajar juga perlu menguasai penyesuaikan diri dalam persekitaran antarabangsa yang kompetitif (Wadham et al., 2023). Justeru, pelajar perlu didedahkan kepada pengalaman pembelajaran yang melangkaui bilik kuliah melalui interaksi dengan masyarakat, budaya dan sistem pendidikan yang berbeza bagi membantu meningkatkan kefahaman global serta pembangunan diri secara lebih holistik.

Seiring dengan keperluan tersebut, program mobiliti antarabangsa semakin diberi perhatian dalam institusi pendidikan tinggi kerana dilihat mampu menjadi medium yang menyokong pembangunan pelajar secara menyeluruh. Program mobiliti bukan sahaja memberi peluang kepada pelajar untuk memahami sistem pendidikan dan budaya negara lain, malah membantu meningkatkan keyakinan diri, kemahiran komunikasi, keterbukaan pemikiran dan kemampuan bekerjasama dalam persekitaran pelbagai budaya (Roy & Lahiri-Roy, 2024).

Malah, kepentingan program mobiliti antarabangsa turut dapat dilihat apabila pelaksanaannya dijadikan antara petunjuk prestasi utama (KPI) tahunan bagi kolej kediaman di universiti awam termasuk Universiti Kebangsaan Malaysia (UKM). Pendekatan ini menunjukkan bahawa program mobiliti bukan lagi dilihat sebagai aktiviti tambahan semata-mata, tetapi sebagai platform strategik dalam memperkukuh pembangunan pelajar dan pengantarabangsaan universiti.

Program mobiliti antarabangsa antara UKM dan Universiti Macau (UM) telah berlangsung selama tujuh hari enam malam bertempat di Universiti Macau, Macau. Program ini melibatkan penyertaan seramai 14 orang pelajar prasiswazah dan pascasiswazah daripada Kolej Ibu Zain dan Kolej Tun Syed Nasir serta diiringi oleh Pengetua dan Timbalan Pengetua kolej masing-masing. Program ini memberi pendedahan kepada pelajar terhadap pengalaman pendidikan global melalui pelbagai aktiviti seperti dialog pelajar, perkongsian sistem pendidikan, aktiviti kolaboratif, program kebudayaan dan interaksi rentas budaya bersama 41 pelajar dari Universiti Macau. Selain aktiviti akademik dan kebudayaan, peserta turut berpeluang menyertai lawatan sekitar bandar Macau bagi memahami sejarah, budaya dan persekitaran sosial masyarakat setempat secara lebih dekat.

PERNYATAAN MASALAH

Pendedahan pelajar terhadap pengalaman pendidikan global masih terhad dan kebanyakannya hanya diperoleh melalui pembelajaran formal di dalam bilik kuliah. Meskipun program mobiliti sebegini telah wujud dalam institusi pendidikan tinggi awam tetapi potensi penyertaan pelajar masih lagi terhad. Selain itu, masih terdapat kekurangan kajian yang membincangkan bagaimana pengalaman pendidikan global melalui program mobiliti antarabangsa dapat menyumbang kepada kemenjadian pelajar dalam konteks institusi pendidikan tinggi. Oleh itu, kajian ini dijalankan bagi mengenal pasti pengalaman pendidikan global yang diperoleh pelajar melalui program mobiliti antarabangsa serta membincangkan peranan program tersebut dalam membentuk kemenjadian pelajar melalui pengalaman rentas budaya dan pembelajaran kolaboratif.

Pendidikan global wajar dibincangkan daripada sudut keupayaannya dalam memangkin pembangunan dan mobiliti sosial dalam kalangan pelajar kerana pendedahan pelajar terhadap pengalaman pendidikan global dalam kalangan pelajar masih terhad (Mohd Salim et al., 2024). Justeru, program mobiliti antarabangsa dilihat berpotensi menjadi medium pembelajaran pengalaman yang dapat membantu membentuk kemenjadian pelajar secara lebih holistik (Nazir et al., 2023). Melalui interaksi rentas budaya, dialog pelajar, perkongsian sistem pendidikan dan penglibatan dalam aktiviti kolaboratif. Pelajar dapat memperoleh pengalaman pembelajaran global yang sukar diperoleh melalui kaedah pembelajaran konvensional.

Berdasarkan permasalahan yang dibincangkan, kajian ini dijalankan bagi mengenal pasti pengalaman pendidikan global yang diperoleh pelajar melalui program mobiliti antarabangsa serta membincangkan peranan program tersebut dalam membentuk kemenjadian pelajar melalui pengalaman rentas budaya dan pembelajaran kolaboratif.

METODOLOGI

Kajian ini menggunakan pendekatan kualitatif bagi memahami pengalaman pendidikan global dan kemenjadian pelajar melalui program mobiliti antarabangsa. Pengumpulan data dijalankan melalui kaedah pemerhatian sepanjang program berlangsung serta sesi maklum balas selepas program tamat.

Kaedah pemerhatian dilakukan terhadap penyertaan dan penglibatan pelajar dalam pelbagai aktiviti yang dijalankan sepanjang program, merangkumi interaksi rentas budaya, dialog pelajar, perkongsian sistem pendidikan serta penglibatan dalam aktiviti kolaboratif. Pemerhatian turut memberi fokus kepada aspek komunikasi, keterbukaan pelajar terhadap budaya baharu, keyakinan diri serta penglibatan dalam persekitaran pembelajaran antarabangsa.

Selain itu, sesi maklum balas selepas program dijalankan bagi mendapatkan pandangan dan refleksi pelajar terhadap pengalaman yang diperoleh sepanjang program mobiliti antarabangsa tersebut. Data yang diperoleh dianalisis secara tematik bagi mengenalpasti tema-tema utama berkaitan pengalaman pendidikan global dan kemenjadian pelajar.

Jadual 1. Demografi Peserta Program Mobiliti UKM x UM

Perkara	Bilangan
Jantina	Lelaki: 16
	Perempuan: 39
Tahap Pengajian	Prasiswazah: 51
	Pascasiswazah: 4
Program Pengajian	Sains Kesihatan: 10
	Undang-Undang: 5
	Seni Liberal: 1
	Sains Sosial dan Kemanusiaan: 10
	Sains dan Teknologi: 13
	Pentadbiran Perniagaan: 9
	Pendidikan: 2
	Seni dan Kemanusiaan: 5

HASIL DAN PERBINCANGAN

Hasil pemerhatian sepanjang program berlangsung serta sesi maklum balas yang dijalankan selepas program terdapat beberapa tema utama berkaitan pengalaman pendidikan global dan pembentukan kemenjadian pelajar melalui program mobiliti antarabangsa dikenal pasti seperti pengalaman pendidikan global, interaksi rentas budaya, pembentukan keyakinan diri serta pembelajaran kolaboratif dalam persekitaran antarabangsa. Selain itu, perbincangan tentang peranan program yang menyumbang kepada pembangunan diri, keterbukaan pemikiran dan kemampuan pelajar menyesuaikan diri dalam persekitaran antarabangsa turut disertakan.

Rajah 1 Tema Utama Pengalaman Pendidikan Global dan Kemenjadian Pelajar

Tema 1: Pengalaman Pendidikan Global

Hasil pemerhatian dan sesi maklum balas menunjukkan bahawa pelajar memberikan reaksi yang positif terhadap keseluruhan program mobiliti antarabangsa yang dijalankan. Majoriti pelajar menyatakan bahawa program ini memberi pengalaman baharu yang sukar diperoleh melalui pembelajaran formal di dalam bilik kuliah. Pendedahan terhadap suasana pembelajaran antarabangsa, budaya setempat dan interaksi bersama pelajar luar negara membantu meningkatkan kefahaman pelajar terhadap konsep pendidikan global secara lebih menyeluruh. Selain itu, pelajar juga didapati dapat menyesuaikan diri dengan baik sepanjang program berlangsung termasuk dari aspek komunikasi, pengurusan diri dan penglibatan dalam aktiviti yang dijalankan. Program ini secara tidak langsung berperanan memperluaskan pemikiran global pelajar serta meningkatkan keterbukaan mereka terhadap pengalaman pembelajaran di peringkat antarabangsa.

Tema 2: Interaksi Rentas Budaya

Program mobiliti antarabangsa ini turut mewujudkan ruang interaksi rentas budaya yang efektif dan praktikal dalam kalangan peserta. Pelajar didapati dapat berinteraksi dengan baik bersama pelajar daripada universiti, bangsa dan budaya yang berbeza melalui aktiviti dialog pelajar, perkongsian budaya dan aktiviti kolaboratif yang dijalankan sepanjang program. Pemerhatian menunjukkan bahawa pelajar mampu bekerjasama dalam menganjurkan dan menyertai aktiviti walaupun mempunyai latar budaya dan bahasa yang berbeza. Selain itu, hubungan persahabatan yang terjalin turut berterusan selepas aktiviti tamat apabila terdapat pelajar yang masih berhubung dan meluangkan masa bersama di luar jadual rasmi program. Situasi ini menunjukkan bahawa program mobiliti antarabangsa berperanan membantu meningkatkan keterbukaan pemikiran, toleransi budaya dan kemampuan sosial pelajar dalam persekitaran antarabangsa.

Tema 3: Pembentukan Keyakinan Diri

Dapatan kajian turut menunjukkan bahawa program mobiliti antarabangsa membantu meningkatkan keyakinan diri pelajar. Kesemua pelajar yang terlibat menunjukkan tahap keyakinan yang baik sepanjang program berlangsung terutamanya semasa menyertai aktiviti dialog, pembentangan, persembahan budaya dan aktiviti bersama pelajar antarabangsa. Pelajar juga dilihat lebih selesa berkomunikasi dan berinteraksi dalam suasana baharu tanpa menunjukkan kekangan yang ketara dari aspek budaya atau bahasa. Penglibatan aktif pelajar dalam pelbagai aktiviti secara tidak langsung membantu membina keyakinan, keterbukaan dan kemampuan

menyesuaikan diri dalam persekitaran antarabangsa. Program ini jelas memainkan peranan dalam membentuk pembangunan diri pelajar serta meningkatkan kesediaan mereka untuk berhadapan dengan persekitaran global yang lebih mencabar.

Tema 4: Pembelajaran Kolaboratif

Pembelajaran kolaboratif turut dikenal pasti sebagai antara pengalaman penting yang diperoleh pelajar sepanjang program mobiliti antarabangsa ini. Aktiviti seperti karya seni, dialog pelajar, malam bakat dan aktiviti kebudayaan memberi peluang kepada pelajar untuk bekerjasama dalam kumpulan yang terdiri daripada dua universiti yang berbeza. Melalui aktiviti tersebut, pelajar dapat berkongsi idea, pengalaman dan pandangan secara lebih terbuka dalam suasana pembelajaran yang aktif dan tidak formal. Selain membantu meningkatkan kemahiran komunikasi dan kerja berpasukan, pembelajaran kolaboratif juga membantu pelajar memahami kepentingan toleransi, hormat-menghormati dan kemampuan menyesuaikan diri dalam kumpulan yang pelbagai. Program mobiliti antarabangsa ini secara tidak langsung berperanan mewujudkan pengalaman pembelajaran autentik yang menyokong pembangunan holistik dan kemenjadian pelajar.

KESIMPULAN

Secara keseluruhannya, kajian ini berjaya mengenal pasti pengalaman pendidikan global yang diperoleh pelajar melalui program mobiliti antarabangsa serta membincangkan peranan program tersebut dalam membentuk kemenjadian pelajar melalui pengalaman rentas budaya dan pembelajaran kolaboratif. Dapatan kajian menunjukkan bahawa program mobiliti antarabangsa memberi impak positif terhadap pembangunan pelajar terutamanya dari aspek pemikiran global, interaksi rentas budaya, keyakinan diri dan kemampuan bekerjasama dalam persekitaran antarabangsa. Penglibatan pelajar dalam aktiviti dialog, perkongsian sistem pendidikan, aktiviti kebudayaan dan pembelajaran kolaboratif turut membantu meningkatkan keterbukaan pemikiran serta kemampuan pelajar menyesuaikan diri dalam suasana pembelajaran yang pelbagai budaya.

Kajian ini menyumbang kepada pemahaman berkaitan kepentingan pengalaman pendidikan global dalam konteks institusi pendidikan tinggi, khususnya melalui pelaksanaan program mobiliti antarabangsa. Selain itu, kajian ini turut menunjukkan bahawa program mobiliti bukan sekadar aktiviti pengantarabangsaan universiti, malah berperanan sebagai medium pembangunan holistik pelajar dan platform pembelajaran berasaskan pengalaman yang menyokong pembentukan kemenjadian pelajar. Dapatan kajian juga boleh dijadikan rujukan kepada pihak universiti dan kolej kediaman dalam merancang program pembangunan pelajar yang lebih berfokus kepada pengalaman global dan interaksi rentas budaya.

Bagi memastikan program mobiliti antarabangsa terus memberi impak positif kepada pembangunan pelajar, pihak universiti memainkan peranan penting dalam menyokong pelaksanaan program sebegini melalui kerjasama strategik antarabangsa, sokongan pengurusan, bantuan kewangan serta penyediaan platform pembangunan pelajar yang lebih inklusif dan global. Sokongan berterusan daripada universiti dan kolej kediaman dapat membantu memperluaskan peluang penyertaan pelajar dalam program mobiliti antarabangsa serta meningkatkan pengalaman pendidikan global dalam kalangan pelajar. Selain itu, program mobiliti pada masa hadapan boleh diperkukuhkan dengan penglibatan lebih ramai pelajar daripada pelbagai latar bidang pengajian dan negara serta penambahan aktiviti kolaboratif, perkongsian akademik dan program kebudayaan yang dapat memperkukuh interaksi rentas budaya dan pembangunan kemahiran insaniah pelajar. Program susulan seperti sesi refleksi dan perkongsian pengalaman juga boleh dilaksanakan bagi memastikan impak program dapat diteruskan dalam jangka masa panjang.

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Pengalaman Rentas Budaya dalam Membentuk Kemahiran Insaniah Pelajar melalui Program Mobiliti Antarabangsa

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ABSTRAK

Kajian ini membincangkan pengalaman rentas budaya melalui program mobiliti antarabangsa dalam membentuk kemahiran insaniah pelajar institusi pendidikan tinggi. Pembangunan kemahiran insaniah dalam kalangan pelajar masih banyak tertumpu kepada pembelajaran formal di dalam bilik kuliah sedangkan pengalaman rentas budaya dan interaksi sosial secara langsung mampu memberikan pengalaman pembelajaran yang lebih bermakna. Oleh itu, kajian ini dijalankan bagi mengenal pasti pengalaman rentas budaya yang diperoleh pelajar melalui program mobiliti antarabangsa serta membincangkan peranan program tersebut dalam membentuk kemahiran insaniah pelajar melalui aktiviti kebudayaan dan pembelajaran kolaboratif. Kajian ini menggunakan pendekatan kualitatif melalui kaedah pemerhatian sepanjang program berlangsung serta sesi maklum balas selepas program tamat. Data dianalisis secara tematik bagi mengenal pasti tema utama kajian. Dapatan kajian menunjukkan bahawa program mobiliti antarabangsa memberi impak positif terhadap pembangunan kemahiran insaniah pelajar melalui pengalaman interaksi rentas budaya, pengukuhan kemahiran komunikasi dan sosial, pembentukan keyakinan diri dan adaptasi pelajar serta pembelajaran kolaboratif dalam persekitaran antarabangsa. Kajian ini menyumbang kepada pemahaman berkaitan kepentingan program mobiliti antarabangsa sebagai medium pembangunan kemahiran insaniah dan pembelajaran rentas budaya dalam institusi pendidikan tinggi.

Kata Kunci: program mobiliti antarabangsa, pengalaman rentas budaya, kemahiran insaniah, pembelajaran kolaboratif, pembangunan pelajar.

PENGENALAN

Dunia tanpa sempadan merancakkan perkembangan ilmu, teknologi dan hubungan antarabangsa yang turut memberi kesan kepada landskap pendidikan tinggi masa kini. Dewasa ini, pelajar universiti bukan sahaja perlu cemerlang dalam aspek akademik, malah perlu memiliki kemahiran insaniah seperti komunikasi interpersonal, keupayaan bekerja dalam pasukan, keyakinan diri dan kemampuan menyesuaikan diri dalam persekitaran pelbagai budaya (Hamzah, 2022; Zainol & Yusoff, 2023). Kemahiran ini penting dalam membantu pelajar menghadapi cabaran dunia pekerjaan dan kehidupan sosial yang semakin dinamik serta memerlukan interaksi dengan masyarakat daripada pelbagai latar belakang budaya dan negara. Oleh itu, institusi pendidikan tinggi kini semakin memberi perhatian kepada pelaksanaan program pembangunan pelajar yang dapat meningkatkan pengalaman rentas budaya dan pembelajaran di luar bilik kuliah.

Sehubungan itu, program mobiliti antarabangsa dilihat berpotensi menjadi medium yang dapat membantu membentuk kemahiran insaniah pelajar melalui pengalaman rentas budaya, aktiviti kebudayaan dan pembelajaran kolaboratif bersama pelajar daripada latar budaya yang berbeza (Favero, 2024). Melalui interaksi bersama pelajar antarabangsa, penglibatan dalam aktiviti kebudayaan dan pembelajaran kolaboratif, pelajar berpeluang meningkatkan keterbukaan pemikiran, kemampuan komunikasi dan kemahiran sosial dalam persekitaran antarabangsa. Program seperti dialog

pelajar, malam bakat, aktiviti seni dan perkongsian budaya bukan sahaja mewujudkan ruang interaksi rentas budaya, malah membantu membentuk pembangunan diri dan keyakinan pelajar secara lebih holistik.

Bagi menyokong agenda pengantarabangsaan dan pembangunan pelajar, Universiti Kebangsaan Malaysia melalui Kolej Ibu Zain dan Kolej Tun Syed Nasir telah melaksanakan program mobiliti antarabangsa bersama Universiti Macau yang berlangsung selama tujuh hari enam malam di Macau. Program ini melibatkan pelbagai aktiviti rentas budaya dan pembelajaran kolaboratif bersama pelajar dari universiti tersebut yang memberi peluang kepada peserta untuk memperoleh pengalaman berinteraksi pada peringkat antarabangsa.

Universiti Macau merupakan sebuah universiti antarabangsa yang menawarkan persekitaran pembelajaran berteraskan bahasa Inggeris serta mempunyai jaringan kerjasama global yang luas. Universiti ini mempunyai lebih daripada 350 institusi rakan kongsi antarabangsa bagi tujuan pertukaran pelajar dan kolaborasi akademik, sekali gus menjadikannya antara destinasi yang sesuai untuk pelaksanaan program mobiliti antarabangsa dan pengalaman pendidikan global pelajar.

Selain itu, sensitiviti antara budaya juga dilihat sebagai satu keupayaan penting dalam kehidupan masyarakat pelbagai budaya, khususnya di wilayah seperti Macau yang mempunyai kepelbagaian budaya dan latar masyarakat antarabangsa. Persekitaran ini secara tidak langsung menyediakan ruang pembelajaran rentas budaya yang dapat membantu meningkatkan pengalaman sosial dan kemahiran insaniah pelajar melalui interaksi dalam komuniti antarabangsa (Chen & Hu, 2023).

PERNYATAAN MASALAH

Kemahiran insaniah semakin penting bagi membantu pelajar menghadapi cabaran dunia pekerjaan dan persekitaran sosial yang bersifat global serta dinamik. Namun demikian, pembangunan kemahiran insaniah dalam kalangan pelajar masih banyak tertumpu kepada pembelajaran formal di dalam bilik kuliah sedangkan pengalaman rentas budaya dan interaksi sosial secara langsung mampu memberikan pengalaman pembelajaran yang lebih bermakna (Nasir & Halim, 2024). Walau bagaimanapun, masih terdapat kekurangan kajian yang membincangkan bagaimana pengalaman rentas budaya melalui program mobiliti antarabangsa menyumbang kepada pembentukan kemahiran insaniah pelajar dalam konteks institusi pendidikan tinggi.

Berdasarkan permasalahan yang dibincangkan, kajian ini dijalankan bagi mengenal pasti pengalaman rentas budaya yang diperoleh pelajar melalui program mobiliti antarabangsa serta membincangkan peranan program tersebut dalam membentuk kemahiran insaniah pelajar melalui aktiviti kebudayaan dan pembelajaran kolaboratif.

METODOLOGI

Kajian ini menggunakan pendekatan kualitatif bagi memahami pengalaman rentas budaya dan pembentukan kemahiran insaniah pelajar melalui program mobiliti antarabangsa. Pengumpulan data dijalankan melalui kaedah pemerhatian sepanjang program berlangsung serta sesi maklum balas selepas program tamat.

Kaedah pemerhatian dilakukan terhadap penglibatan dan interaksi pelajar dalam pelbagai aktiviti kebudayaan dan kolaboratif yang dijalankan sepanjang program seperti dialog pelajar, malam bakat, aktiviti seni dan program perkongsian budaya. Pemerhatian turut memberi fokus kepada aspek komunikasi interpersonal, kerja berpasukan, keyakinan diri, keterbukaan terhadap budaya baharu dan kemampuan pelajar menyesuaikan diri.

Selain itu, sesi maklum balas selepas program dijalankan bagi mendapatkan pandangan dan refleksi pelajar terhadap pengalaman rentas budaya serta kemahiran insaniah yang diperoleh sepanjang program mobiliti antarabangsa tersebut. Data yang diperoleh dianalisis secara tematik bagi mengenal pasti tema-tema utama berkaitan pengalaman rentas budaya dan pembentukan kemahiran insaniah pelajar.

Jadual 1. Demografi Peserta Program Mobiliti UKM x UM

Perkara	Bilangan
Jantina	Lelaki: 16
	Perempuan: 39
Tahap Pengajian	Prasiswazah: 51
	Pascasiswazah: 4
Program Pengajian	Sains Kesihatan: 10
	Undang-Undang: 5
	Seni Liberal: 1
	Sains Sosial dan Kemanusiaan: 10
	Sains dan Teknologi: 13

	Pentadbiran Perniagaan: 9
	Pendidikan: 2
	Seni dan Kemanusiaan: 5

HASIL DAN PERBINCANGAN

Hasil pemerhatian sepanjang program berlangsung serta sesi maklum balas yang dijalankan selepas program menunjukkan beberapa tema utama berkaitan pengalaman rentas budaya dan pembentukan kemahiran insaniah pelajar melalui program mobiliti antarabangsa. Antara tema yang dikenal pasti ialah pengalaman interaksi rentas budaya, pengukuhan kemahiran komunikasi dan sosial, pembentukan keyakinan diri dan adaptasi pelajar serta pembelajaran kolaboratif dalam persekitaran antarabangsa. Selain itu, perbincangan turut memfokuskan kepada peranan program mobiliti antarabangsa dalam membantu meningkatkan keterbukaan pemikiran, kemampuan komunikasi dan kemahiran sosial pelajar melalui penglibatan dalam aktiviti kebudayaan dan interaksi bersama pelajar antarabangsa.

Rajah 1 Tema Utama Pengalaman Rentas Budaya dan Pembentukan Kemahiran Insaniah Pelajar

Tema 1: Pengalaman Interaksi Rentas Budaya

Hasil pemerhatian dan sesi maklum balas menunjukkan bahawa program mobiliti antarabangsa ini memberi peluang kepada pelajar untuk memperoleh pengalaman interaksi rentas budaya secara langsung bersama pelajar daripada latar budaya dan negara yang berbeza. Melalui aktiviti seperti dialog pelajar, perkongsian budaya dan aktiviti kebudayaan, pelajar didapati lebih terbuka dalam memahami perbezaan budaya, cara komunikasi dan gaya hidup masyarakat lain.

Macau mempunyai kepelbagaian budaya dan latar masyarakat antarabangsa hasil pertembungan budaya Timur dan Barat apabila wilayah tersebut berada di bawah pentadbiran Portugis sejak pertengahan abad ke-16 sebelum kembali kepada kedaulatan China pada tahun 1999. Persekitaran yang dipengaruhi oleh budaya Portugis dan Cina ini dapat dilihat melalui seni bina, bahasa, budaya serta kehidupan masyarakat setempat yang unik. Malah, UNESCO turut mengiktiraf pusat bersejarah Macau sebagai bukti pertemuan budaya antara Timur dan Barat yang berterusan selama berabad-abad (UNESCO, 2005).

Pengalaman ini secara tidak langsung membantu meningkatkan sensitiviti budaya dan keterbukaan pemikiran pelajar dalam persekitaran antarabangsa. Selain itu, pelajar juga menunjukkan kemampuan untuk menyesuaikan diri dan berinteraksi secara positif walaupun berada dalam suasana budaya yang berbeza daripada kebiasaan mereka.

Tema 2: Pengukuhan Kemahiran Komunikasi dan Sosial

Program mobiliti antarabangsa turut membantu meningkatkan kemahiran komunikasi dan sosial pelajar melalui interaksi bersama pelajar antarabangsa sepanjang program berlangsung. Pemerhatian menunjukkan bahawa pelajar mampu berkomunikasi dengan baik semasa menyertai aktiviti dialog, pembentangan, perkongsian idea dan aktiviti berkumpulan. Penglibatan dalam suasana antarabangsa membantu meningkatkan keyakinan pelajar untuk berkomunikasi secara lebih terbuka serta membina hubungan sosial dengan peserta daripada universiti lain. Selain itu, hubungan persahabatan yang terjalin sepanjang program menunjukkan bahawa pengalaman mobiliti antarabangsa dapat membantu meningkatkan kemahiran interpersonal dan kemampuan pelajar menyesuaikan diri dalam kelompok sosial yang pelbagai.

Selain berinteraksi dengan pelajar tempatan, program mobiliti ini turut membuka peluang kepada peserta untuk berkomunikasi dan menjalinkan hubungan dengan pelajar antarabangsa daripada pelbagai negara yang sedang mengikuti pengajian di Universiti Macau. Persekitaran antarabangsa di universiti tersebut yang dihuni oleh pelajar daripada pelbagai negara termasuk Malaysia mewujudkan suasana pembelajaran yang lebih terbuka dan pelbagai budaya. Situasi ini memberi peluang kepada pelajar untuk berinteraksi dengan individu daripada pelbagai latar budaya dan benua, sekali gus membantu meningkatkan keyakinan sosial, kemahiran komunikasi interpersonal serta kemampuan menyesuaikan diri dalam komuniti antarabangsa.

Tema 3: Pembentukan Keyakinan Diri dan Adaptasi Pelajar

Dapatan kajian turut menunjukkan bahawa program mobiliti antarabangsa membantu membentuk keyakinan diri pelajar dalam persekitaran antarabangsa. Pelajar didapati lebih berani melibatkan diri dalam pelbagai aktiviti seperti malam bakat, aktiviti kebudayaan dan aktiviti kolaboratif bersama pelajar antarabangsa. Selain itu, pelajar juga menunjukkan kemampuan menyesuaikan diri dengan baik sepanjang berada di luar negara termasuk dari aspek komunikasi, pengurusan diri dan penglibatan dalam aktiviti yang dijalankan. Pengalaman berada dalam suasana baharu secara tidak langsung membantu meningkatkan keberanian, keyakinan diri dan kemampuan pelajar menghadapi cabaran dalam persekitaran yang pelbagai budaya.

Persekitaran antarabangsa di Universiti Macau yang terdiri daripada pelajar, tenaga pengajar dan tenaga kerja daripada pelbagai negara turut membantu memperkukuh proses adaptasi pelajar sepanjang program berlangsung. Kepelbagaian komuniti antarabangsa di universiti tersebut memberi peluang kepada pelajar untuk berinteraksi dalam suasana yang lebih terbuka, sekali gus membantu meningkatkan keyakinan diri serta kemampuan mereka menyesuaikan diri dengan persekitaran antarabangsa.

Tema 4: Pembelajaran Kolaboratif dalam Persekitaran Antarabangsa

Pembelajaran kolaboratif turut dikenal pasti sebagai antara pengalaman penting yang diperoleh pelajar sepanjang program mobiliti antarabangsa ini. Aktiviti seperti karya seni, dialog pelajar, malam bakat dan program perkongsian budaya memberi peluang kepada pelajar untuk bekerjasama dalam kumpulan yang terdiri daripada pelbagai latar budaya dan universiti. Melalui aktiviti tersebut, pelajar dapat berkongsi idea, pengalaman dan pandangan secara lebih terbuka dalam suasana pembelajaran yang aktif dan tidak formal. Selain membantu meningkatkan kemahiran kerja berpasukan dan komunikasi, pembelajaran kolaboratif juga membantu pelajar memahami kepentingan toleransi, hormat-menghormati dan kemampuan bekerjasama dalam persekitaran antarabangsa.

Pelaksanaan program di Universiti Macau juga dilihat sangat sesuai kerana Macau merupakan sebuah wilayah yang kaya dengan sejarah dan pertembungan budaya Timur dan Barat. Pengaruh budaya Portugis dan Cina yang wujud dalam masyarakat serta persekitaran setempat menyediakan suasana pembelajaran rentas budaya yang lebih bermakna kepada peserta program. Pelajar berpeluang mendalami nilai budaya, sejarah dan cara kehidupan masyarakat di sana.

KESIMPULAN

Secara keseluruhannya, kajian ini berjaya mengenal pasti pengalaman rentas budaya yang diperoleh pelajar melalui program mobiliti antarabangsa serta membincangkan peranan program tersebut dalam membentuk kemahiran insaniah pelajar melalui aktiviti kebudayaan dan pembelajaran kolaboratif. Dapatan kajian menunjukkan bahawa program mobiliti antarabangsa memberi impak positif terhadap pembangunan kemahiran insaniah pelajar terutamanya dari aspek komunikasi interpersonal, interaksi sosial, keyakinan diri, kemampuan bekerjasama dan penyesuaian diri dalam persekitaran pelbagai budaya. Penglibatan pelajar dalam aktiviti kebudayaan, dialog pelajar dan pembelajaran kolaboratif turut membantu meningkatkan keterbukaan pemikiran serta sensitiviti budaya dalam kalangan pelajar.

Kajian ini menyumbang kepada pemahaman berkaitan kepentingan pengalaman rentas budaya dalam pembangunan kemahiran insaniah pelajar institusi pendidikan tinggi. Selain itu, kajian ini turut menunjukkan bahawa program mobiliti antarabangsa bukan sekadar platform pengantarabangsaan universiti, malah berperanan sebagai medium pembelajaran pengalaman yang membantu membentuk pembangunan diri dan kemahiran sosial pelajar secara lebih holistik. Persekitaran antarabangsa dan kepelbagaian budaya di Universiti Macau juga dilihat sesuai dalam menyokong pembelajaran rentas budaya dan pengalaman pembelajaran autentik pelajar.

Pihak universiti memainkan peranan penting dalam menyokong pelaksanaan program sebegini melalui kerjasama strategik antarabangsa, sokongan pengurusan, bantuan kewangan serta penyediaan platform pembangunan pelajar yang lebih inklusif dan global. Selain itu, program mobiliti pada masa hadapan boleh diperkukuhkan dengan penglibatan lebih ramai pelajar daripada pelbagai latar bidang pengajian dan negara serta penambahan aktiviti kebudayaan dan pembelajaran kolaboratif yang dapat memperkukuh interaksi rentas budaya dan pembangunan kemahiran insaniah pelajar. Program susulan seperti sesi refleksi dan perkongsian pengalaman juga boleh dilaksanakan bagi memastikan impak program dapat diteruskan dalam jangka masa panjang.

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Absent-Minded Scrolling and Its Relationship with Procrastination and Escapism Among Pre-University Students

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ABSTRACT

This study investigates the prevalence of absent-minded scrolling and its relationship with academic procrastination and escapism among pre-university students. It addresses the concern that passive, unintentional digital engagement may interfere with productivity during the critical transition to higher education. Utilizing a quantitative design, data were collected from 100 students in the ASASIpintar program at Universiti Kebangsaan Malaysia via a digital questionnaire. Measurement instruments included a 10-item scale for absent-minded scrolling, a 12-item Pure Procrastination Scale, and a 9-item Consumer Escapism Scale, which were analyzed using descriptive and inferential statistics in IBM SPSS. Results revealed moderate levels across all variables, with escapism (mean=5.00) and absent-minded scrolling (mean=4.96) recording the highest mean scores. Correlation test indicated a moderate positive relationship between absent-minded scrolling and procrastination ($r=0.409$, $p<0.01$) and a weak but significant positive relationship with escapism ($r=0.209$, $p<0.05$). While absent-minded scrolling and procrastination showed no significant gender differences, female students reported significantly higher escapism levels than males ($p=0.004$). The study concludes that absent-minded scrolling acts as a behavioral trigger for academic procrastination. These findings underscore the importance of developing digital self-regulation strategies and healthy coping mechanisms to improve students' academic focus and emotional well-being.

Keywords: absent-minded scrolling, procrastination, escapism, self-regulation.

INTRODUCTION

The landscape of interpersonal communication and information consumption has been fundamentally altered by the ubiquity of social media. Scrolling through social media has become an almost automatic behavior among students. This behavior, often described as absent-minded or mindless scrolling, refers to the passive consumption of online content without a clear purpose or conscious awareness (Vanden Abeele et al., 2024). Although commonly viewed as harmless entertainment, research suggests that persistent passive scrolling can reduce concentration, disrupt attention, and weaken self-control (Przybylski, Nguyen, Law, & Weinstein, 2021). For pre-university students who are still developing academic discipline, the tendency to scroll without intention may interfere with engagement and productivity (Cain, Leonard, Gabrieli, & Finn, 2016).

In the context of higher education, pre-university students face a unique set of stressors as they transition from structured secondary schooling to the more autonomous environment of a university (Worsley, Harrison, & Corcoran, 2021). This period requires high levels of focus and behavioral engagement. Procrastination involves delaying tasks despite anticipating negative consequences, often due to failures in self-regulation (Wypych et al., 2019). Escapism refers to engaging in alternative activities, such as digital media use, to avoid stress, discomfort, or negative emotions. Both procrastination and escapism have been linked to digital behaviors that offer temporary relief but ultimately undermine academic performance (Nordby, Løkken, & Pfuhl, 2019; Groza, Ceobanu, & Tofan, 2024).

Mindless scrolling is therefore an important behaviour to study because it represents a subtle form of digital distraction that often occurs below conscious awareness.

Although not as severe as addictive social media use, it has negative long-term effects on academic engagement, time management, and well-being (Vanden Abeele et al., 2024). Malaysian data further supports the relevance of this issue. Ching et al. (2017) found that many Malaysian students spend several hours daily on social networking sites, increasing their risk of digital dependency and reducing their study time.

While previous research has extensively explored social media addiction, there is a lack of focus on the "absent-minded" or unintentional nature of scrolling among pre-university students. Many students find themselves engaging with social media without a specific intent, often leading to behavioral disengagement. Furthermore, there is a need to understand whether these behaviors differ by gender, since while social media usage is universal, studies have shown that motivations for engagement such as escapism or habit-driven scrolling can vary significantly between genders (Billieux, 2012). If left unaddressed, this mindless engagement may exacerbate academic procrastination and emotional avoidance through escapism, ultimately affecting students' overall academic performance. The primary objectives of this study are:

to determine the level of absent-minded scrolling, procrastination and escapism,

to identify the differences in level of absent-minded scrolling, procrastination and escapism between male and female students,

to examine the relationship between absent-minded scrolling and procrastination, and

to examine the relationship between absent-minded scrolling and escapism.

METHODOLOGY

The research instrument consisted of four sections

Section A (Demographic Profile): Recorded the gender and age of the respondents.

Section B (Absent-minded Social Media Scrolling Scale): This 10-item scale measures unintentional, passive, or habitual scrolling behavior. Responses are rated on a 7-point Likert scale ranging from 1 (Never) to 7 (All the time).

Section C (Pure Procrastination Scale): Assessed through a 12-item instrument focusing on academic behavioral disengagement. Items are rated on a 7-point Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree).

Section D (Consumer Escapism Scale): Evaluated using a 9-item scale. It also uses a 7-point Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree).

Data collection was conducted digitally through Google Forms which was distributed to all students of ASASIpintar program session 2025/2026. The data was collected over four- week period. A total of 100 students volunteered to participate in this research.

RESULTS AND DISCUSSION

This section presents the findings based on the data collected from 100 respondents in the ASASIpintar program, comprising 57 male students (57%) and 43 female students (43%). In terms of age, 24 respondents (24%) were 18 years old and 76 respondents (76%) were 19 years old.

Descriptive statistics were used to determine the levels of absent-minded scrolling, procrastination and escapism.

Table 1. Descriptive statistics

Variables	Mean	S.D
Absent-minded Scrolling	4.96	1.12
Procrastination	4.16	1.18
Escapism	5.00	1.18

Table 2. Classification of Mean Scores

Mean Score Range	Level
1.00 – 2.99	Low
3.00 – 4.99	Moderate
5.00 – 7.00	High

The results indicate that escapism recorded the highest mean score followed by absent-minded scrolling and procrastination. Overall, the findings suggest that respondents demonstrate moderate levels of absent-minded scrolling and procrastination, while escapism is at the high level.

An independent sample t-test was conducted to determine whether there are significant differences in the study variables based on gender.

Table 3. Independent sample t-test

Variable	Mean		p-value
	Male	Female	
Absent-minded Scrolling	4.89	5.04	0.525
Procrastination	4.17	4.15	0.923
Escapism	4.71	5.39	0.004*

*p<0.05

The results indicate that there is no significant difference in absent-minded scrolling between male and female respondents. Similarly, no significant difference was found in procrastination between male and female respondents.

However, a significant difference was observed in escapism where females reported to have higher level of escapism compared to males with p = 0.004.

Pearson's correlation test was employed to determine the relationships between absent-minded scrolling and procrastination, and between absent-minded scrolling and escapism.

Table 4. Pearson correlation's test

Variables		Procrastination	Escapism
Absent-minded scrolling	Correlation (r)	.409**	.209*
	Sig. (2-tailed)	.000	.037
	N	100	100

**Correlation is significant at the 0.01 level (2-tailed)

*Correlation is significant at the 0.05 level (2-tailed)

The results show a positive relationship between absent-minded scrolling and procrastination. In addition, a weak but significant positive relationship was found between absent-minded scrolling and escapism.

CONCLUSION

This study aimed to examine the levels of absent-minded scrolling, procrastination, and escapism among foundation students, as well as the relationships between these variables.

The findings indicate that all three behaviors are present at moderate levels, with escapism recording the highest mean, followed by absent-minded scrolling and procrastination. Correlation test revealed a moderate positive relationship between absent-minded scrolling and procrastination, and a weak but significant positive relationship with escapism. Additionally, the t-test results showed no significant gender differences for absent-minded scrolling and procrastination, while a significant difference was found for escapism, with female students reporting higher levels.

These findings suggest that absent-minded scrolling is associated with behavioral disengagement, particularly in relation to procrastination, while its relationship with escapism appears to be weaker. Furthermore, excessive engagement in absent-minded scrolling may contribute to negative outcomes such as reduced academic productivity, poor time management, decreased concentration, and increased dependency on digital devices.

In conclusion, although absent-minded scrolling may appear to be a routine digital behavior, it plays a meaningful role in shaping students' academic engagement and self-regulation. Therefore, it is important for students to develop better control over their digital habits. Practical strategies include limiting social media usage through productivity applications such as Forest and Stay Focused, adopting structured time management techniques like the Pomodoro method, increasing awareness of the negative effects of excessive scrolling, and engaging in healthier coping mechanisms such as physical activities or reading.

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Empowering Emotional and Spiritual Well-Being: The Core of Student Development and Graduate Readiness in Facing Higher Education Challenges

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ABSTRACT

This meta-synthesis study examines the series of psychological, mental, and emotional challenges faced by undergraduate students within the contemporary higher education environment, encompassing issues such as burnout, sleep deprivation, the toxic impact of social media, and feelings of insecurity. Based on empirical data from multiple survey studies conducted at Universiti Kebangsaan Malaysia (UKM), excessive academic workload, communication conflicts, and digital environmental disruptions were identified as the primary factors compromising students' emotional stability. To address this crisis, this study analyzes the efficacy of various coping strategies employed by students, including systematic time management, cool-off techniques, face-to-face communication, digital detoxification, as well as Islamic psycho-spiritual approaches through the practice of gratitude (syukur) and trust in God (tawakkal). Findings demonstrate that mastering emotional intelligence and strengthening spiritual grounds serve not only as protective buffers for mental health, but also act as primary drivers for balanced holistic student development ("kemenjadian pelajar"). Reinforcing self-regulation competencies and soft skills directly cultivates high psychological resilience. Consequently, this dynamic empowerment supports lifelong learning agendas and enhances holistic, mature, and competitive graduate readiness to navigate the future job market landscape.

Keywords: Student Development, Soft Skills, Emotional Management, Graduate Readiness, Psycho-Spirituality.

INTRODUCTION

In an increasingly challenging higher education era, undergraduate students frequently confront complex academic, social, and personal demands (Pascoe et al., 2020). The life transition into university requires a high adaptive capacity to navigate a competitive academic culture, heavy assignment loads, and social interaction dynamics that test mental endurance (Pedrelli et al., 2015; Salmela-Aro et al., 2022). Failing to manage these pressures effectively contributes to various psychological issues, such as severe exhaustion or burnout (Madigan & Curran, 2021), disrupted sleep patterns due to chronic sleep debt (Becker et al., 2018), self-confidence crises and feelings of insecurity (Bravata et al., 2019), and heightened cyber-stress stemming from unregulated social media usage (Dhir et al., 2018; Tandon et al., 2021).

Accordingly, integrating contemporary psychological perspectives with Islamic psycho-spiritual approaches becomes increasingly relevant. Contemporary psychology provides a scientific framework to understand cognitive mechanisms, emotional regulation, and behavior modification (Arwansyah et al., 2025). Meanwhile, the Islamic approach offers fundamental solutions grounded in spiritual fortification through the cultivation of core virtues such as patience (*sabar*), gratitude (syukur), and total surrender (*tawakkal*) to the Creator following proactive human effort. This study aims to synthesize environmental factors and evaluate the efficacy of holistic coping mechanisms to develop balanced human capital in alignment with national graduate development goals.

RESULTS AND DISCUSSION

Cumulative data analysis indicates that heavy coursework workloads and overlapping assignment deadlines are the primary triggers for academic burnout, with 83.4% of respondents agreeing that they experience high physical and mental exhaustion due to these factors. This performance anxiety is further exacerbated by digital environmental factors. Using electronic devices for over an hour before bedtime recorded a dominant prevalence of 83.4% on the "frequent" and "very frequent" scales, directly disrupting nightly rest quality and disturbing the body's biological clock. This daily physical fatigue serves as a major factor reducing academic motivation and cognitive functioning in the classroom.

From a social dynamics' perspective, the cyber domain acts as a subtle micro-stressor. A total of 22.6% of respondents explicitly admitted to being trapped in habits of digital social comparison due to frequent exposure to peers' or influencers' curated achievements on social media. This perceptual shift triggers negative emotions in the form of an inferiority complex and erodes students' self-esteem (Beck, 2021).

To manage these emotional crises, evaluations of intervention strategies reveal a strong preference for a hybrid model combining Western and Islamic approaches. In resolving communication conflicts, self-control mechanisms - such as cool-off methods and prioritizing face-to-face discussions - proved superior in de-escalating emotional tension compared to text-based mediums. Furthermore, data indicates very positive self-awareness regarding digital detox practices, with 38.7% of respondents expressing an urgent need to temporarily distance themselves from social media to restore their emotional well-being.

The Islamic psycho-spiritual approach exerted the most dominant influence in building student resilience (Nurul et al, 2025). Statements related to spiritual practices yielded the highest agreement levels, where 36.1% of respondents felt calmer when drawing closer to God, and 30.8% believed religious practices—such as prayer (*solat*), supplication (*doa*), and remembrance (*zikr*)—helped reduce inner insecurity. The concept of *tawakkal*, which pairs earnest effort (*ikhtiar*) with contented surrender of outcomes (*redha*), proved to act as a psychological shield, shifting students' focus away from future-oriented anxiety toward accepting the wisdom behind Divine decree.

CONCLUSION

This study concludes that safeguarding university students' mental health requires a solid balance between physical management, emotional competency, and spiritual strength. Emotional instability arising from academic pressure and digital environments cannot be addressed passively; instead, it demands strategic behavioral shifts through the mastery of soft skills, digital discipline, and spiritual character building. Integrating Islamic psycho-spiritual modules with modern psychological therapies creates a robust defense mechanism for mental health. These proactive measures are critical for nurturing a generation of students who are not only academically excellent, but also possess high resilience and holistic balance in line with national higher education aspirations.

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Hubungan Antara Kemahiran Insaniah dan Kesediaan Bekerja Graduan Universiti di Sarawak

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ABSTRAK

Kajian ini meneroka hubungan antara kemahiran insaniah dan kesediaan bekerja dalam kalangan graduan universiti di Sarawak, dengan tumpuan kepada tiga kemahiran utama iaitu komunikasi, kerja berpasukan, dan penyelesaian masalah. Pendekatan kuantitatif digunakan melalui soal selidik berstruktur yang diedarkan kepada graduan universiti awam dan swasta di Sarawak, dengan sebanyak 242 respons sah dianalisis menggunakan IBM SPSS. Analisis merangkumi statistik deskriptif, ujian kebolehpercayaan Cronbach's Alpha, ujian kenormalan, dan korelasi Pearson. Dapatan kajian menunjukkan graduan di Sarawak mempunyai tahap kesediaan bekerja yang tinggi, khususnya dari segi keupayaan membuat keputusan secara logik, pemikiran kritis, kebolehan bekerjasama, dan motivasi profesional. Ketiga-tiga kemahiran insaniah didapati mempunyai hubungan yang positif dan signifikan dengan kesediaan bekerja ($p < .001$), dengan kemahiran kerja berpasukan menunjukkan hubungan paling kuat, diikuti penyelesaian masalah dan komunikasi. Dapatan ini menyokong Teori Modal Insan yang menekankan bahawa pelaburan dalam pembangunan kemahiran insaniah dapat meningkatkan kebolehpasaran dan kesediaan tenaga kerja. Kajian ini merumuskan bahawa kemahiran insaniah adalah elemen penting dalam menyediakan graduan untuk memasuki alam pekerjaan, dan menekankan kepentingan pengintegrasian kemahiran insaniah dalam program akademik institusi pengajian tinggi.

Kata Kunci: kemahiran insaniah, kesediaan bekerja, graduan universiti, kebolehpasaran

PENGENALAN

Dalam pasaran kerja yang semakin dinamik, graduan bukan sahaja perlu memiliki kelayakan akademik tetapi juga kemahiran insaniah yang penting bagi meningkatkan kebolehpasaran mereka (Sapian et al., 2022). Pelbagai kajian menunjukkan wujudnya jurang antara kemahiran yang diharapkan oleh majikan dengan kemahiran sebenar yang dikuasai oleh graduan (Guerrero, 2024). Dalam kajian ini, tiga kemahiran insaniah diberi tumpuan, iaitu kemahiran komunikasi, kerja berpasukan, dan penyelesaian masalah, yang dikenal pasti oleh kebanyakan organisasi sebagai elemen utama kejayaan pekerja muda dalam persekitaran kerja abad ke-21.

Objektif umum kajian ini adalah untuk mengkaji hubungan antara kemahiran insaniah dan kesediaan bekerja graduan universiti di Sarawak. Secara khusus, kajian ini bertujuan untuk menentukan hubungan antara (a) kemahiran komunikasi, (b) kemahiran kerja berpasukan, dan (c) kemahiran penyelesaian masalah dengan kesediaan bekerja graduan universiti di Sarawak. Kajian ini penting kerana majikan kini bukan sahaja menilai pencapaian akademik graduan tetapi turut mengutamakan kemahiran insaniah seperti komunikasi berkesan, kerja berpasukan, dan penyelesaian masalah bagi memastikan graduan mampu menyesuaikan diri dengan persekitaran kerja sebenar. Walau bagaimanapun, fakta menunjukkan bahawa graduan universiti masih mengalami jurang antara kemahiran insaniah yang diharapkan oleh majikan dengan tahap penguasaan kemahiran tersebut. Beberapa kajian di Malaysia mendapati majikan berpendapat graduan mempunyai keupayaan komunikasi, kerja berpasukan, dan pemikiran kritis yang lemah, walaupun graduan sendiri menganggap kemahiran ini memuaskan. Kekurangan kemahiran insaniah ini boleh menjejaskan kebolehpasaran graduan dan menyebabkan mereka kurang bersedia untuk memasuki alam pekerjaan yang semakin kompetitif. Kajian ini disandarkan kepada Teori Modal Insan yang dikembangkan oleh Becker (1964) dan Schultz (1971), yang menekankan bahawa pelaburan dalam pembangunan kemahiran, pengetahuan, dan latihan pekerjaan dapat meningkatkan nilai ekonomi dan

produktiviti individu. Dalam konteks kajian ini, aplikasi kemahiran insaniah dalam sistem pendidikan universiti dianggap sebagai satu bentuk pelaburan yang bernilai, setanding dengan kepakaran teknikal, kerana ia memerlukan masa, usaha, dan sumber yang mencukupi untuk memastikan asas kemahiran insaniah individu itu kukuh. Berdasarkan teori ini, majikan lebih mengutamakan calon yang dapat memajukan objektif organisasi secara berkesan, dan graduan yang memiliki kemahiran insaniah yang mantap dianggap lebih "boleh dipasarkan" kerana mereka menunjukkan komunikasi yang berkesan, kebolehan menyelesaikan masalah, dan kerja berpasukan yang baik.

HASIL DAN PERBINCANGAN

Kajian ini menggunakan reka bentuk kuantitatif dengan soal selidik berstruktur yang diedarkan secara persampelan bukan kebarangkalian kepada graduan diploma dan ijazah daripada universiti awam dan swasta berdaftar MQA di Sarawak (UNIMAS, UPM Sarawak, UiTM Sarawak, Curtin, UTS, Swinburne Sarawak, dan UCSI Sarawak). Seramai 242 respons yang sah telah dianalisis menggunakan IBM SPSS, merangkumi statistik deskriptif, kebolehpercayaan Cronbach's Alpha, ujian kenormalan, dan korelasi Pearson. Kebolehpercayaan instrumen bagi kesemua konstruk berada pada tahap yang baik hingga sangat baik (nilai Alpha melebihi 0.70). Instrumen kajian menggunakan borang Google Form yang diedarkan melalui WhatsApp, Telegram, dan Instagram, dengan soalan berbentuk skala Likert lima mata (1 = sangat tidak setuju hingga 5 = sangat setuju) yang dibahagikan kepada tiga bahagian: demografi responden, kemahiran insaniah (komunikasi, kerja berpasukan, penyelesaian masalah), dan kesediaan bekerja graduan.

Dari segi profil responden, majoriti responden berusia 22 hingga 25 tahun (53.3%), diikuti 26 hingga 29 tahun (20.7%), 18 hingga 21 tahun (14.0%), dan 30 tahun ke atas (12.0%). Dari segi jantina, seramai 138 responden (57.0%) adalah perempuan manakala 104 responden (43.0%) adalah lelaki. Sebanyak 175 responden (72.3%) merupakan graduan universiti awam manakala 67 responden (27.7%) merupakan graduan universiti swasta, dengan majoriti responden terdiri daripada graduan Universiti Putra Malaysia Sarawak (33.5%) dan Universiti Malaysia Sarawak (21.1%).

Dapatan deskriptif menunjukkan graduan di Sarawak mempunyai tahap kesediaan bekerja yang tinggi, khususnya dari segi keupayaan membuat keputusan secara logik, pemikiran kritis, kebolehan bekerjasama, dan motivasi profesional.

Analisis korelasi Pearson dijalankan untuk menguji hubungan antara setiap kemahiran insaniah dengan kesediaan bekerja, seperti berikut. Hasil analisis korelasi Pearson bagi ketiga-tiga kemahiran insaniah ditunjukkan dalam jadual di bawah.

Jadual 1. Hubungan Antara Kemahiran Insaniah dan Kesediaan Bekerja Graduan (Fon Times New Roman, 8)

Kemahiran Insaniah	Korelasi Pearson (r)	Sig. (2-tailed)	N
Komunikasi	0.573**	<.001	242
Kerja Berpasukan	0.725**	<.001	242
Penyelesaian Masalah	0.617**	<.001	242

Nota: **Korelasi adalah signifikan pada aras 0.01 (2-tailed)

Bagi kemahiran komunikasi, pekali korelasi Pearson ($r = 0.573$, $p < .001$) menunjukkan hubungan sederhana dengan kesediaan bekerja graduan, membuktikan bahawa peningkatan kemahiran komunikasi selari dengan peningkatan kesediaan graduan untuk memasuki pasaran pekerjaan. Bagi kemahiran kerja berpasukan, hubungan yang dicatatkan ($r = 0.725$, $p < .001$) merupakan yang paling kuat antara ketiga-tiga kemahiran, menunjukkan bahawa graduan yang mempamerkan kebolehan kerja berpasukan yang tinggi lebih cenderung menunjukkan kesediaan yang lebih baik untuk pasaran kerja. Kerja berpasukan yang berkesan meningkatkan produktiviti, menggalakkan kerjasama, serta memupuk kepercayaan dan sokongan bersama antara rakan sekerja dalam persekitaran kerja yang kontemporari dan interdisiplin. Bagi kemahiran penyelesaian masalah, korelasi yang diperoleh ($r = 0.617$, $p < .001$) turut berada pada tahap tinggi, menunjukkan bahawa graduan dengan kebolehan menyelesaikan masalah yang baik lebih berkemungkinan menunjukkan kesediaan bekerja yang tinggi. Kebolehan ini merangkumi keupayaan mengenal pasti dan mengartikulasikan isu, membangunkan dan melaksanakan penyelesaian, serta menilai hasil tindakan, yang kesemuanya penting bagi graduan mengharungi ketidakpastian dan situasi kerja yang kompleks.

IMPLIKASI KAJIAN

Dapatan kajian ini membawa implikasi kepada pelbagai pihak berkepentingan. Bagi institusi pengajian tinggi, penemuan ini menunjukkan bahawa pengetahuan akademik semata-mata tidak menjamin kebolehpasaran graduan; universiti perlu mengutamakan penggabungan latihan kemahiran insaniah dalam kurikulum melalui projek kolaboratif, pembentangan, pembelajaran berasaskan masalah, dan tugasan berkaitan industri. Bagi graduan pula, kajian ini menggariskan kepentingan

mengambil inisiatif memupuk kemahiran insaniah secara aktif melalui penyertaan dalam aktiviti kokurikulum, latihan amali, peluang sukarelawan, dan peranan kepimpinan. Bagi majikan, kemahiran insaniah berfungsi sebagai peramal penting bagi kesediaan graduan untuk tenaga kerja, sekali gus mencadangkan agar penilaian kemahiran insaniah diberi keutamaan dalam prosedur pengambilan pekerja. Akhir sekali, kajian ini turut menyediakan bukti empirikal kepada pembuat dasar dan badan kerajaan mengenai keperluan menyelaraskan dasar pendidikan tinggi dengan tuntutan pasaran kerja semasa, khususnya dalam memperkasakan pembangunan kemahiran insaniah di peringkat institusi pengajian tinggi.

BATASAN KAJIAN

Kajian ini mempunyai beberapa batasan. Pertama, sampel kajian dihadkan kepada graduan universiti di Sarawak, sekali gus mengehadkan kebolehgunaan dapatan kepada konteks nasional yang lebih luas. Kedua, data soal selidik yang dikumpul berpotensi dipengaruhi oleh unsur bias pendapat responden. Ketiga, kajian ini tidak merangkumi semua kemahiran insaniah yang berkaitan dengan kesediaan bekerja graduan, dan turut dibatasi oleh kekangan masa dan sumber yang menghalang penggunaan saiz sampel yang lebih besar serta teknik pengumpulan data yang lebih komprehensif seperti temu bual.

CADANGAN

Berdasarkan dapatan dan batasan kajian ini, pihak universiti disarankan meningkatkan aspek kemahiran insaniah dalam kurikulum akademik melalui strategi pengajaran dan penilaian yang memupuk pembelajaran aktif, kerja berpasukan, dan analisis kritikal, serta mewujudkan kerjasama yang lebih erat dengan pihak industri. Graduan pula digalakkan terus berusaha membangunkan kemahiran insaniah di luar batasan pendidikan formal bagi memudahkan peralihan yang lebih lancar daripada persekitaran akademik kepada suasana profesional. Bagi kajian akan datang, dicadangkan agar skop kajian diperluaskan merangkumi graduan dari pelbagai wilayah di Malaysia bagi meningkatkan kebolehgeneralisasian dapatan, serta menggabungkan kaedah kualitatif seperti temu bual atau perbincangan kumpulan fokus untuk memperoleh pandangan yang lebih mendalam. Kajian akan datang juga boleh meneroka kemahiran insaniah lain seperti kepimpinan, kebolehsuaian, kecerdasan emosi, dan kecekapan digital bagi memberikan pemahaman yang lebih menyeluruh tentang kebolehpasaran graduan.

KESIMPULAN

Kajian ini dijalankan untuk mengkaji hubungan antara kemahiran insaniah dan kesediaan bekerja dalam kalangan graduan universiti di Sarawak. Berdasarkan data yang dikumpulkan daripada 242 responden, keputusan kajian menawarkan bukti yang meyakinkan bahawa kemahiran insaniah mempengaruhi kesediaan graduan untuk memasuki pasaran kerja dengan ketara. Ketiga-tiga kemahiran insaniah yang dikaji iaitu komunikasi, kerja berpasukan, dan penyelesaian masalah, kesemuanya menunjukkan hubungan yang positif dan signifikan secara statistik dengan kesediaan bekerja graduan, sekali gus mengesahkan ketiga-tiga hipotesis kajian. Kemahiran kerja berpasukan dikenal pasti sebagai peramal paling ketara, menggariskan keperluan graduan untuk bekerjasama secara berkesan, menghargai pelbagai pandangan, dan membuat sumbangan positif dalam suasana pasukan, selaras dengan sifat tempat kerja kontemporari yang semakin kolaboratif dan interdisiplin. Dapatan ini turut mengukuhkan Teori Modal Insan, yang menegaskan bahawa pelaburan dalam pembangunan kemahiran insaniah dapat meningkatkan kebolehpasaran dan kesediaan tenaga kerja graduan. Kajian ini menekankan kepentingan institusi pengajian tinggi untuk mengintegrasikan latihan kemahiran insaniah secara menyeluruh merentasi kurikulum akademik, bukan sekadar sebagai komponen tambahan. Graduan turut digalakkan mengambil inisiatif meningkatkan kemahiran insaniah mereka melalui aktiviti kokurikulum, latihan amali, dan peluang kepimpinan, bagi memastikan kesediaan yang lebih menyeluruh untuk memasuki alam pekerjaan.

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Application of the Concept of Tawakkal as an Islamic Psycho-Spiritual Mechanism in Managing University Students' Mental and Emotional Stress

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ABSTRACT

Mental health issues among higher education students are becoming increasingly challenging due to academic strain, burnout, and overthinking. This study aims to analyze the role and efficacy of the practice of tawakkal (trust in God) as an Islamic psycho-spiritual coping mechanism in managing emotional stress and depressive symptoms. Utilizing a quantitative survey methodology, a structured questionnaire was distributed to undergraduate students at Universiti Kebangsaan Malaysia (UKM). The findings indicate that the majority of respondents possess a very high level of internalizing tawakkal, with 83.3% strongly agreeing to surrender outcomes to Allah SWT following effort (ikhtiar) and 76.7% expressing conviction that every trial contains inherent divine wisdom (hikmah). Furthermore, 73.3% of respondents utilize prayer (solat) and supplication (doa) as their primary medium to attain mental composure. The integration between diligent effort (ikhtiar) and total spiritual surrender (tawakkal) is proven to act as a psychological buffer that reduces anxiety levels, relieves mental exhaustion, and fosters a tranquil soul (nafs mutma'innah). This study makes a significant contribution toward reinforcing holistic character development modules rooted in Islamic psycho-spirituality within higher education.

Keywords: Tawakkal, Islamic Psycho-Spirituality, Men

INTRODUCTION

University life demands high adaptive capacity from students to navigate heavy academic workloads, competitive performance standards, and future career uncertainties (Pascoe et al., 2020). Sustained daily demands without effective emotional management expose students to various negative psychological outcomes, including depression, mental burnout, insecurities, and overthinking (Asif et al., 2020; Madigan & Curran, 2021). In modern psychology, overthinking and depression are frequently linked to decreased self-efficacy and cognitive distortions (Beck & Dozois, 2020).

However, Islamic psychology (*'Ilm al-Nafs*) offers a more holistic framework by linking cognitive and emotional stability to an individual's spiritual strength (Keshavarzi & Haque, 2013). Central to Muslim psychological resilience is the concept of *tawakkal*—the total reliance on the power and decree of Allah SWT after exerting all necessary efforts and means (*ikhtiar*) (Amalia & Saifuddin, 2022). According to Imam al-Ghazali, spiritual tranquility involves the purification of the soul (*tazkiyah al-nafs*), which guides the spirit from an agitated state (*nafs ammarah*) toward a tranquil state (*nafs mutma'innah*) (Al-Karam, 2018; Rothman & Coyle, 2018). Therefore, this study was conducted to evaluate the level of *tawakkal* practice among UKM students and examine its influence on stress management and overall mental well-being.

RESULTS AND DISCUSSION

Based on data analysis from the survey conducted among UKM students, 200 student emotional profiles indicate that the primary sources of psychological stress stem from fear of academic failure and anxiety regarding future directions. These patterns of overthinking lead directly to pronounced mental fatigue and compromised daily sleep quality.

Table 1 below presents the percentage distribution analyzing *tawakkal* practices and spiritual coping approaches applied by students to manage daily emotional conflicts and mental stress.

Table 1. Percentage distribution of *tawakkal* practice and spirituality among UKM students (N = 200)

Practice Item / Spiritual Concept	Strongly Agree (%)	Agree (%)	Neutral / Moderate (%)	Disagree / Strongly Disagree (%)
Surrendering outcomes to Allah SWT after striving (*ikhtiar*)	83.3	13.3	0.0	3.3
Belief that everything that occurs is by divine decree	83.3	13.3	0.0	3.3
Conviction that every trial contains wisdom (*hikmah*)	76.7	20.0	0.0	3.3
Prayer (*solat*) and supplication (*doa*) as the primary medium to calm the mind	73.3	20.0	0.0	6.7
Feeling calm when plans do not unfold as expected	46.7	16.7	23.3	13.3

The findings indicate strong alignment among the majority of respondents regarding the practice of *tawakkal*. The high combined percentage for items measuring effort and spiritual surrender (96.6% agreeing or strongly agreeing) demonstrates that students do not view *tawakkal* as passive resignation, but rather as a spiritual tie that complements physical action.

From a cognitive mechanism perspective, practicing *tawakkal* is shown to reduce the burden of rumination (repetitive thinking). When students believe that ultimate outcomes reside within Divine decree rich in wisdom, mental anxiety regarding factors beyond their control subsides. This aligns with religious coping theory, which posits that spiritual reliance builds inner strength and high resilience when encountering failure.

To illustrate how Western and Islamic approaches compare, the flow model in Figure 1 outlines how rational cognitive integration and the concept of *tawakkal* operate as a mental defense system protecting students against depression.

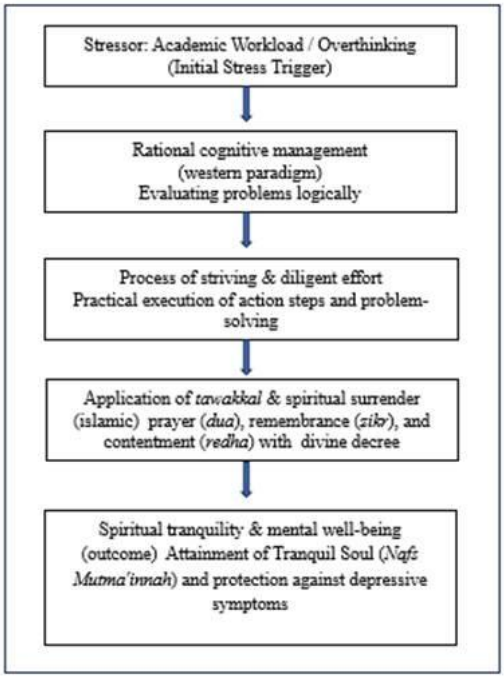

Figure 1. Integrative Cognitive and Psycho-Spiritual Framework of *Tawakkal* in Stress Management

As shown in Figure 1, Western psychological modalities such as Cognitive Behavioral Therapy (CBT) work to logically regulate negative thoughts at an initial phase. However, true psychological closure is attained through regular Islamic psycho-spiritual practices (Badri & Lu'lu'a, 2000; Mohiuddin, 2025). The concept of *tawakkal* enables students to shift focus from fear of failure toward tranquil surrender, thereby preserving emotional stability and preventing a decline in quality of life.

CONCLUSION

Overall findings demonstrate that the practice of *tawakkal* serves as a highly effective and practical psycho-spiritual approach in helping university students manage emotional stress, mental burnout, and depression. Achieving balance between strategic personal effort (*ikhtiar*) and sincere spiritual reliance (*tawakkal*) fosters resilient, mature, and high-quality student character. Higher education institutions are encouraged to integrate these psycho-spiritual elements into counseling modules and student development programs to support holistic student maturation across intellectual, emotional, and spiritual dimensions.

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Integrity Education and Human-Centered Lifelong Learning: Insights from Student PSA Scripts

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ABSTRACT

Integrity education is crucial in higher education institutions to cultivate ethical awareness and responsible citizenship. This study explores how integrity education contributes to human-centred lifelong learning through the assignment of student-produced Public Service Announcement (PSA) scripts submitted for the Integrity and Anti-Corruption (KIAR) course. A total of 33 PSA scripts comprising 24 Diploma-level scripts and 9 Bachelor-level scripts were analysed using qualitative thematic content analysis. The findings revealed several recurring themes, such as bribery, academic integrity, abuse of power, false claims, nepotism, whistleblowing, accountability, and public interest protection. Students usually portray corruption as an ethical issue embedded in education, workplace, and community settings rather than a distant political phenomenon. Some scripts demonstrate the consequences of unethical behaviour on individuals, organisations, and society. The study suggests that project-based learning activities such as PSA development facilitate ethical awareness, promote value internalisation, and support ethical decisions making throughout life. The findings support the role of integrity education as a human-centred approach to lifelong learning and character development.

Keywords: Integrity Education, Human-Centred Learning, Lifelong Learning, Anti-Corruption Education, Ethical Awareness

INTRODUCTION

Higher education today is expected to produce graduates who not only possess academic knowledge and professional skills, but also demonstrate integrity, ethical judgement, and social responsibility. Human-centred lifelong learning emphasises the development of individuals who can make responsible decisions and contribute positively to society.

Integrity education has gained increasing attention as a means of helping learners understand the causes and consequences of corruption while developing the values and attitudes needed for ethical decision-making. Beyond preparing students for employment, higher education institutions are expected to nurture responsible citizens who contribute to fair, inclusive, and trustworthy communities (UNESCO & UNODC, 2024; Masudi, 2024).

In Malaysia, concerns surrounding corruption, abuse of power, and unethical conduct have led to greater emphasis on integrity education, including the introduction of the Integrity and Anti-Corruption (KIAR) course in higher education institutions. Through case studies, discussions, and project-based activities, the course encourages students to reflect on issues of honesty, accountability, fairness, and responsible citizenship. Mohammed et al. (2023) noted that anti-corruption education in Malaysia requires more meaningful approaches to strengthen ethical awareness, while Mohammed et al. (2026) emphasised the importance of contextualised learning experiences that promote integrity and civic responsibility.

This study examines how students interpret issues related to integrity and corruption through Public Service Announcement (PSA) scripts as part of their coursework. By analysing the narratives and ethical dilemmas presented in these scripts, the study explores students' understanding of integrity and the contribution of project-based learning to human-centred lifelong learning.

METHODOLOGY

This study adopted a qualitative thematic content analysis approach to examine students' understanding of integrity and anti-corruption issues. The data consisted of 33 Public Service Announcement (PSA) scripts produced by students enrolled in the Integrity and Anti-Corruption (KIAR) course at Southern University College between May and August 2026. The dataset included 24 scripts prepared by Diploma students taking KMPU2432 (coded D01-D24) and 9 scripts produced by bachelor's degree students taking KMPU3432 (coded B01-B09).

Each script was treated as a single unit of analysis.
To ensure confidentiality and facilitate systematic analysis, the original group identities were replaced with coded identifiers. The scripts were read repeatedly to identify recurring patterns related to integrity, corruption, ethical decision-making, accountability, and social responsibility. Similar ideas were then grouped into broader themes for results and discussion.

RESULTS AND DISCUSSION

The analysis of the 33 PSA scripts revealed several recurring themes related to integrity and anti-corruption awareness.

(i) Bribery and Corruption in Everyday Life
Bribery was the most dominant theme across the scripts. Students depicted corruption in a variety of everyday situations, such as public procurement, scholarship applications, workplace recruitment, traffic offences, driving tests, and sports competitions. Rather than portraying corruption solely as a high-level political issue, many students framed it as a problem that can arise in ordinary daily interactions and decision-making processes.

(ii) Academic Integrity
Academic integrity emerged as another prominent theme. Common issues included examination cheating, leaked examination materials, fake medical certificates, attendance fraud, and free riding in group assignments. Several students further connected academic misconduct to future workplace behaviour, suggesting an awareness that unethical habits developed during university days may continue into professional life if left unchecked.

(iii) Abuse of Power and Nepotism
Several scripts addressed abuse of power, favouritism, and nepotism. These scripts illustrated how individuals may exploit positions of trust to benefit family members, friends, or personal interests. Students also highlighted the negative impact of such actions on fairness and transparency. The scripts reflected an understanding that ethical leadership requires decisions to be made based on merit rather than personal relationships.

(iv) Whistleblowing and Accountability
Whistleblowing was frequently presented as a positive and necessary response to misconduct. Many characters chose to report unethical behaviour despite facing social pressure, personal discomfort, or potential consequences. The scripts often portrayed accountability through investigations, disciplinary actions, dismissals, scholarship revocations, legal proceedings, and reputational damage. These narratives suggest that students recognise the importance of transparency and personal responsibility in maintaining integrity.

(v) Human-Centred Lifelong Learning
An important finding was the emphasis on the human impact of corruption. Rather than focusing only on legal violations, students often highlighted those affected by unethical conduct, including fellow students, colleagues, scholarship applicants, consumers, and members of the public. This suggests that students viewed integrity as a value closely linked to fairness, trust, and social well-being. Through the process of developing PSA narratives, students demonstrated an ability to apply classroom concepts to real-life situations, encouraging ethical reflection and lifelong learning.

Besides the analysis on themes, when comparing the PSA scripts produced by Diploma (as shown in Table 1) and Bachelor students (as shown in Table 2), there are some differences in the way integrity issues were presented. Diploma students tended to focus on practical and everyday integrity challenges that are closely related to their immediate experiences. These included fake medical certificates, examination cheating, workplace misconduct, traffic bribery, scholarship applications, and interpersonal ethical dilemmas. The narratives often emphasised personal responsibility, honesty, and the consequences of unethical behaviour on peers, colleagues, and family members.

In contrast, Bachelor students were more likely to address broader and more complex ethical issues, including abuse of power, public-sector corruption, procurement irregularities, nepotism, ethical rationalisation, and the long-term societal consequences of corruption. Several scripts also examined how seemingly minor ethical compromises could gradually evolve into larger forms of

corruption, ultimately affecting public trust and institutional credibility.

Although both groups demonstrated awareness of integrity and anti-corruption values, the findings suggest differences in the way ethical issues are interpreted. Diploma students focused primarily on personal and situational experiences, whereas Bachelor students were more likely to examine structural, organisational, and societal dimensions of corruption. These differences may reflect variations in academic maturity, exposure and perspectives on governance and social responsibility.

Table 1. Code and Topic from Diploma (KMPU2432)

Code	Topic
D01	Student Union Fund Misuse
D02	Internship Selection Bribery
D03	Club Fund False Claims
D04	Three Little Lies
D05	Romance Scam Awareness
D06	Fake MC and Leaked Answers
D07	Fake Medical Leave
D08	Government Procurement Corruption
D09	Lost Wallet and Attempted Bribery
D10	Driving Test Bribery
D11	Abuse of Power in Group Assignment
D12	Fake Medical Certificate
D13	Traffic Bribery
D14	Fake MC and Workplace Dishonesty
D15	Financial Aid Favour Request
D16	Roadblock Bribery Case
D17	Internship Recruitment Bribery
D18	Lecturer Bribery Attempt
D19	Examination Cheating
D20	Sabah Water Department Corruption
D21	Traffic Summons Bribery
D22	Cup of Milk Tea (Small Corruption)
D23	Match-Fixing Attempt
D24	Scholarship Bribery Scandal

Table 2. Code and Topic from Bachelor (KMPU3432)

Code	Topic
B01	The First Block
B02	A Happy Family Without Corruption
B03	Government Department Corruption
B04	Symptoms of Corruption
B05	It Starts Here
B06	Exam Paper Leakage and Whistleblowing
B07	Long-Term Consequences of Corruption
B08	Integrity Vending Machine
B09	The Cost of Compromise

CONCLUSION

The findings show that integrity education goes beyond teaching rules and regulations. Through the PSA project, students translated concepts such as integrity, fairness, accountability, and corruption into situations that reflected real-life experiences in educational, workplace, and community settings. In doing so, they demonstrated an understanding that ethical decisions can have consequences not only for individuals but also for society.

Several recurring themes, including bribery, academic misconduct, abuse of power, whistleblowing, accountability, and public trust, suggest that students were able to recognise integrity as an important value in both personal and professional contexts. Rather than viewing corruption solely as a legal issue, many scripts highlighted its effects on relationships, opportunities, organisations, and communities.

The study also points to the value of project-based learning as a tool for integrity education. By creating and communicating anti-corruption messages, students were encouraged to engage more actively with ethical issues and reflect on their own responsibilities. These findings support calls for more meaningful and learner-centred approaches to anti-corruption education in higher education (Mohammed et al., 2026).

A comparison between Diploma and Bachelor students revealed differences in emphasis. Diploma students generally focused on everyday ethical challenges, while Bachelor students were more likely to examine governance issues and the wider social consequences of corruption. This suggests that integrity education may be more effective when learning activities are tailored to students' educational backgrounds and experiences.

Future studies may build on these findings by exploring students' attitudes, reflections, and behavioural intentions through surveys, interviews, or longitudinal research to better understand the long-term influence of integrity education on ethical awareness and decision-making.

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A Multi-Stakeholder Insights regarding Career Readiness and Competencies required for improving Graduate Employability among Generation Z

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ABSTRACT

The transition of Generation Z into the modern workforce highlights a significant gap between traditional academic preparation and evolving industry expectations. As workplace dynamics rapidly shift, higher education institutions must continuously modernize their career interventions to prevent graduates from entering the labor market underprepared. This study aims to evaluate and update a career readiness Finishing School module to identify the essential soft skills, technical competencies, and effective delivery methods required to enhance Generation Z's graduate employability. A qualitative multi-stakeholder approach was utilized, employing Focus Group Discussions (FGDs) to triangulate perspectives from three stakeholders i.e., academic coordinators, university alumni, and industry professionals. The findings reveal a critical shift in demanded competencies. Main themes identified are digital literacy and AI ethics, career clarity, workplace communication and problem-solving skills. Industry stakeholders specifically noted that Gen Z graduates often struggle with professional boundaries, accountability, and understanding broader business insights. Pedagogically, traditional lectures for improving career readiness are deemed ineffective. Instead, stakeholders strongly advocate for experiential learning, real-world case studies and direct industry-relevant sharing, urging these interventions to begin progressively from the first year of study rather than clustered during the final year. This research provides an evidence-based framework for universities to redesign career development modules by aligning the content and approaches with the new generation. It is pivotal to incorporate real-world industry demands so institutions can foster holistic student development, bridge generational competency gaps, and produce resilient, adaptable graduates ready for the contemporary labor market.

Keywords: career readiness, finishing school, generation Z, competency, graduate employability.

INTRODUCTION

In the rapidly evolving global employment landscape, graduate employability has become a trending concern for higher education institutions and industries worldwide (Wahab et.al.,2024). Today's competitive job market demands that graduates possess not only strong academic credentials but also diverse employability competencies, including critical thinking, adaptability, and collaborative skills. However, a significant global gap persists between the soft skills employers expect and the practical competencies recent graduates actually bring to the workforce (Yong & Ling, 2023). This skills mismatch is observed within the local Malaysian context, mirroring challenges across the broader Asia-Pacific region where developing suitable graduate readiness programs and initiatives remains a challenge (Tee et. al., 2024). Malaysian employers continually emphasize the urgent need for young professionals to demonstrate strong workplace communication, practical

problem-solving abilities, and high English proficiency for successful employability. This requires local universities to critically evaluate their career development modules and align pedagogical approaches with the real-world realities of the Malaysian labor market.

The complexity of graduate employability is further compounded by the ongoing demographic transition of the workforce, as Generation Z (born between 1995 and 2012) rapidly integrates into the labor market. Gen Z exhibits distinct workplace characteristics that differentiate them significantly from previous generations. As true "digital natives," they possess exceptional technological fluency, expect rapid career growth, and prioritize flexible, self-development-oriented work (Magfiroh & Jaro'ah, 2023). Conversely, evidence highlights that Gen Z frequently lacks essential soft skills such as face-to-face interpersonal communication, professional ethics, conflict negotiation, and emotional resilience under pressure (Romadhoni, 2023).

Studies highlight that active participation in structured career readiness programs significantly boosts a student's self-efficacy and job readiness, regardless of their academic discipline or gender (Dodd et.al., 2022). Furthermore, Rachmawati (2024) emphasizes that the most effective modules are those that prioritize internal confidence-building alongside external, hands-on job training to ensure graduates are truly prepared for the workforce.

Hence, this study is applied to relook into a career readiness module that is implemented as a "Finishing School" initiative in a public university and improve with the current needs and competencies especially for the new generation of graduates. A qualitative approach via Focus Group Discussions (FGD) is employed to answer the study objectives among three different stakeholders i.e., academic coordinators, graduate alumni and industry human resource representatives. The protocol was designed with the CADI framework which explores the Curriculum, Approach, Delivery and Impact of the Finishing School module. The insights from all the three stakeholders are analyzed thematically and embedded as new themes for the updated version of the module. This paper will only focus on the Content domain to assess the competencies required only.

RESULTS AND DISCUSSION

Findings from the FGD of all three stakeholders highlights that there are improvements that is required to be made in the content of the Finishing School module to align with current market demands. Main themes identified in the discussion are digital skills in workplace, career clarity, workplace communication and problem-solving skills. Industry stakeholders specifically noted that Gen Z graduates often struggle with professional boundaries, accountability, and understanding broader business insights.

Briefly looking into the delivery and approach, traditional lectures for improving career readiness are deemed ineffective. Instead, stakeholders strongly advocate for experiential learning, real-world case studies and direct industry-relevant sharing, urging these interventions to begin progressively from the first year of study rather than clustered during the final year.

There are fourteen (14) themes that emerged from all the FGD conducted (Table 1), being mentioned by all theree (3) stakeholders. From the themes, it is observed that the most frequent theme being mentioned are digital skills in the workforce and career clarity and are being mentioned across all stakeholders. According to Tee et.al. (2024), the change in digital skill demanded have been observed due to the significant shift in digital transformation, hence creating the need for upskilling graduate and the workforce to meet with current skills demand.

Career clarity is also related to the digital shift and new market environment whereby graduates need to explore new fields of work that emerges from the new need of the market. Career choices need to shift from conventional careers to interdisciplinary and multidisciplinary options, which includes Environment, Social and Governance (ESG), Social and Environment Impact Assessment, energy security, artificial intelligence ethics, just to name a few. Hence, career readiness

modules should incorporate exploration of these new market demands which will facilitate in career clarity. This is also very much related to sustainability or green skills to importantly is the new field with a rising need due to shifts in renewable energy sources and carbon footprint reports required.

Table 1. Themes identified from all stakeholders

No	Themes	Academic Coordinators	Industry	Alumni
1	Business mindset	/	/	
2	Career clarity	/	/	/
3	Common sense/accountability	/	/	
4	Critical thinking/problem solving	/	/	/
5	Current job market	/	/	/
6	Digital skills in workplace	/	/	/
7	Ethics and professionalism	/	/	/
8	Financial literacy	/		/
9	Personal branding	/	/	/
10	Professional grooming	/		/
11	Career Resilience	/	/	/
12	Resume	/		/
13	Sustainability/Green skills		/	/
14	Workplace communication	/	/	/

Comparing the themes in Table 1, and the current Finishing School module; there are new domains that needs to be developed as improvement. The domains are common sense/accountability, current job market, digital skills in workplace, career resilience, sustainability/green skills and workplace communication. From a perceptual standpoint, graduates believe Finishing School modules are highly effective, reporting significant improvements in their soft skills (Ali et al., 2014).

CONCLUSION

This research provides an evidence-based framework for universities to redesign career development modules by aligning the content and approaches with the new generation. It is pivotal to incorporate real-world industry demands so institutions can foster holistic student development, bridge generational competency gaps, and produce resilient, adaptable graduates ready for the contemporary labor market.

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Bridging Policy and Practice: Implementing SULAM in EPPE6154 Economics of Social Policy Course to Drive Graduate Employability and Soft Skill Mastery

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ABSTRACT

To address the crucial issue of graduate employability in Malaysia, this article offers an implementation framework for Service Learning Malaysia-University for Society (SULAM) within the EPPE6154 Social Policy Economics course. The initiative bridges the gap between theoretical social policy analysis and real-world community engagement. It is based on Human Capital Theory and Social Policy Frameworks. For young people and vulnerable groups, especially those from low-income (B40) backgrounds, postgraduate students create and implement focused social policy interventions, such as workshops on villagers' livelihoods (recycling waste), health, and digital awareness. This study assesses how experiential learning through SULAM improves students' own mastery of critical soft skills while also empowering target communities using a mixed-methods research methodology. Self-perceived soft skill proficiency and policy knowledge are measured quantitatively using survey instruments administered before and after the intervention. Simultaneously, the larger socio-economic impact and student civic responsibility are evaluated through qualitative insights obtained from focus groups and reflective questions or statements. According to preliminary evaluations, incorporating SULAM into the economics curriculum greatly enhances students' soft skill competences, which are closely related to graduate employability indicators from the Ministry of Higher Education (MOHE). Additionally, the experiential approach turns abstract social welfare concepts—like labor market mismatches, social mobility, income inequality, education, health, digital awareness, etc.—into concrete assessments of economic policies. In the end, our study shows that SULAM is a dual-purpose teaching instrument that produces quantifiable social benefit for marginalized communities while providing economics postgraduates with highly sought-after labor market competencies. In order to improve graduate preparation, promote social justice, and reduce structural unemployment in the digital economy, the findings provide policymakers and higher education institutions with strategic ideas for changing social science curricula.

Keywords: SULAM (Service Learning Malaysia-University for Society), Graduate Employability, Social Policy Economics, Soft Skills Indicators, Human Capital Theory, Higher Education Reform.

INTRODUCTION

Graduate employability is very important. Ability to secure a job based on capability, available skills and educational competencies demonstrates the success of the education system as a whole. In the rapidly evolving landscape of higher education, bridging the gap between policy and practice is paramount, particularly in fields such as economics and social policy. SULAM refers to the Service Learning Malaysia-University for Society initiative, a community-engaged pedagogical framework designed to foster civic responsibility while cultivating professional soft skills through real-world experiential learning (Meffzal et al., 2025).

The integration of SULAM into courses like EPPE6154 Economics of Social Policy provides a strategic framework to enhance graduate employability and foster the mastery

of essential soft skills. SULAM encourages experiential learning, allowing students to engage in real-world scenarios that reflect the complexities of social policy issues (Nor Afni Md Sari & Siti Nur Afiqah Norasikin, 2025; Selvaratnam, 2013). By implementing this model, educators can create a more dynamic learning environment that not only imparts theoretical knowledge but also cultivates practical competencies.

Graduate employability has become a critical concern for educational institutions, as stakeholders increasingly demand that graduates possess not only academic qualifications but also the skills necessary to thrive in the workforce. Soft skills, such as communication, teamwork, and problem-solving, are vital in today's job market and can be transferred to students through SULAM's activities (Barman, 2025; Danilova & Yuskaeva, 2025). The EPPE6154 course aims to address these needs by embedding SULAM principles, which promote active learning strategies that align academic content with industry expectations. This approach not only enhances student engagement but also equips graduates with the tools required to navigate the complexities of social policy work.

The classroom activity involved rigorous discussion and planning of an intervention program for the indigenous community at Kg. Kachau Luar. The students made a site visit and identified issues to address. They found three main problems to address - digital awareness, community health and sustainable livelihood based on waste recycling. The focus of this paper is only on the digital awareness topic. The students designed a digital literacy program to enhance the youth's mastery of digital video clips for promoting the village and indigenous culture. It is anticipated to have a positive impact on eco and cultural tourism for the village. Nevertheless, the program encountered obstacles for implementation due to JAKOA's regulation and time constraints.

Therefore the students adapted and proposed the program online in the indigenous community's facebook platform. After viewing the module materials, respondents will answer the questions posed in the google survey form.

The EPPE6154 course was delivered in the classroom with active discussion and planning for community engagement and program intervention. Although the physical intervention encountered hindrance, it was then delivered through the online channel for awareness and feedback. The next sections will look at the results and discussion and conclusion and policy implication.

RESULTS AND DISCUSSION

A total of 15 masters students enrolled in this course. During the field activity, the students can help connect in reality the labor market mismatches arising from lack of opportunities and mismatched skills among the indigenous community at Kg Kachau Luar living at the fringes of Semenyih and close to the forests entering into Hulu Langat's water catchment and Ampang area. The level of social mobility is very low due to low academic achievements and practical skills certification, making the indigenous community to venture into low-skill jobs and seeking manual low paying work and still reliant on the natural sources from the adjacent forest. This means that the economic livelihood is low and the wellbeing of the indigenous community is questionable. The income inequality is not surprising when compared to the mainstream ethnic groups of the Malays, Chinese or Indians. All these issues are an eye opener to the students which are seen as important factors that will impact the individual community members' decision making process to enhance their future. For the students these determinants are also important to be included in making concrete assessments of economic policies.

Table 1 Peer Effectiveness Rating Sheet (1-10 Scale)

Peer Effectiveness Rating Sheet (1-10 Scale) *Detailed anonymous items (Poor 1-2; Average 5-6; Superior 9-10)*	
Item	**Overall Metric Average**
Attendance	8.4
Attitude	8.4
Task Functions	7.4
Maintenance Functions	7.1
Group Process	8.2
Readiness	7.6
Willingness	8.0
Ability to Contribute	6.8
Dealing with Difficulties	7.6
Overall Effectiveness	8.0

The above Table 1 uses the rating scale: Poor 1-2; Below average 3-4; Average 5-6; Above average 7-8; Superior 9-10. It shows that all items of evaluation by peers scored overall metric average Above Average. Nevertheless there is still room for enhancement to achieve Superior range. Wang et al. (2024) and Shah et al., 2022 argue that in the contemporary labor market, soft skills have become critical determinants of professional effectiveness and career trajectory.

Learning takes place everywhere and when guided and nurtured, it has positive results for the students. In SULAM, it also has positive outcomes for the community. Students expressed deep appreciation for course structures that move beyond textbook models into lived human experiences, reinforcing the importance of preserving local cultural identities in Malaysia. While the Human Capital Theory and Social Policy Frameworks can be learnt from text books and lectures, an in-depth understanding is made available through this course that encourages students to divide into groups of differing community topics and perform role play based on selected scenarios. This helped the students to visualise a probable situation and anticipate problems and mitigation steps for the benefit of the community at focus.

The self-perceived soft skill proficiency and policy knowledge rating scores are shown in Table 2.

Table 2. Self-Perceived Soft Skill Proficiency And Policy Knowledge Rating Scores

Dimension	Growth Metric / Item	Pre-Visit Average	Post-Visit Average	Net Increase (Growth)
A. Communication	Articulate complex economic concepts to non-academic audiences	3.0	4.2	+1.2
A. Communication	Confidence adapting communication style to diverse B40 backgrounds	3.2	4.5	+1.3
A. Communication	Proficiency in active listening with community stakeholders	3.5	4.6	+1.1
B. Critical Thinking	Critically evaluate real-world social policy beyond textbook models	2.8	4.4	+1.6
B. Critical Thinking	Question program assumptions using real-world community feedback	3.0	4.3	+1.3
B. Critical Thinking	Synthesize qualitative feedback with quantitative economic indicators	2.6	4.2	+1.6
C. Problem-Solving	Design practical, evidence-based localized social policy solutions	2.8	4.2	+1.4
C. Problem-Solving	Adapt and propose alternative interventions during field surprises	3.2	4.5	+1.3
C. Problem-Solving	Systematically break down complex structural problems (income gaps)	2.4	4.3	+1.9
D. Teamwork	Collaborate efficiently with peers to plan/execute field interventions	3.8	4.7	+0.9
D. Teamwork	Manage task conflicts constructively to achieve project goals	2.4	4.4	+2.0
D. Teamwork	Actively contribute to group decisions while respecting differences	3.6	4.6	+1.0
E. Policy Application	Clear understanding of core social policy theories (Welfare/Human Capital)	2.8	4.5	+1.7
E. Policy Application	Identify structural root causes of graduate labor market mismatches	3.0	4.2	+1.2
E. Policy Application	Assess direct impacts of social policies on vulnerable B40 groups	3.2	4.6	+1.4
Average Competency Growth		3.1	4.4	+1.3

Table 2 shows the SULAM community engagement's soft skill development using the pre- versus post-community visit likert scale analysis with the 1-5 scale. Through this SULAM exercise, as a whole the students rated the highest increment for Policy Application (+1.7) and the lowest increment was for Teamwork. As this subject is on Economics of Social Policy, therefore this is highly anticipated and benefits the students looking to embark on jobs related to policy matters. Teamwork is rated positive, although it is a low increase and there is room to improve this through diversifying activities in the future.

The reflective exercise of the course demonstrates the students' collaborative efforts, such as S11's cooker setup, water PH testing, translating, and Google Form transfers, S11's traditional medicine health cards and bilingual translations, S03's methodology/caterer coordination and prize selections, and 09's AI task division and village questionnaire scripts. The themes that appeared from the reflections of the students were segregated into 6 themes, namely 1. Instrument Design & Field Data Collection (Survey Design & Scripting: Conducting On-Site Interviews; and Data Digitization); 2. Creative Planning & Technical Assembly of Interventions (Developing Modules; Sourcing & Engineering Solutions; Leveraging External Expertise & AI); 3. Project Logistics,Sourcing, & Team Administration (Financial Sourcing & Procurement; and Collaborative Leadership & Task Division); 4. Bridging Language Barriers & Peer Support (Translation on the Ground; and Academic Peer Support); 5. Structured Academic Reporting &

Policy Alignment (Authoring Core Chapters; and Document Refinement); 6, Media Outreach & Digital Publicity (Visual Aid Design; and Online Campaigning).

During the site visit, there main concerns highlighted: 1) the indigenous women demonstrated having some awareness of modern healthcare, and the residents also understood that untreated water may be unsafe for their community; 2) most of the youth had mobile phones and were actively engaged online but were not conscious on how to capitalise the digital knowledge to create indigenous cultural awareness; 3) the working adults were mainly reliant on traditional or menial low paying works due to lack of technical skills needed in the job market that was relatively far from their village. The online survey resulted in feedback, which not surprisingly came from the non-indigenous community.

It is important to remember, though, that all 35 responders were not Orang Asli, and 25.7% of them were between the ages of 31 and 45. As a result, these results cannot accurately reflect the Temuan community Kampung Kachau Luar. The findings show that these non-indigenous survey participants had difficulty choosing cultural topics. Therefore to ensure that the SULAM program benefits the community, the intervention program has to take place physically.

CONCLUSION

The SULAM program conducted through the subject EPPE6154 has benefited the students in soft-skills development and enhancing knowledge and execution strategies for policy action. Nevertheless, the benefit for the indigenous community is not fully achieved. Awareness through discussion and dialogue during the site visit was apparent nevertheless it was not solidified through the final implementation phase. The drivers of non-indigenous community preparedness for digital waste-to-wealth programs under a general public narrative are empirically validated, but it is not evident for the indigenous community. Health module awareness was not validated through the online module activity and survey. Although the Orang Asli do use mobile phones and are actively using social media (Facebook, WhatsApp, Instagram, TikTok), it is more for sharing or viewing of video clips. Some do use it to promote business and conduct e-commerce, but the exercise to view modules and answer google form surveys was a tall order and needs to be improvised in the future.

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Pembinaan Graduan Berintegriti Secara Kendiri: Analisis Kaedah Ihsan Dalam Hadis Jibril

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ABSTRAK

Pembinaan graduan yang professional dan mempunyai kredibiliti perlu dilengkapkan dengan nilai integriti yang jitu. Ia bertujuan agar setiap institut pengajian tinggi dapat mengeluarkan sumber tenaga manusia yang holistik dan dipercayai dalam pelbagai bidang pekerjaan dan perkhidmatan di Malaysia. Nilai ini merupakan salah satu aspek Amanah yang merupakan antara nilai Ihsan, iaitu salah satu cabang dari agama yang telah diriwayatkan di dalam Hadis Nabawi yang digelar dengan Hadis Jibril. Kajian ini menggunakan kaedah kualitatif dengan menganalisa buku-buku dan kajian akademik terdahulu bagi memahami nilai intergriti di dalam ilmu Ihsan – tasawuf – dan menilai kaedah Pendidikan Islam dalam merealisasikan nilai tersebut di dalam diri insan. Kemudian, penyelidik akan mencadangkan kaedah yang selaras dengan tahap Pendidikan tinggi di Malaysia bagi membina graduan yang berintegriti dengan panduan sumber wahyu. Kajian ini mendapati bahawa mata pelajaran yang dapat membina hubungan antara mahasiswa dan tuhan merupakan keperluan bagi memastikan integriti dapat dibina di dalam diri mereka. Kaedah pembinaan sikap dan akhlak integriti berteraskan penyaksian akan pemantauan daripada tuhan tidak terhad dengan pengajaran secara teori di kelas sahaja, namun perlu pembelajaran perlu dilaksanakan secara praktikal dan dibudayakan di kampus.

PENGENALAN

Pembangunan modal insan merupakan antara agenda utama Rancangan Pendidikan Tinggi Malaysia 2026-2035 yang bukan sahaja menekankan kecemerlangan akademik, bahkan pembentukan kepimpinan beretika dengan penerapan nilai murni serta berakauntabiliti dalam melaksanakan pentadbiran dalam segala urusan. (Kementerian Pendidikan Tinggi, 2025). Dalam masa yang sama, isu salah laku akademik, rasuah, penyelewengan amanah dan pelbagai bentuk ketidakjujuran dalam sektor pekerjaan menunjukkan bahawa pembangunan profesionalisme semata-mata tidak mencukupi tanpa pembinaan integriti dalaman individu.

Antara usaha untuk mencapai matlamat pembangunan pelajar secara holistik, setiap institut pengajian tinggi di Malaysia dimestikan untuk menawarkan Mata Pelajaran Umum (MPU) kepada semua pelajar. Mata Pelajaran Umum berperanan untuk membina nilai-nilai yang diperlukan oleh dasar Pendidikan Malaysia kepada para pelajar termasuk nilai integriti seperti mata pelajaran Kursus Integriti dan Anti Rasuah.

Dalam perspektif Islam, integriti bukan sekadar pematuhan kepada peraturan luaran, tetapi lahir daripada kekuatan iman dan kesedaran bahawa setiap perbuatan sentiasa berada di bawah pemerhatian Allah SWT. Prinsip ini dihimpunkan melalui konsep Ihsan yang dijelaskan dalam Hadis Jibril apabila Rasulullah SAW bersabda:

"Engkau menyembah Allah seolah-olah engkau melihat-Nya. Sekiranya engkau tidak melihat-Nya, maka sesungguhnya Dia melihatmu." (Riwayat al-Bukhari, no. 50; Muslim, no. 9)

Hadis Jibril yang diriwayatkan oleh Umar bin al-Khattab merupakan hadis asas yang menghuraikan tiga komponen utama agama iaitu Islam, Iman dan Ihsan. Menurut Imam al-Nawawi (1991), hadis ini merupakan antara hadis paling penting dalam menghuraikan keseluruhan agama Islam. Manakala Ibn Rajab al-Hanbali (2001) menjelaskan bahawa tujuan Rukun Ihsan adalah untuk mencapai tahap dalam ibadah dan menjalani kehidupan sebagai

ini dimulakan dengan tahap *muraqabah* (kesedaran sentiasa diawasi Allah) dan kemudian tahap *musyahadah* (menyaksikan kebersamaan dengan Allah di setiap keadaan). Tahapan ini akan melahirkan individu yang berakhlak mulia dan antaranya adalah jujur dan amanah tanpa pemantauan manusia.

Walaupun pelbagai kajian telah membincangkan pendidikan integriti di institusi pengajian tinggi, kebanyakannya memberi penekanan terhadap aspek etika profesional, tadbir urus dan pematuhan undang-undang. Kajian yang menghubungkan pembentukan integriti kendiri melalui konsep Ihsan berdasarkan Hadis Jibril masih relatif terhad. Oleh itu, kajian ini bertujuan menganalisis konsep Ihsan sebagai asas pembangunan integriti graduan serta mencadangkan pendekatan pendidikan Islam yang sesuai diaplikasikan dalam institusi pengajian tinggi di Malaysia.

HASIL DAN PERBINCANGAN

Analisis mendapati bahawa konsep integriti dalam Islam berbeza daripada pendekatan konvensional yang lazimnya menumpukan kepada pematuhan terhadap undang-undang atau kod etika organisasi. Sebaliknya, integriti menurut perspektif Ihsan adalah dengan pendekatan pembinaan tingkah laku berdasarkan kepada kesedaran bahawa diri individu sentiasa di bawah pantauan tuhan (*muraqabah*) melalui kaedah kognitif. Kemudian, kesedaran itu akan merubah tingkah laku dan akhirnya menjadi akhlak yang baik. Pandangan ini diperkukuhkan oleh Ibn al-Qayyim (1996) yang menghuraikan bahawa muraqabah merupakan asas kepada pembentukan akhlak yang konsisten sama ada ketika bersendirian mahupun di hadapan orang lain.

Bin Sumaith (2005) dalam mensyarahkan Hadis Jibril menukilkan daripada al-Ghazali nilai yang menjadi tujuan yang perlu dicapai dalam perspektif Ihsan adalah taubat (kembali kepada fitrah sebenar), rasa takut untuk melakukan kesalahan atau meninggalkan tanggungjawab, zuhud, sabar, syukur, ikhlas, tawakkal (menyerahkan urusan kepada Allah), muhibbah, reda dan mengingati kematian. Nilai ini dipelajari melalui disiplin ilmu yang digelar sebagai ilmu tasawuf atau digelar tazkiyah (Bin Sumaith, 2005). Muraqabah yang berasaskan kepada nilai yang dinyatakan oleh Bin Sumaith (2005) akan menjadikan seseorang itu mempunyai nilai integriti yang tinggi meskipun tidak dipantau oleh manusia.

Hasil analisis juga turut menunjukkan bahawa pembinaan integriti graduan tidak memadai melalui penyampaian teori berkaitan etika atau undang-undang akademik semata-mata. Sebaliknya, pendidikan Ihsan memerlukan proses pendidikan yang dilaksanakan secara berterusan sehingga menjadi budaya kehidupan pelajar. Ia Adalah pencapaian akhir daripada rukun agama daripada Hadis Jibril iaitu ilmu hanya akan bermanfaat apabila diamalkan dan buah daripada amalan itu adalah puncak daripada Ihsan atau tasawuf sebagaimana yang dinyatakan oleh Al-Ghazali. Buah daripada amalan itu boleh disifatkan sebagai akhlak yang terbina hasil daripada pembudayaan amalan yang berteraskan ilmu yang diperoleh.

Hasil didikan melalui ilmu dan pengamalan telah diterapkan oleh Rasulullah kepada para sahabat melalui kaedah pembelajaran pengalaman sebagaimana riwayat hadis bahawa Rasulullah telah mengutuskan seorang sahabat yang dikenali sebagai Ibn al-Lutaibah untuk mengambil sedekah daripada kabilah Bani Sulaym. Ibn al-Lutaibah kemudiannya pulang menyatakan bahawa ada harta yang diberikan sebagai zakat dan ada harta yang diberikan kepadanya sebagai hadiah. Perbuatan penerimaan hadiah itu ditegur oleh Rasulullah secara tegas [H.R. Bukhari, 7197]. Dalam riwayat yang lain, Rasulullah telah ditanya oleh seorang sahabat Bernama Abu Dzar agar Rasulullah melantiknya dalam jawatan yang penting. Rasulullah menegurnya dengan menerangkan Risiko Amanah dan tanggungjawab pada sesuatu jawatan [H.R. Muslim, 1825]. Hadis ini dianalisa bahawa sesuatu jawatan hanya diberikan kepada individu yang benar-benar layak. Hasil didikan ini melahirkan pemimpin yang menggantikan Rasulullah yang bersifat amanah dan adil.

Terdapat dua konsep asas yang telah dinukilkan oleh Bin Sumaith (2005) dalam kaedah pembelajaran nilai-nilai Ihsan iaitu *khauf* (takut) dan *raja'* (harapan). Konsep *khauf* adalah berdasarkan kepada takut kepada ancaman

akibat perbuatan yang dilarang atau meninggalkan perintah. Manakala, konsep *raja'* adalah pengharapan kepada ganjaran yang dijanjikan kerana mentaati perintah, larangan atau melakukan perkara yang baik. Perbandingan yang sama dalam penerapan integriti di dalam masyarakat melalui kesedaran implikasi perundangan terhadap perlanggaran undang-undang yang digubal bagi mencegah korupsi daripada berlaku. Namun, tidak ada dasar kerajaan yang menjanjikan imbalan bagi individu yang bersikap integriti. Dalam masa yang sama, individu yang merasa dirinya tidak mendapat perhatian penguatkuasaan merasakan dirinya selamat dari implikasi. Ruang ini hanya boleh dijawab dengan konsep Ihsan iaitu apabila individu sedar bahawa tuhan sentiasa memantau, maka, balasan atas perbuatan yang baik atau buruk pasti akan diterima, jika tidak di dunia maka pasti akan diterima di Akhirat.

Pembelajaran Mata Pelajaran Umum (MPU) yang diwajibkan di institut pengajian tinggi di Malaysia bertujuan untuk menerapkan nilai-nilai yang memberikan impak positif kepada pelajar berdasarkan kepada falsafah pendidikan kebangsaan yang mementingkan pembangunan modal insan dari sudut jasmani, emosi rohani dan intelektual (Nik Liyana & Sakinatul Raadiyah, 2024). Bagi tujuan aplikasi konsep Ihsan berdasarkan hadis Jibril dalam pelaksanaan pembelajaran MPU, penerapan ilmu perlu dijalankan merentasi ruang kelas dan bersifat teori kemudian dipraktikan secara langsung sama ada dalam bentuk aktiviti pembelajaran atau pentaksiran yang menitik beratkan kesedaran kewujudan tuhan, pembalasan akibat dan ganjaran yang pasti diterima. Penerapan itu harus dicapai dengan pengajaran nilai dan sifat yang telah disyarahkan oleh Ben Sumaith berdasarkan ilmu tasawuf. Dalam pengukuran pencapaian bagi konsep ini hanya boleh diukur secara Afektif dan tidak memadai secara kognitif semata-mata.

KESIMPULAN

Menangani isu integriti perlu kepada pemahaman tuntas sebab dan akibat perbuatan agar membentuk individu yang cenderung untuk bersikap amanah dan jujur dalam menjalankan tanggungjawab bahkan menjalani kehidupan. Dasar Islam melalui hadis Jibril telah menyatakan kaedah yang unggul dalam membentuk manusia yang mempunyai Akhlak yang cemerlang melalui konsep Ihsan. Kajian lanjutan bagi kaedah yang bersesuaian untuk mengukur nilai yang telah diterapkan melalui konsep Ihsan di dalam diri pelajar perlu dilakukan. Para pengajar MPU perlu mengambil berat dalam melaksanakan pembelajaran dengan memastikan aktiviti pembelajaran berbentuk praktikal dapat menanam nilai yang membentuk generasi yang berintegriti. Di samping itu, kajian ini diharapkan agar mendapati perhatian pembina kursus MPU bagi menilai kaedah untuk memasukkan nilai-nilai Ihsan secara khususnya dalam silibus dan penilai bagi mencapai maksud pembangunan pelajar sebagai mana kehendak Falsafah Pendidikan Kebangsaan. Falsafah pembangunan akidah dan kepercayaan perlu ditekankan agar konsep *muraqabah* dapat dibudayakan.

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Bidang Kesukarelawanan Sebagai Aspek Utama Pemerkasaan Mahasiswa & Kebolehpasaran Graduan: Analisis Sukarelawan Pelajar Universiti Awam Malaysia Ke Labuan Geopark

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ABSTRAK

Kesukarelawanan semakin diiktiraf sebagai medium pembelajaran berasaskan pengalaman yang berpotensi memperkasa mahasiswa serta meningkatkan kebolehpasaran graduan. Kajian ini bertujuan menganalisis peranan kesukarelawanan dalam pemerkasaan mahasiswa universiti awam Malaysia berdasarkan pengalaman penyertaan dalam program kesukarelawanan di Labuan Geopark. Secara khusus, kajian ini menilai sumbangan aktiviti kesukarelawanan terhadap pembentukan kepimpinan, komunikasi, kerja berpasukan dan empati sosial; menganalisis hubungannya dengan kebolehpasaran graduan melalui pengalaman praktikal, jaringan profesional dan keupayaan adaptasi; serta merumuskan kerangka strategik pendidikan berasaskan kesukarelawanan dalam konteks pendidikan tinggi. Kajian menggunakan pendekatan kualitatif melalui perbincangan kumpulan berfokus (Focus Group Discussion, FGD) yang melibatkan enam orang informan terdiri daripada mahasiswa universiti awam yang terlibat dalam aktiviti kesukarelawanan serta wakil pegawai dan penyelaras Yayasan Sukarelawan Siswa. Dapatan menunjukkan bahawa pengalaman kesukarelawanan berpotensi memperkukuh pembangunan diri mahasiswa melalui peningkatan kemahiran interpersonal, kepimpinan, kerja berpasukan, keupayaan menyelesaikan masalah dan kepekaan terhadap komuniti. Pengalaman lapangan turut menyediakan ruang kepada mahasiswa untuk membina jaringan, meningkatkan keyakinan diri dan mengaplikasikan pengetahuan dalam situasi sebenar yang relevan dengan persediaan memasuki alam pekerjaan. Walau bagaimanapun, keberkesanan kesukarelawanan sebagai instrumen pembangunan mahasiswa turut dipengaruhi oleh motivasi penyertaan, kekangan pelaksanaan program serta tahap sokongan dan pengiktirafan institusi. Kajian ini mencadangkan supaya kesukarelawanan tidak hanya dilihat sebagai aktiviti kokurikulum, sebaliknya diintegrasikan secara lebih sistematik sebagai sebahagian daripada ekosistem pembangunan graduan universiti. Berdasarkan dapatan kajian, sebuah model pendidikan berasaskan kesukarelawanan dicadangkan sebagai kerangka strategik bagi menghubungkan pengalaman kesukarelawanan, pemerkasaan mahasiswa dan kebolehpasaran graduan.

Kata kunci: Kesukarelawanan; Pemerkasaan Mahasiswa; Kebolehpasaran Graduan; Labuan Geopark; Pendidikan Berasaskan Kesukarelawanan

PENGENALAN

Kesukarelawanan semakin penting dalam pendidikan tinggi kerana menyediakan ruang pembelajaran berasaskan pengalaman yang melengkapi pembelajaran formal. Melalui penglibatan secara langsung dalam komuniti, mahasiswa berpeluang mengurus aktiviti, membuat keputusan, menyelesaikan masalah, bekerja dalam pasukan dan berinteraksi dengan pelbagai pihak. Pengalaman sebegini membantu membangunkan kompetensi yang sukar dibentuk sepenuhnya melalui pembelajaran di bilik kuliah, termasuk kepimpinan, komunikasi, kebolehsuaian dan kepekaan sosial. Kajian terdahulu turut menunjukkan bahawa aktiviti sukarela boleh menyumbang kepada pembangunan sahsiah, kemahiran komunikasi silang budaya, hubungan dengan masyarakat dan kerja berpasukan (Hamzah et al., 2022; Sa'ari et al., 2022).

Walau bagaimanapun, penyertaan dalam kesukarelawanan tidak semestinya secara automatik menghasilkan pembangunan kompetensi. Nilai pendidikan pengalaman tersebut bergantung pada kualiti penglibatan, peluang untuk membuat refleksi, motivasi peserta dan tahap sokongan institusi. Motivasi mahasiswa juga pelbagai, termasuk keinginan membantu masyarakat, memperoleh pengalaman baharu, membina hubungan sosial, memenuhi keperluan akademik atau kokurikulum, dan meningkatkan prospek kerjaya. Hal ini selari dengan kajian Ibrahim et al. (2015) serta perspektif Volunteer Functions Inventory yang menghuraikan fungsi nilai, pemahaman, kerjaya, sosial dan pembangunan diri sebagai antara pendorong penglibatan sukarelawan (Asalal & Ripin, 2025).

Program kesukarelawanan di Labuan Geopark menyediakan konteks yang sesuai untuk meneliti hubungan antara pengalaman sukarelawan, pemerkasaan mahasiswa dan kebolehpasaran graduan. Persekitaran geopark yang menggabungkan komuniti, kelestarian, pelancongan dan warisan membolehkan mahasiswa berinteraksi dengan komuniti serta pelbagai agensi dalam situasi lapangan

sebenar. Kajian ini mempunyai tiga tujuan: (i) menilai sumbangan kesukarelawanan terhadap kepimpinan, komunikasi, kerja berpasukan dan empati sosial; (ii) menganalisis hubungannya dengan kebolehpasaran graduan melalui pengalaman praktikal, jaringan dan kebolehsuaian; dan (iii) merumuskan kerangka pendidikan berasaskan kesukarelawanan yang lebih sistematik untuk pendidikan tinggi.

HASIL DAN PERBINCANGAN

Analisis pengalaman kesukarelawanan di Labuan Geopark

Kajian menggunakan pendekatan kualitatif melalui FGD yang melibatkan enam informan. Informan terdiri daripada mahasiswa universiti awam yang terlibat dalam aktiviti kesukarelawanan serta wakil pegawai dan penyelaras Yayasan Sukarelawan Siswa. Perbincangan menumpukan pengalaman penyertaan, kemahiran yang dibangunkan, motivasi, cabaran pelaksanaan, kaitan dengan persediaan kerjaya dan sokongan institusi. Analisis terhadap data FGD mengenal pasti lima tema yang saling berkaitan. Jadual 1 merumuskan fokus utama bagi setiap tema sebelum dihuraikan secara lanjut.

Jadual 1. Rumusan lima tema utama analisis FGD kesukarelawanan di Labuan Geopark

Tema	Fokus utama
1. Kemahiran insaniah	Komunikasi, kepimpinan, kerja berpasukan, empati, pengurusan dan keyakinan.
2. Motivasi penyertaan	Pengalaman baharu, pembangunan diri, jaringan, portfolio, minat dan pengiktirafan.
3. Cabaran pelaksanaan	Komunikasi, koordinasi, masa, pengangkutan, penginapan, sumber dan penerimaan komuniti.
4. Kebolehpasaran graduan	Pengurusan projek, dokumentasi, laporan, pembentangan, logistik, komunikasi profesional dan kebolehsuaian.
5. Sokongan institusi	Peluang tersusun, latihan, bimbingan, logistik, pengiktirafan dan kerjasama strategik.

Tema 1: Kemahiran insaniah dan pemerkasaan mahasiswa

Pengalaman di Labuan Geopark menunjukkan bahawa kesukarelawanan menjadi ruang latihan sebenar untuk membangunkan komunikasi, kepimpinan, kerja berpasukan, empati, pengurusan dan keyakinan diri. Mahasiswa perlu menyampaikan arahan dengan jelas, mengurus tugasan, membahagikan peranan serta menyesuaikan gaya komunikasi dan kepimpinan mengikut situasi. Aktiviti lapangan seperti penanaman bakau dan pengurusan logistik pula memerlukan kerjasama, kepercayaan dan koordinasi antara ahli.

Interaksi dengan komuniti turut meningkatkan kepekaan mahasiswa terhadap keperluan masyarakat. Pengalaman ini memperlihatkan bahawa pemerkasaan tidak hanya berlaku melalui pengetahuan, tetapi melalui tindakan, tanggungjawab dan hubungan sosial. Kesukarelawanan dengan itu berfungsi sebagai pembelajaran berasaskan pengalaman yang memberi peluang kepada mahasiswa untuk menguji keupayaan diri dalam keadaan sebenar dan membina keyakinan untuk menghadapi cabaran.

Tema 2: Motivasi penyertaan dalam kesukarelawanan

Motivasi penyertaan didapati bersifat multidimensi. Mahasiswa menyertai program untuk memperoleh pengalaman baharu, membangunkan diri, memperluas jaringan, meningkatkan portfolio, memenuhi minat peribadi dan mendapatkan pengiktirafan. Dalam konteks Labuan, peluang berinteraksi dengan komuniti luar turut menjadikan program sebegini sebagai pendedahan yang bernilai. Sijil dan merit dianggap sebagai insentif, tetapi pengalaman sebenar dan pembentukan karakter dilihat lebih bermakna.

Tema 3: Cabaran pelaksanaan dan pengurusan ketidakpastian

Pada masa yang sama, program berhadapan kekangan komunikasi, koordinasi, masa, pengangkutan, penginapan, sumber dan penerimaan komuniti. Kekeliruan peranan atau arahan yang kurang jelas boleh menjejaskan pelaksanaan, manakala hubungan dengan komuniti memerlukan masa untuk membina kepercayaan. Mahasiswa juga perlu mengimbangi komitmen akademik dengan aktiviti lapangan. Namun, cabaran ini sendiri menjadi sebahagian daripada proses pembelajaran apabila mahasiswa perlu membuat keputusan, berunding, menyelesaikan masalah dan menyesuaikan tindakan. Oleh itu, pengalaman sukarelawan bukan hanya terbentuk melalui aktiviti yang dirancang, tetapi juga melalui cara mahasiswa mengurus ketidakpastian dan kekangan di lapangan.

Tema 4: Kesukarelawanan dan kebolehpasaran graduan

Kesukarelawanan memberikan pengalaman yang berkaitan dengan kemahiran kerja, termasuk pengurusan projek, dokumentasi, penyediaan laporan, pembentangan, pengurusan logistik dan kepimpinan kumpulan. Interaksi dengan komuniti, agensi dan sukarelawan lain turut membina komunikasi profesional serta jaringan sosial. Pengalaman membuat keputusan dalam situasi yang tidak menentu pula meningkatkan keyakinan dan kebolehsuaian mahasiswa.

Dalam konteks Labuan Geopark, aktiviti berkaitan kelestarian dan ekosistem bakau turut memperluas pemahaman terhadap isu alam sekitar dan pembangunan lestari. Keseluruhannya, pengalaman ini boleh menjadi nilai tambah kepada portfolio graduan kerana menggabungkan pengalaman praktikal, kepimpinan, jaringan dan tanggungjawab sosial. Walau bagaimanapun, kajian ini tidak menunjukkan bahawa kesukarelawanan secara langsung menjamin pekerjaan; sebaliknya, dapatan menunjukkan bahawa kesukarelawanan menyediakan pengalaman dan kompetensi yang relevan sebagai persediaan memasuki alam pekerjaan.

Tema 5: Peranan universiti dan sokongan institusi

Keberkesanan kesukarelawanan sebagai instrumen pembangunan mahasiswa bergantung pada sokongan institusi. Universiti perlu menyediakan peluang yang tersusun, koordinasi yang jelas, latihan, bimbingan, sokongan logistik serta pengiktirafan yang bersesuaian. Kerjasama dengan Yayasan Sukarelawan Siswa, agensi seperti Perbadanan Labuan dan komuniti menunjukkan bahawa program yang bermakna memerlukan jaringan strategik antara pelbagai pihak.

Berdasarkan sintesis dapatan, pendidikan berasaskan kesukarelawanan boleh difahami melalui hubungan antara tiga komponen utama: pengalaman kesukarelawanan, pemerkasaan mahasiswa dan kebolehpasaran graduan. Sokongan institusi berfungsi sebagai faktor pengukuh yang memastikan pengalaman lapangan disertai bimbingan, refleksi dan pengiktirafan. Dalam kerangka ini, universiti tidak seharusnya menilai kesukarelawanan berdasarkan jumlah program atau penyertaan semata-mata, tetapi berdasarkan hasil pembelajaran, perkembangan kompetensi dan nilai yang terhasil kepada mahasiswa serta komuniti.

Rajah 1. Model Strategik Pendidikan Kesukarelawanan IPTA - Pemerkasaan & Kebolehpasaran Graduan

KESIMPULAN

Kajian ini menunjukkan bahawa kesukarelawanan di Labuan Geopark berpotensi menjadi instrumen pendidikan tinggi yang menyokong pemerkasaan mahasiswa dan persediaan kerjaya. Pengalaman lapangan membolehkan mahasiswa mempraktikkan komunikasi, kepimpinan, kerja berpasukan, penyelesaian masalah, empati sosial dan kebolehsuaian, di samping membina jaringan serta memahami isu kelestarian dalam konteks sebenar.

Namun, manfaat tersebut dipengaruhi oleh motivasi peserta, kualiti pelaksanaan dan sokongan institusi. Cabaran masa, logistik dan koordinasi tidak boleh diabaikan, tetapi boleh menjadi pengalaman pembelajaran apabila diurus secara terancang. Oleh itu, kesukarelawanan wajar diintegrasikan secara lebih sistematik dalam ekosistem pembangunan graduan melalui latihan, bimbingan, refleksi, pengiktirafan dan kerjasama strategik. Kajian lanjutan boleh meneliti kesan jangka panjang pengalaman sukarelawan terhadap perkembangan kerjaya serta bentuk pengiktirafan yang diberikan oleh majikan.

PENGHARGAAN

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Beyond The Lecture Hall: What Drives Student Volunteerism and Its Impact on Student Empowerment

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ABSTRACT

Student volunteerism serves as a key pillar in higher education, offering students avenues to develop personal, social, and professional competencies beyond traditional academic instruction. Grounded in emphasis on civic engagement and personal growth, higher education institutions increasingly promote community outreach ranging from disaster relief and health campaigns to environmental conservation to complement academic learning. This study investigates the intrinsic and extrinsic motivators—such as skill acquisition, career advancement, and academic recognition—driving university students to volunteer. It builds upon two core theoretical foundations: Self-Determination Theory (explaining intrinsic motivation arising from psychological needs for autonomy, competence, and relatedness) and Functional Theory via the Volunteer Functions Inventory (assessing how volunteering fulfils values, understanding, social, career, protective, and enhancement functions). The primary objective is to evaluate how these underlying motivations directly influence multidimensional student empowerment, specifically focusing on self-confidence, leadership, effective communication, problem-solving competencies, and civic engagement. This study constructs a preliminary quantitative research design to examine the direct relationships between identified motivational factors and outcomes of student empowerment among Universiti Kebangsaan Malaysia students. The findings are anticipated to demonstrate that active participation in volunteer programs directly correlates with higher levels of leadership skills, adaptability, communication, and civic consciousness, highlighting the critical role of educational institutions in designing supportive environments that leverage volunteerism as an experiential learning tool to cultivate socially responsible, competent, and empowered graduates.

Keywords: Student Volunteerism, Intrinsic and Extrinsic Motivation, Student Empowerment, Experiential Learning, Self-Determination Theory, Functional Theory.

INTRODUCTION

Student volunteerism refers to the voluntary involvement of students in activities that benefit individuals, communities, or society without expecting monetary rewards. In higher education, volunteerism has become an important avenue for experiential learning, enabling students to apply theoretical knowledge in practical settings while contributing to community development. According to John Wilson (2000), volunteerism not only promotes civic engagement but also facilitates personal growth, social integration, and the development of essential life skills. Universities increasingly encourage students to participate in volunteer programs because these activities complement academic learning and foster holistic development. Volunteer activities may include educational programs, environmental conservation, health campaigns, charity events, disaster relief, and community outreach initiatives. Through these experiences, students gain practical exposure to real-world situations, allowing them to strengthen their interpersonal, communication, leadership, and problem-solving skills.

Understanding why students participate in volunteer activities has been the focus of numerous studies. Researchers generally classify volunteer

motivation into intrinsic and extrinsic factors. Intrinsic motivation refers to engaging in volunteer activities because of internal satisfaction rather than external rewards. According to Edward L. Deci and Richard M. Ryan (2000), intrinsic motivation develops when individuals experience autonomy, competence, and relatedness, which are the three basic psychological needs proposed in Self-Determination Theory. Students who volunteer because they enjoy helping others, feel responsible for their communities, or seek personal growth are driven by intrinsic motivation. Similarly, Clary et al. (1998) explained that many volunteers are motivated by humanitarian values and the opportunity to express compassion towards others. Students with strong intrinsic motivation are more likely to participate consistently in volunteer programs because their participation aligns with their personal beliefs and values. Research has also shown that intrinsic motivation contributes to greater satisfaction and long-term commitment to volunteer work.

Extrinsic motivation involves participation influenced by external benefits, such as career advancement, academic recognition, networking opportunities, or skill acquisition. Many university students recognize volunteer work as an opportunity to enhance their employability by developing transferable skills such as communication, teamwork, leadership, and project management. Clary et al. (1998) identified career development as one of the six primary functions of volunteering, suggesting that students often participate to gain practical experience that improves their future employment prospects. Universities also encourage volunteer participation through co-curricular credits, certificates, awards, and leadership recognition, which further motivate students to become involved.

The Functional Theory developed by Clary et al. (1998) is one of the most widely applied frameworks for understanding volunteer motivation. The theory proposes that individuals volunteer because volunteering satisfies different psychological and social needs. These motivations are measured using the Volunteer Functions Inventory (VFI), which consists of six dimensions: values, understanding, social, career, protective, and enhancement. According to this theory, volunteer programs are more effective when they fulfil the specific motivations of participants. For example, students seeking career development are more likely to remain engaged if volunteer activities provide opportunities to develop professional skills, while students motivated by humanitarian values prefer activities that directly contribute to community welfare. The Functional Theory provides a comprehensive framework for examining why university students participate in volunteer work and serves as the theoretical foundation for many volunteerism studies.

Student empowerment refers to the process through which students develop confidence, competence, autonomy, and the ability to make meaningful contributions to society. Empowered students are more likely to demonstrate leadership, critical thinking, effective communication, resilience, and social responsibility. Marc A. Zimmerman (1995) described empowerment as a multidimensional process that enables individuals to gain greater control over their lives and actively participate in their communities. Within higher education, empowerment is closely associated with experiential learning, where students acquire practical knowledge through direct experience rather than classroom instruction alone. Volunteerism offers students opportunities to face real-life challenges, collaborate with diverse groups, and make independent decisions, all of which contribute to greater self-confidence and personal growth.

Previous studies consistently report a positive relationship between volunteerism and student empowerment. Alexander W. Astin, Linda J. Sax, and Juan Avalos (1999) found that undergraduate students who participated in volunteer activities demonstrated significant improvements in leadership ability, interpersonal communication, academic engagement, and civic responsibility compared to non-volunteers. Similarly, Kuwi Hoi New and Yee Xuan Tan (2023) reported that volunteering serves as a catalyst for motivation, skill development, and employability among Malaysian university students. Their findings indicate that volunteer experiences strengthen students' confidence, teamwork, communication skills, adaptability, and leadership capabilities. The study also highlighted that volunteer participation promotes lifelong learning by exposing students to diverse social environments. Kevin Harris and Oscar Mwaanga (2011) further argued that volunteerism empowers students by allowing them to become active members of communities of practice. Through collaboration, mentoring, and shared experiences, students gradually develop leadership skills, confidence, and professional identity. Their research demonstrates that empowerment is a continuous developmental process resulting from meaningful volunteer engagement.

Overall, previous literature suggests that volunteerism contributes significantly to students' personal, academic, and professional development. Students who actively participate in volunteer programs generally report higher levels of self-confidence, social responsibility, problem-solving ability, leadership competency, and civic engagement. Although many

studies have examined volunteer motivation and the benefits of volunteerism, several gaps remain. First, most previous research has focused on identifying the factors that encourage volunteer participation or on measuring the outcomes of volunteer activities independently. Limited studies have simultaneously examined how motivational factors influence volunteer participation and how volunteerism subsequently contributes to student empowerment. Second, while international research has extensively explored volunteerism, empirical studies focusing on Malaysian university students remain relatively limited. Differences in cultural values, educational systems, and institutional support may influence students' motivations and experiences differently from those reported in Western contexts. Finally, previous studies have primarily emphasized employability and skill development, with less attention given to psychological empowerment, leadership confidence, and social responsibility. Therefore, this study seeks to investigate the factors driving student volunteerism and examine their impact on student empowerment among university students, contributing to a better understanding of how volunteer programs can support holistic student development.

METHODOLOGY

The study is expected to employ a quantitative research design targeting undergraduate students at Universiti Kebangsaan Malaysia who have participated in volunteer activities. Primary data will be collected via a structured questionnaire measuring motivational factors and empowerment indicators using 5-point Likert scales. The Pearson correlation analysis will be applied to evaluate the bivariate relationships between motivational drivers and student empowerment outcomes. Based on the literature review, we have constructed a conceptual framework and variable dimension for student volunteerism and empowerment as following:

Table 1:

Variable Category	Core Constructs	Key Indicators / Sub-Dimensions	Supporting Framework / Reference
Independent Variables *(Motivations)*	Intrinsic Motivation	Altruism, personal growth, values, social responsibility, autonomy, relatedness	Self-Determination Theory (Deci & Ryan, 2000); Functional Theory (Clary et al., 1998)
	Extrinsic Motivation	Skill acquisition, career advancement, academic recognition, social/networking	Volunteer Functions Inventory (Clary et al., 1998)
Dependent Variable *(Empowerment)*	Student Empowerment	Self-confidence, leadership capabilities, communication, problem-solving competencies, civic engagement	Multidimensional Empowerment Framework (Zimmerman, 1995)
Contextual Factors	Institutional Support & Practice	Experiential learning environment, co-curricular credit, theory-to-practice integration	University Co-Curriculum & Community Outreach Framework (Wilson, 2000)

Conceptual Framework and Variable Dimensions for Student Volunteerism and Empowerment

RESULTS AND DISCUSSION

The conceptual framework synthesized in Table 1 establishes the theoretical bridge between volunteer motivations and multidimensional student empowerment. Moving forward, this framework serves as the blueprint for a two-phase research implementation strategy aimed at contextualizing student volunteerism within Universiti Kebangsaan Malaysia (UKM).

Phase 1: Designing the Survey Instrument

From this conceptual foundation, a structured survey form will be operationalized. The independent variables—intrinsic motivation (altruism, personal growth) and extrinsic motivation (skill acquisition, career advancement, co-curricular recognition)—will be measured using sub-scales adapted from the Volunteer

Functions Inventory (VFI) and Self-Determination Theory (Deci & Ryan, 2000; Clary et al., 1998). Simultaneously, dependent items assessing student empowerment (self-confidence, leadership, communication, problem-solving, and civic engagement) will be structured using Zimmerman's (1995) empowerment framework. Deploying this quantitative survey will yield preliminary empirical baseline data on how UKM students prioritize different motivational drivers and perceive their personal development outcomes.

Phase 2: Transitioning to Qualitative Exploration

While the quantitative survey captures overall statistical trends and correlations, it cannot fully unpack the nuanced, lived experiences of student volunteers. Therefore, building upon the initial survey findings, the study will carry out qualitative research—utilizing semi-structured focus group discussions (FGDs) and in-depth interviews with student project leaders and active campus volunteers. This qualitative phase will allow researchers to:

Explore the 'Why' and 'How': Examine the underlying psychological mechanisms through which specific volunteer experiences (e.g., disaster relief vs. educational mentoring) foster personal transformation and leadership identity.

Contextualize Institutional Support: Gain deeper insight into how UKM's institutional environment and experiential learning initiatives actively support or hinder student empowerment.

Capture Unforeseen Outcomes: Identify contextual socio-cultural factors unique to Malaysian higher education that quantitative Likert scales may fail to capture.

CONCLUSION

Ultimately, leveraging this conceptual framework to combine quantitative survey mapping with rich qualitative inquiry will provide UKM administrators and higher education policymakers with actionable insights to design highly impactful, student-centered volunteer ecosystems.

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Kompetensi Teras Graduan daripada Perspektif Majikan: Tinjauan Skop

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ABSTRAK

Kebolehpasaran graduan merupakan antara agenda penting dalam pembangunan modal insan, khususnya dalam menghadapi perubahan pasaran pekerjaan yang semakin dinamik dan kompetitif. Dalam konteks ini, graduan bukan sahaja perlu menguasai pengetahuan akademik, malah perlu memiliki kompetensi yang selari dengan keperluan dan jangkaan majikan. Sehubungan itu, kajian ini bertujuan untuk mengenal pasti kompetensi teras graduan yang diperlukan oleh majikan serta menilai kecukupan bukti empirikal berkaitan kompetensi tersebut. Kajian ini menggunakan pendekatan tinjauan skop berdasarkan kerangka Arksey dan O'Malley yang melibatkan lima peringkat utama. Pencarian literatur telah dijalankan melalui pangkalan data Scopus dan Web of Science (WoS) bagi penerbitan antara tahun 2016 hingga 2025 menggunakan kerangka Population–Concept–Context (PCC). Sebanyak 17 artikel yang memenuhi kriteria kemasukan telah dikenalpasti dan dianalisis secara tematik. Hasil kajian ini mengenal pasti tiga kompetensi teras yang paling kerap daripada perspektif majikan iaitu kemahiran komunikasi (n=9), kerja berpasukan (n=8) dan kecekapan digital (n=8). Justeru itu, kajian ini memberikan implikasi kepada institusi pendidikan tinggi dalam memperkukuh pembangunan kompetensi graduan agar lebih selari dengan keperluan pasaran pekerjaan. Penekanan terhadap kompetensi komunikasi, kerja berpasukan dan kecekapan digital dapat membantu meningkatkan kebolehpasaran graduan serta kesepadanan antara kompetensi graduan dengan kehendak majikan.

Kata Kunci: Kebolehpasaran graduan, Kompetensi graduan, Kemahiran graduan, Perspektif majikan, Tinjauan skop

PENGENALAN

Perkembangan pesat teknologi telah mengubah struktur pekerjaan di seluruh dunia melalui Revolusi Industri 4.0. Perubahan ini telah mewujudkan pelbagai peluang pekerjaan baharu yang menuntut penguasaan kemahiran teknikal, kecekapan digital serta pengetahuan terhadap teknologi terkini. Seiring dengan perkembangan tersebut, tenaga kerja perlu sentiasa meningkatkan kemahiran dan menyesuaikan diri dengan keperluan industri bagi kekal relevan serta berdaya saing dalam pasaran pekerjaan.

Menurut *Future of Jobs Report 2025* oleh World Economic Forum (WEF), sebanyak 170 juta pekerjaan baharu dijangka akan diwujudkan menjelang tahun 2030, manakala 92 juta pekerjaan sedia ada dijangka akan digantikan akibat automasi dan transformasi teknologi. Situasi ini menunjukkan bahawa pasaran pekerjaan masa hadapan memerlukan tenaga kerja yang berkemahiran tinggi, fleksibel dan mampu menyesuaikan diri dengan perubahan teknologi yang pantas.

Sehubungan itu, isu kebolehpasaran graduan menjadi semakin penting kerana majikan kini tidak hanya menilai pencapaian akademik semata-mata, malah turut menitikberatkan penguasaan kompetensi yang selari dengan keperluan industri. Penguasaan atribut kompetensi mampu meningkatkan kebolehpasaran graduan kerana ia membantu graduan menyesuaikan diri dengan perubahan persekitaran kerja dan memenuhi jangkaan majikan.

Oleh itu, kajian ini menggunakan tinjauan skop menerusi pembacaan dan penganalisisan dapatan kajian terdahulu berkaitan kompetensi graduan yang diperlukan oleh majikan. Tinjauan ini merangkumi dua objektif utama, iaitu (i) mengenal pasti kompetensi teras yang diperlukan oleh graduan berdasarkan perspektif majikan dan (ii) menilai tahap kecukupan bukti kajian empirikal yang

tersedia berkaitan kompetensi graduan. Kajian ini penting bagi memastikan graduan bukan sahaja mempunyai pengetahuan dalam bidang pengajian, malah turut memiliki kompetensi yang diperlukan untuk memperoleh pekerjaan, mengekalkan kerjaya dan menyumbang kepada pembangunan ekonomi negara.

HASIL DAN PERBINCANGAN

Kajian tinjauan skop ini menggunakan Kerangka Arksey dan O'Malley (2005) untuk mengenal pasti kompetensi teras graduan berdasarkan sorotan literatur yang sistematik. Sebanyak 17 artikel yang memenuhi kriteria kemasukan dan pengecualian telah dikenal pasti daripada pelbagai negara. Menurut Levac, Colquhoun dan O'Brien (2010), tinjauan skop perlu disertakan dengan analisis tematik yang sejajar dengan objektif kajian bagi membolehkan pola dan tema utama dikenal pasti secara lebih sistematik. Selaras dengan pendekatan tersebut, analisis tematik yang dijalankan telah mengenal pasti tiga kompetensi teras yang paling konsisten diketengahkan dalam literatur, iaitu kemahiran komunikasi, kerja berpasukan dan kecekapan digital.

Dapatan kajian menunjukkan bahawa kemahiran komunikasi merupakan kompetensi yang paling kerap dibincangkan, iaitu sembilan artikel (n=9). Dapatan ini membuktikan bahawa kemahiran komunikasi merupakan antara kompetensi yang paling penting dan sangat diperlukan oleh majikan dalam pelbagai sektor pekerjaan. Menurut Bhatt dan Lilian (2016), kemahiran komunikasi merangkumi dua komponen utama, iaitu kecekapan bahasa dan kecekapan komunikasi profesional. Kajian tersebut turut mendapati bahawa masih wujud jurang yang ketara antara kompetensi yang diharapkan oleh majikan dengan kompetensi yang dimiliki oleh graduan. Dapatan ini selari dengan kajian Al Riyami (2021) yang menunjukkan bahawa graduan di Oman berhadapan dengan pelbagai cabaran di tempat kerja akibat kelemahan dalam penguasaan bahasa Inggeris serta ketidakupayaan menggunakan bahasa yang sesuai dalam mesyuarat dan situasi profesional. Selain itu, Chen et al. (2018) mendapati bahawa kemahiran komunikasi merupakan antara kemahiran kebolehpasaran yang kritikal dalam industri maritim, khususnya keupayaan berkomunikasi dalam pelbagai bahasa. Kepentingan kompetensi ini turut disokong oleh Baird dan Parayitam (2019) yang mendapati bahawa kemahiran komunikasi menjadi antara faktor utama yang dipertimbangkan oleh majikan dalam proses pengambilan graduan baharu. Oleh itu, dapatan kajian ini mengesahkan bahawa kemahiran komunikasi merupakan kompetensi yang amat dihargai oleh majikan dan menjadi penentu penting kepada kebolehpasaran graduan.

Selain itu, kerja berpasukan turut dikenal pasti sebagai kompetensi teras yang perlu dimiliki oleh graduan berdasarkan perspektif majikan. Hasil analisis menunjukkan bahawa kompetensi ini dilaporkan dalam lapan penerbitan (n=8). Chen et al. (2018) menjelaskan bahawa kerja berpasukan merupakan antara kemahiran yang paling penting dalam industri maritim kerana ia menggambarkan keupayaan individu untuk bekerjasama secara efektif dengan orang lain dalam mencapai matlamat organisasi. Dalam bidang perakaunan pula, Paguio dan Jackling (2016) mengenal pasti sebanyak 24 komponen yang berkaitan dengan kerja berpasukan berdasarkan jangkaan majikan terhadap graduan. Dapatan ini menunjukkan bahawa kepentingan kerja berpasukan merentasi pelbagai bidang dan sektor pekerjaan. Menurut Paguio dan Jackling (2016), kompetensi kerja berpasukan merangkumi kebolehan memainkan pelbagai peranan dalam pasukan, memudah cara perbincangan, menerima keputusan bersama, bekerjasama dengan ahli lain serta menyumbang kepada peningkatan prestasi kumpulan. Justeru, graduan yang memiliki kemahiran kerja berpasukan yang baik lebih berupaya menyesuaikan diri dengan persekitaran kerja yang kolaboratif dan dinamik, sekali gus memenuhi keperluan majikan dalam pelbagai industri.

Seterusnya, kecekapan digital turut dikenal pasti sebagai kompetensi teras yang signifikan dengan kekerapan pelaporan sebanyak lapan penerbitan (n=8). O'Donovan et al. (2024) menegaskan bahawa penguasaan kecekapan digital merupakan keperluan asas bagi memastikan keberkesanan dan produktiviti dalam persekitaran kerja moden. Dapatan ini menunjukkan bahawa kecekapan digital bukan lagi dianggap sebagai nilai tambah, sebaliknya telah menjadi syarat asas yang diperlukan dalam pelbagai profesion. Sehubungan itu, beberapa kajian telah mengenal pasti literasi digital sebagai antara kemahiran kebolehpasaran yang paling kritikal untuk graduan (Yen et al., 2023; Chen et al., 2018; Halim et al., 2023). Analisis literatur turut mendapati bahawa kompetensi digital merangkumi pelbagai subtema. Sebagai contoh, Hoque et al. (2023) menekankan aspek literasi komputer dan kemahiran teknikal, manakala Chen et al. (2018) memberi penekanan kepada literasi digital dan penguasaan teknologi. Yen et al. (2023) pula menjelaskan bahawa perkembangan Revolusi Industri 4.0 dan globalisasi telah meningkatkan keperluan terhadap penggunaan teknologi maklumat dan sistem komputer secara berkesan dalam pelaksanaan tugasan harian. Keadaan ini menunjukkan bahawa penguasaan teknologi

merupakan elemen penting yang menyokong kebolehpasaran graduan pada masa kini.

Walau bagaimanapun, beberapa kajian turut melaporkan kewujudan jurang antara jangkaan majikan dan tahap kecekapan digital graduan. Sebagai contoh, Hoque et al. (2023) mendapati bahawa ramai graduan di Bangladesh masih belum mencapai tahap literasi komputer dan kemahiran teknikal yang memuaskan, sekali gus menjejaskan peluang mereka untuk bersaing dalam pasaran pekerjaan yang semakin berorientasikan teknologi. Keadaan ini menunjukkan bahawa institusi pendidikan tinggi perlu memainkan peranan yang lebih proaktif dalam memperkukuh kompetensi digital graduan agar selari dengan keperluan industri semasa.

Secara keseluruhannya, dapatan kajian ini menunjukkan bahawa kemahiran komunikasi, kerja berpasukan dan kecekapan digital merupakan tiga kompetensi teras yang paling dominan dalam literatur berkaitan kebolehpasaran graduan. Ketiga-tiga kompetensi ini bukan sahaja menjadi antara keperluan utama yang dicari oleh majikan, malah berperanan sebagai faktor penting yang menentukan keupayaan graduan untuk menyesuaikan diri dan berjaya dalam persekitaran pekerjaan yang semakin kompleks, kompetitif dan didorong oleh perkembangan teknologi. Oleh itu, institusi pendidikan tinggi perlu memberi penekanan kepada pembangunan ketiga-tiga kompetensi ini bagi memastikan graduan yang dihasilkan lebih berdaya saing dan memenuhi tuntutan pasaran kerja semasa.

Berdasarkan analisis terhadap 17 penerbitan artikel yang memenuhi kriteria kemasukan, kajian ini mendapati bahawa bukti empirikal berkaitan kompetensi graduan adalah mencukupi untuk menyokong sintesis dapatan kajian. Dari aspek kuantiti, sebanyak 107 penerbitan telah melepasi peringkat saringan dan penilaian teks penuh sebelum proses pemilihan akhir dijalankan. Daripada jumlah tersebut, 17 artikel telah dipilih berdasarkan kesesuaian dengan objektif kajian. Jumlah penerbitan yang dikenal pasti menunjukkan bahawa kajian mengenai kompetensi graduan merupakan bidang yang mendapat perhatian meluas dalam kalangan penyelidik di pelbagai negara dan konteks industri.

Rajah 1 Taburan Reka Bentuk Kajian

Dari aspek kualiti pula, kajian yang dianalisis menunjukkan kepelbagaian reka bentuk penyelidikan, sekali gus memperkukuh keteguhan dapatan yang diperoleh. Seperti yang ditunjukkan dalam Rajah 1, ketiga-tiga pendekatan utama iaitu kuantitatif, kualitatif dan campuran telah digunakan dalam kajian-kajian terdahulu. Dapatan menunjukkan bahawa pendekatan kuantitatif merupakan kaedah yang paling kerap digunakan dengan sebanyak tujuh kajian (n = 7), diikuti oleh pendekatan kualitatif sebanyak enam kajian (n = 6), manakala pendekatan campuran digunakan dalam empat kajian (n = 4). Kepelbagaian pendekatan metodologi ini menunjukkan bahawa penyelidikan berkaitan kompetensi graduan telah diterokai daripada pelbagai perspektif dan kaedah analisis. Pendekatan kuantitatif membolehkan pengukuran yang lebih sistematik terhadap kompetensi graduan, manakala pendekatan kualitatif memberikan pemahaman yang lebih mendalam tentang keperluan dan jangkaan majikan. Sementara itu, penggunaan pendekatan campuran menggabungkan kekuatan kedua-dua kaedah bagi menghasilkan dapatan yang lebih komprehensif. Oleh itu, taburan reka bentuk kajian yang seimbang ini menunjukkan bahawa bukti empirikal berkaitan kompetensi graduan adalah mencukupi dan kukuh untuk menyokong pengenalpastian kompetensi teras yang diperlukan oleh majikan dalam meningkatkan kebolehpasaran graduan.

Di samping itu, taburan lokasi artikel yang dipilih dalam kajian ini menunjukkan liputan geografi yang luas dan merentasi pelbagai rantau dunia. Sebanyak 17 artikel yang memenuhi kriteria kemasukan melibatkan pelbagai negara, termasuk negara-negara di Asia seperti China, Indonesia, Jordan, Pakistan, Bangladesh, Thailand, Malaysia dan Turki, serta negara-negara di luar Asia seperti United Kingdom, Amerika Syarikat, Australia, Kanada dan Itali. Selain itu, beberapa kajian turut dijalankan di negara-negara benua Afrika, seperti yang ditunjukkan dalam Rajah 2.

Rajah 2: Peta bagi Taburan Lokasi Dapatan Kajian

Kepelbagaian lokasi kajian ini mencerminkan bahawa isu kompetensi graduan merupakan satu fenomena global yang mendapat perhatian dalam pelbagai konteks budaya, sosial dan ekonomi. Walaupun negara-negara yang terlibat mempunyai tahap pembangunan ekonomi, sistem pendidikan dan keperluan industri yang berbeza, kebanyakan kajian melaporkan keperluan yang hampir serupa terhadap kompetensi teras graduan. Dapatan ini menunjukkan bahawa majikan di seluruh dunia semakin menitikberatkan penguasaan kompetensi yang dapat membantu graduan menyesuaikan diri dengan perubahan persekitaran pekerjaan yang dinamik dan berdaya saing.

KESIMPULAN

Kajian ini dilaksanakan secara sistematik bagi membuktikan bahawa kompetensi teras merupakan elemen penting untuk graduan menempatkan diri dalam pasaran pekerjaan serta mencapai kejayaan dalam persekitaran kerjaya yang pesat berubah pada masa kini. Antara kompetensi yang paling kerap ditekankan ialah kemahiran komunikasi, kecekapan digital dan kebolehan bekerja dalam pasukan di mana masing-masing memainkan peranan signifikan dalam menghasilkan kebolehpasaran graduan merentasi pelbagai sektor industri. Secara kolektif, kompetensi ini juga memperlihatkan perubahan dinamik dalam keperluan pasaran pekerjaan semasa. Tambahan pula, banyak pengkaji telah menjalankan kajian kajian emprikal terhadap kompetensi graduan sebagai indikator terhadap kebolehpasaran graduan. Ini membuktikan bahawa fenomena pengangguran dalam kalangan graduan bukanlah isu yang baru berlaku di sesebuah negara. Malahan kajian terhadap kompetensi graduan telah merentasi pelbagai negara di dunia. Justeru itu, dapatan kajian ini dapat membantu graduan sebagai persediaan awal sebelum menamatkan pengajian dan menempatkan diri dalam industri pekerjaan sekaligus bagi pertumbuhan dan pembangunan kerjaya.

PENGHARGAAN

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Pembangunan Kerangka Konseptual Atribut Kompetensi Graduan Tersedia Masa Hadapan: Suatu Analisis Kandungan Dokumen

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ABSTRAK

Kebolehpasaran graduan merupakan isu penting dalam pembangunan modal insan berikutan perubahan pesat landskap pekerjaan dan peningkatan keperluan industri terhadap tenaga kerja yang kompeten. Walaupun terdapat pelbagai model kompetensi graduan telah dibangunkan, namun masih belum terdapat satu kerangka atribut kompetensi yang menyeluruh bagi menyokong pembangunan graduan tersedia masa hadapan. Oleh itu, kajian ini bertujuan untuk mencadangkan kerangka konseptual awal atribut kompetensi graduan sebagai asas kepada pembangunan kerangka kompetensi yang lebih komprehensif. Kajian ini menggunakan pendekatan kualitatif melalui analisis kandungan dokumen, seperti artikel jurnal, model kompetensi, laporan organisasi, dan dokumen dasar. Proses analisis melibatkan pengekodan terbuka bagi mengenal pasti atribut kompetensi sebelum dikelaskan kepada kategori utama. Dapatan kajian mengenal pasti enam (6) kategori utama atribut kompetensi graduan, iaitu (1) pengurusan kendiri, (2) kemahiran pengurusan dan kepimpinan, (3) kemahiran sosial dan emosi, (4) kemahiran kognitif dan intelektual, (5) kemahiran profesionalisme dan etika, serta (6) keupayaan digital. Pengenalpastian keenam-enam kategori ini membentuk satu kerangka konseptual awal yang menghimpunkan atribut kompetensi utama bagi menyokong pembangunan graduan tersedia masa hadapan. Kajian ini menyediakan asas kepada proses pengesahan kerangka pada fasa penyelidikan seterusnya serta menjadi rujukan kepada institusi pendidikan tinggi dalam memperkukuhkan pembangunan kurikulum yang lebih responsif terhadap keperluan industri.

Kata Kunci: Kebolehpasaran graduan, Kompetensi graduan, Kerangka atribut kompetensi, Analisis kandungan dokumen, Pembangunan modal insan

PENGENALAN

Transformasi pesat yang dipacu oleh kecerdasan buatan (*Artificial Intelligence*, AI), automasi, pendigitalan dan ekonomi berasaskan pengetahuan telah mengubah landskap pekerjaan serta keperluan terhadap kompetensi tenaga kerja di seluruh dunia. Menurut *Future of Jobs Report 2025*, sebanyak 22% pekerjaan dijangka mengalami perubahan menjelang tahun 2030, dengan 170 juta pekerjaan baharu diwujudkan dan 92 juta pekerjaan digantikan, menghasilkan pertambahan bersih sebanyak 78 juta pekerjaan. Dalam tempoh yang sama, hampir 39% kemahiran teras pekerja dijangka berubah, manakala 63% majikan mengenal pasti jurang kemahiran sebagai cabaran utama kepada transformasi organisasi. Perkembangan ini menunjukkan bahawa kejayaan seseorang graduan tidak lagi bergantung kepada penguasaan ilmu disiplin semata-mata, tetapi turut memerlukan gabungan kompetensi kognitif, sosial, digital, kepimpinan serta keupayaan menyesuaikan diri dengan perubahan yang pesat (World Economic Forum, 2025).

Selaras dengan perubahan tersebut, *Future of Jobs Report 2025* turut mengenal pasti bahawa kemahiran seperti pemikiran analitikal, pemikiran kreatif, daya tahan (*resilience*), fleksibiliti, kepimpinan, pembelajaran sepanjang hayat, literasi teknologi, AI dan data raya merupakan antara kompetensi yang semakin mendapat perhatian majikan. Dapatan ini mencerminkan bahawa pembangunan modal insan pada abad ke-21 memerlukan pendekatan pendidikan yang lebih holistik, rentas disiplin dan responsif terhadap perubahan persekitaran pekerjaan. Oleh itu, institusi pendidikan tinggi tidak lagi hanya berperanan sebagai penyedia ilmu, sebaliknya perlu menjadi pemangkin kepada pembangunan graduan yang

mampu belajar sepanjang hayat, beradaptasi dengan perubahan serta menyumbang secara bermakna kepada masyarakat dan ekonomi (World Economic Forum, 2025).

Dalam konteks Malaysia, aspirasi ini diperkukuh melalui Rancangan Malaysia Ketiga Belas (RMK13) 2026–2030, yang meletakkan pembangunan modal insan, pengukuhan bakat tempatan, transformasi digital dan peningkatan produktiviti sebagai antara keutamaan pembangunan negara. RMK13 turut menggariskan aspirasi untuk memperkukuh ekosistem bakat bagi menyokong ekonomi bernilai tinggi dan mempercepat penggunaan teknologi, termasuk kecerdasan buatan (AI), dalam pelbagai sektor. Aspirasi tersebut menuntut sistem pendidikan tinggi melahirkan graduan yang bukan sahaja mempunyai pengetahuan akademik yang mantap, malah menguasai kompetensi yang relevan dengan perubahan teknologi, keperluan industri dan cabaran pembangunan negara. Selaras dengan itu, OECD (2024) menegaskan bahawa pembangunan kompetensi tidak seharusnya terhad kepada tempoh pengajian formal, sebaliknya perlu diperkukuh melalui pendekatan pembelajaran sepanjang hayat (*lifelong learning*) bagi membolehkan individu sentiasa meningkatkan kemahiran, menyesuaikan diri dengan perubahan pasaran buruh dan kekal relevan dalam dunia pekerjaan yang sentiasa berubah. Justeru, institusi pendidikan tinggi perlu membangunkan kurikulum yang bukan sahaja memenuhi keperluan pekerjaan semasa, tetapi turut membentuk kompetensi yang menyokong pembelajaran berterusan sepanjang hayat.

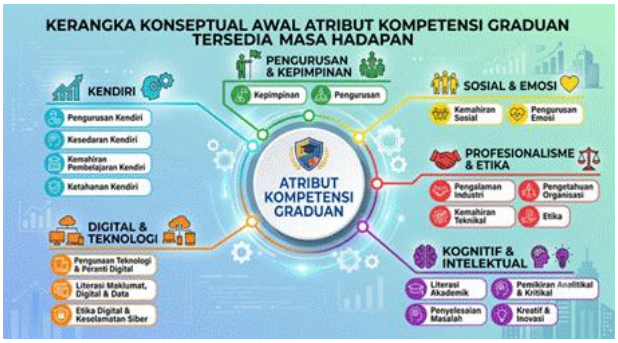
Walaupun pelbagai model kompetensi graduan telah dibangunkan oleh penyelidik, organisasi antarabangsa dan institusi pendidikan tinggi, model-model tersebut dibangunkan berdasarkan konteks, tujuan dan skop yang berbeza. Akibatnya, atribut kompetensi yang dicadangkan adalah pelbagai dan sukar dijadikan rujukan yang menyeluruh dalam pembangunan kurikulum. Di samping itu, walaupun RMK13 menekankan kepentingan pembangunan bakat dan penyelarasan pendidikan dengan keperluan industri, masih terdapat keperluan untuk mengenal pasti dan mensintesis atribut kompetensi yang dapat dijadikan asas kepada pembangunan graduan tersedia masa hadapan. Jurang ini menunjukkan perlunya satu kerangka konseptual yang menghimpunkan atribut kompetensi utama secara sistematik bagi menyokong transformasi pendidikan tinggi dan pembangunan kurikulum yang lebih responsif terhadap perubahan landskap pekerjaan.

Sehubungan itu, kajian ini bertujuan mengenal pasti dan mensintesis atribut kompetensi graduan melalui analisis kandungan terhadap artikel jurnal, model kompetensi graduan, laporan organisasi dan dokumen dasar. Analisis ini merupakan fasa awal dalam pembangunan kerangka konseptual atribut kompetensi graduan tersedia masa hadapan. Kerangka konseptual awal yang dihasilkan diharapkan dapat menjadi asas kepada proses pengesahan pada fasa penyelidikan seterusnya, di samping menyediakan rujukan kepada institusi pendidikan tinggi dalam memperkukuh pembangunan kurikulum rentas disiplin, menyokong pembelajaran sepanjang hayat serta melahirkan graduan yang berdaya saing, beretika dan memenuhi keperluan industri selaras dengan aspirasi RMK13.

HASIL DAN PERBINCANGAN

Dapatan Analisis Kandungan

Analisis kandungan telah mengenal pasti pelbagai atribut kompetensi yang diperlukan oleh graduan bagi menghadapi perubahan landskap pekerjaan. Melalui proses pengekodan terbuka, atribut-atribut yang mempunyai persamaan makna telah dikenal pasti dan seterusnya dikelompokkan kepada enam atribut kompetensi utama yang membentuk kerangka konseptual awal atribut kompetensi graduan tersedia masa hadapan seperti yang ditunjukkan pada Rajah 1. Enam kategori tersebut ialah pengurusan kendiri, kemahiran pengurusan dan kepimpinan, kemahiran sosial dan emosi, kemahiran kognitif dan intelektual, kemahiran profesionalisme dan etika, serta keupayaan digital. Setiap kategori mengandungi beberapa atribut yang mewakili kompetensi penting yang perlu dimiliki oleh graduan bagi memenuhi keperluan industri dan menghadapi perubahan dunia pekerjaan.



Rajah 1 Kerangka Konseptual Awal Atribut Kompetensi Graduan Tersedia Masa Hadapan

Pengurusan kendiri merangkumi atribut kesedaran kendiri, kemahiran pembelajaran kendiri dan ketahanan kendiri. Atribut ini menggambarkan keupayaan graduan untuk mengenali potensi diri, mengurus emosi, membina daya tahan serta mengamalkan pembelajaran sepanjang hayat bagi menyesuaikan diri dengan perubahan persekitaran kerja. Dalam era perubahan teknologi yang pesat, kompetensi ini menjadi asas kepada pembangunan individu yang mampu belajar secara berterusan dan meningkatkan kebolehsuaian terhadap cabaran baharu.

Pengurusan dan kepimpinan merangkumi atribut kepimpinan dan pengurusan, yang menekankan kebolehan graduan memimpin individu atau pasukan, membuat keputusan, mengurus sumber serta melaksanakan tugas secara strategik dan berkesan. Kompetensi ini penting bagi membolehkan graduan berfungsi sebagai pemimpin yang mampu mengurus perubahan serta menyumbang kepada keberkesanan organisasi.

Sosial dan emosi pula merangkumi kemahiran sosial dan pengurusan emosi. Atribut ini menekankan keupayaan graduan membina hubungan interpersonal yang positif, berkomunikasi secara berkesan, bekerjasama dalam pasukan pelbagai disiplin serta mengurus emosi ketika berhadapan dengan tekanan dan cabaran pekerjaan. Kompetensi sosial dan emosi menjadi semakin penting dalam persekitaran kerja yang memerlukan kolaborasi, empati dan kecerdasan emosi yang tinggi.

Kognitif dan intelektual terdiri daripada atribut literasi akademik, pemikiran analitikal dan kritikal, penyelesaian masalah, serta kreativiti dan inovasi. Atribut ini menggambarkan keupayaan graduan untuk berfikir secara sistematik, menganalisis maklumat, menyelesaikan masalah kompleks, dan menghasilkan idea baharu yang dapat menyumbang kepada inovasi organisasi serta pembangunan masyarakat.

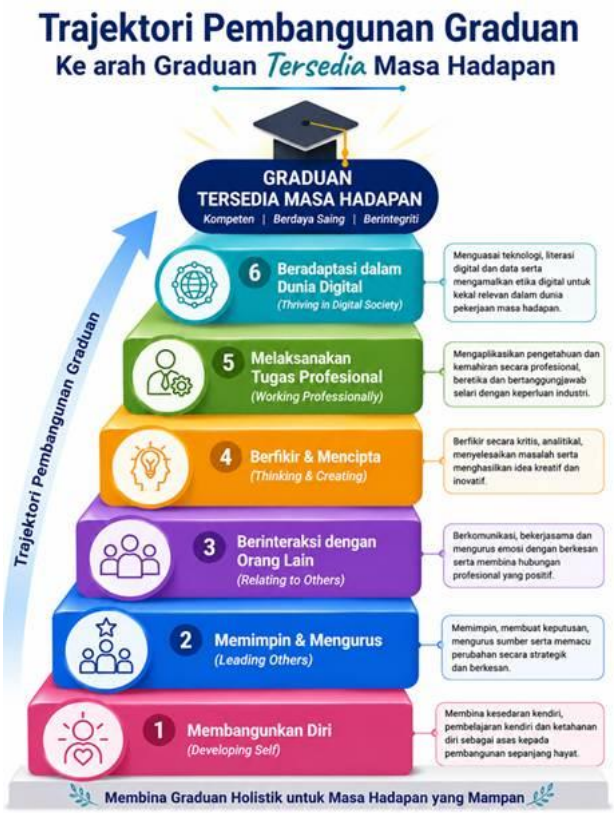
Profesionalisme dan etika merangkumi atribut pengalaman industri, pengetahuan organisasi, kemahiran teknikal profesional dan etika. Atribut ini menonjolkan kepentingan penguasaan pengetahuan profesional yang disokong oleh pengalaman dunia pekerjaan serta amalan nilai integriti, akauntabiliti dan tanggungjawab dalam melaksanakan tugas. Gabungan atribut ini menyokong pembentukan graduan yang kompeten, profesional dan beretika.

Akhir sekali, digital dan teknologi merangkumi atribut penggunaan teknologi dan peranti digital, literasi maklumat, digital dan data, serta etika digital dan keselamatan siber. Atribut ini mencerminkan keperluan graduan menguasai teknologi digital bukan sahaja sebagai pengguna, tetapi sebagai individu yang mampu memanfaatkan teknologi secara beretika, selamat dan bertanggungjawab dalam persekitaran pekerjaan yang dipacu oleh kecerdasan buatan, automasi dan ekonomi digital.

Secara keseluruhannya, enam atribut yang dikenal pasti melalui analisis kandungan ini menunjukkan penjajaran yang signifikan dengan kompetensi masa hadapan yang diketengahkan dalam *Future of Jobs Report 2025*, khususnya dari aspek pemikiran analitikal, daya tahan, kepimpinan, literasi teknologi dan pembelajaran sepanjang hayat. Dalam konteks Malaysia, kerangka konseptual awal ini turut menyokong aspirasi RMK13 yang memberi penekanan kepada pembangunan modal insan berkemahiran tinggi, transformasi digital dan pengukuhan bakat masa hadapan. Oleh itu, kerangka konseptual awal yang dicadangkan berpotensi menjadi rujukan kepada institusi pendidikan tinggi dalam memperkukuh pembangunan kurikulum yang lebih responsif terhadap perubahan landskap pekerjaan, di samping menyokong pembelajaran sepanjang hayat serta pembangunan graduan yang holistik dan berdaya saing.

Kerangka konseptual sebagai Dimensi Pembangunan Graduan

Dapatan kajian menunjukkan bahawa enam atribut yang dikenal pasti melalui analisis kandungan bukan sekadar mewakili himpunan atribut kompetensi graduan, malah menggambarkan enam dimensi pembangunan graduan yang saling melengkapi seperti yang ditunjukkan pada Rajah 2. Setiap atribut memainkan peranan yang berbeza tetapi saling berkait dalam membentuk graduan yang mampu menghadapi perubahan landskap pekerjaan, memenuhi keperluan industri serta mengamalkan pembelajaran sepanjang hayat.



Rajah 2 Trajektori Pembangunan Graduan Tersedia Masa Hadapan

Pengurusan kendiri mewakili dimensi pembangunan diri (*developing self)*. Dimensi ini menekankan pembangunan kesedaran kendiri, pembelajaran kendiri dan ketahanan diri sebagai asas kepada pembentukan individu yang mampu menyesuaikan diri dengan perubahan serta meningkatkan kompetensi secara berterusan. Dalam konteks pekerjaan masa hadapan, keupayaan mengurus diri merupakan prasyarat kepada pembelajaran sepanjang hayat dan pembangunan profesional yang berterusan.

Pengurusan dan kepimpinan pula menggambarkan dimensi memimpin dan mengurus (*leading others*). Dimensi ini menekankan keupayaan graduan untuk memimpin individu dan pasukan, mengurus sumber serta membuat keputusan yang berkesan. Kompetensi ini penting kerana graduan bukan sahaja berfungsi sebagai pekerja, malah berpotensi menjadi pemimpin yang mampu memacu perubahan dan inovasi dalam organisasi.

Seterusnya, sosial dan emosi mewakili dimensi interaksi dengan orang lain (*relating to others*). Dimensi ini menekankan kepentingan komunikasi, kerjasama, empati dan pengurusan emosi dalam membina hubungan interpersonal yang positif serta berfungsi secara berkesan dalam persekitaran kerja. Selain itu, atribut ini turut menekankan keupayaan graduan untuk mengurus tekanan, mengawal emosi, dan menyesuaikan diri apabila berhadapan dengan cabaran, konflik, atau perubahan di tempat kerja. Dalam era pekerjaan yang semakin dinamik dan bersifat rentas disiplin, graduan bukan sahaja perlu memiliki kemahiran berinteraksi dengan orang lain, malah perlu mempunyai ketahanan emosi dan keupayaan menghadapi tekanan secara profesional agar dapat membuat pertimbangan yang rasional, menyelesaikan konflik dengan berkesan serta terus mengekalkan prestasi kerja.

Kognitif dan intelektual pula mewakili dimensi berfikir dan mencipta (*thinking and creating*). Dimensi ini memberi penekanan kepada keupayaan menganalisis maklumat, berfikir secara kritis, menyelesaikan masalah serta menghasilkan idea kreatif dan inovatif. Kompetensi ini membolehkan graduan bertindak balas terhadap cabaran yang kompleks serta menyumbang kepada pembangunan organisasi dan masyarakat melalui inovasi.

Sementara itu, profesionalisme dan etika menggambarkan dimensi pelaksanaan tugas secara profesional (*working professionally*). Dimensi ini menekankan penguasaan pengetahuan profesional, pengalaman industri, etika kerja, integriti dan akauntabiliti dalam melaksanakan tanggungjawab. Dimensi ini memastikan graduan bukan sahaja kompeten dari segi teknikal, malah mampu melaksanakan tugas secara beretika dan bertanggungjawab.

Akhir sekali, digital dan teknologi mewakili dimensi adaptasi dalam masyarakat digital (*thriving in a digital society*). Dimensi ini menekankan keupayaan graduan untuk menguasai teknologi digital, mengurus maklumat dan data, serta mengamalkan etika digital dan keselamatan siber. Seiring dengan perkembangan kecerdasan buatan dan transformasi digital, dimensi ini menjadi kompetensi asas yang membolehkan graduan kekal relevan dalam dunia pekerjaan pada masa hadapan.

Berdasarkan enam dimensi tersebut, kajian ini mencadangkan bahawa pembangunan graduan tersedia masa hadapan tidak seharusnya difokuskan kepada penguasaan kemahiran tertentu secara berasingan. Sebaliknya, pembangunan kompetensi perlu dilaksanakan secara holistik melalui integrasi enam dimensi yang saling melengkapi. Pendekatan ini menunjukkan bahawa kompetensi graduan berkembang sebagai satu ekosistem yang menghubungkan pembangunan diri, hubungan interpersonal, pemikiran, profesionalisme, dan keupayaan digital. Oleh itu, kerangka konseptual awal yang dicadangkan bukan sahaja menyediakan pengelasan atribut kompetensi, malah menawarkan satu perspektif konseptual baharu

dalam memahami pembangunan graduan tersedia masa hadapan.

KESIMPULAN

Kajian ini berjaya mensintesis atribut kompetensi graduan daripada pelbagai sumber literatur, model kompetensi, laporan organisasi dan dokumen dasar bagi membangunkan Kerangka Konseptual Awal Atribut Kompetensi Graduan Tersedia Masa Hadapan. Enam kategori utama atribut kompetensi telah dikenal pasti, iaitu pengurusan kendiri, pengurusan dan kepimpinan, sosial dan emosi, kognitif dan intelektual, profesionalisme dan etika, serta digital dan teknologi. Berdasarkan interpretasi terhadap dapatan, keenam-enam atribut tersebut membentuk dimensi pembangunan graduan yang saling melengkapi ke arah melahirkan graduan tersedia masa hadapan.

Kerangka konseptual awal ini menyumbang kepada pembangunan ilmu dengan menawarkan perspektif yang lebih holistik terhadap pembangunan kompetensi graduan, di samping berpotensi menjadi rujukan kepada institusi pendidikan tinggi dalam mereka bentuk kurikulum berasaskan kompetensi yang responsif terhadap perubahan landskap pekerjaan dan menyokong pembelajaran sepanjang hayat. Walau bagaimanapun, kerangka ini masih memerlukan pengesahan melalui kajian lanjutan bersama pakar akademik dan industri sebelum dibangunkan sebagai model kompetensi graduan yang komprehensif.

PENGHARGAAN

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The Role of General Studies in Holistic Student Capacity Development in the Era of Artificial Intelligence

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ABSTRACT

General Studies plays an important role in higher education by equipping students with interdisciplinary knowledge, values and skills. In the era of artificial intelligence (AI), students require not only digital competencies but also critical thinking, ethical awareness, communication skills and social responsibility. This study aims to assess students' perceptions of the role of General Studies in developing holistic student capacity at Universiti Malaysia Kelantan (UMK). A quantitative survey was conducted among 380 undergraduate students who had completed General Studies courses. The questionnaire examined six dimensions of student capacity: critical thinking, communication, values and ethics, social and collaborative skills, social awareness, and digital and AI literacy. Data were analysed using descriptive and appropriate inferential statistics. The findings indicate that students perceived General Studies positively, particularly in developing values and ethics, critical thinking, communication skills and responsible engagement with AI. The study highlights the potential of experiential, digitally informed and real-world learning approaches to strengthen the contribution of General Studies towards producing balanced, ethical and future-ready graduates.

Keywords: General Studies, holistic student, capacity development, artificial intelligence, higher education

INTRODUCTION

Higher education today is no longer oriented solely towards academic achievement, but also emphasises the development of graduates who possess competence, values, resilience and the ability to adapt to change (Koshy et. al, 2023). This aspiration has become increasingly important in the era of artificial intelligence (AI), as technological developments are transforming learning, work, communication and social interaction. Although AI can support knowledge acquisition, data analysis and problem solving, its use also raises important questions concerning academic integrity, privacy, bias, misinformation, accountability and ethical technology use. Therefore, higher education institutions need to prepare students not only to use AI tools effectively, but also to critically evaluate their outputs and apply them responsibly (Francis et. al, 2025).

This aspiration is evident in the national higher education agenda, which emphasises developing learners who are human-centred, ethical, inclusive and adaptive. In this context, General Studies Courses (Mata Pelajaran Pengajian Umum or MPU) occupy an important position because their content is interdisciplinary and encompasses language, culture, ethics, civilisation, philosophy, integrity and social responsibility. These aspects are particularly relevant in the AI era because technological competence needs to be accompanied by human values, ethical reasoning and an understanding of social impacts (Al-Zahrani & Alasmari, 2024).

The Ministry of Higher Education also emphasises strengthening General Studies as part of efforts to reinforce ethical education and holistic values. General Studies courses should not merely function as supplementary components to students' disciplinary specialisations, but can also serve as learning spaces that shape thinking, identity, soft skills and students' ability to understand social issues (Bacher & Kogan, 2025). In the AI era, General Studies also provides opportunities for students to examine the relationship between technology and humanity, evaluate the social implications of automation, discuss digital citizenship and develop responsible approaches to using AI-generated information.

In the Malaysian higher education context, holistic student development requires a balance between knowledge, skills and values (Baderiah & Munawir, 2024). Students also need to develop digital and AI literacy, including the ability to understand AI

capabilities and limitations, verify information, protect personal data, identify algorithmic bias and make decisions based on ethical considerations. These competencies complement, rather than replace, the fundamental objectives of General Studies.

This context is particularly relevant to UMK which emphasises the development of quality human capital, soft skills and entrepreneurial characteristics. UMK's educational philosophy stresses the development of individuals with first-class minds and entrepreneurial characteristics. Therefore, General Studies can be viewed as a platform for strengthening student capacity beyond academic specialisation, including their ability to respond creatively, ethically and responsibly to AI-driven changes in society and the world of work.

However, a key challenge concerns the extent to which students perceive General Studies as courses that genuinely add value to their personal development and readiness for the future. Studies on the implementation of General Studies in higher education institutions have also indicated that students' perceptions of these courses and their delivery methods require attention, particularly when courses are conducted in large classes (Saili, 2025). In addition, the rapid development of AI requires General Studies educators to reconsider course content, assessment methods and classroom activities to maintain relevance while safeguarding academic integrity and meaningful human engagement (Rahimahet. Al, 2025).

Accordingly, this study aims to assess UMK students' perceptions of the role of General Studies in developing holistic student capacity in the AI era. Specifically, the study examines six dimensions of student capacity: (i) critical thinking, (ii) communication, (iii) values and ethics, (iv) social and collaborative skills, (v) social awareness, and (vi) digital and AI literacy. The study is significant because it provides an empirical overview of the added value of General Studies from students' perspectives and identifies aspects of implementation that can be strengthened to prepare students for a world increasingly influenced by AI.

RESULTS AND DISCUSSION

The study involves 380 undergraduate students at UMK who have completed at least one General Studies course. Respondents are drawn from different faculties and years of study to obtain diverse perspectives on their MPU learning experiences. The study also considers students' exposure to AI tools for learning, communication, information seeking and academic assignments.

Capacity dimension	Mean	Standard deviation	Interpretation
Values and ethics	4.21	0.56	High
Critical thinking	4.15	0.61	High
Communication skills	4.08	0.64	High
Digital and AI literacy	4.06	0.65	High
Social awareness	4.03	0.67	High
Social and collaborative skills	3.97	0.70	High
Overall	4.08	0.50	High

Table 1. Students' perceptions of the contribution of General Studies

Overall, the findings indicate that students rated the contribution of General Studies to holistic capacity development in the AI era highly. Values and ethics recorded the highest mean score, followed by critical thinking, communication skills, and digital and AI literacy. These findings suggest that General Studies has the potential to function not only as a medium for conveying general knowledge, but also as a means of developing value-based judgement, understanding different perspectives, evaluating information and strengthening interpersonal skills.

The high score for values and ethics is particularly significant in the AI era. Students are increasingly exposed to AI-generated content, automated recommendations and digital platforms that influence how information is produced and used. General Studies can help students examine questions of responsibility, justice, privacy, academic integrity and human dignity when using AI. Ethical awareness is important to ensure that students do not view AI merely as a convenient tool, but understand the consequences of its use for individuals, institutions and society.

From the perspective of critical thinking, General Studies learning that incorporates current issues, discussion and problem-solving activities provides opportunities for students to evaluate information from multiple perspectives. This is particularly important when students encounter AI-generated responses that may contain inaccuracies, bias or unsupported claims. Students need to be able to question sources, compare evidence, identify assumptions and distinguish reliable information from content that appears convincing but may be misleading.

Communication skills remain an important component of student capacity development. Presentation activities, group discussions and communication among students

from different backgrounds can enhance students' confidence in expressing ideas (Mahanani et. al, 2022). In the AI era, communication also includes the ability to formulate clear questions, provide appropriate instructions to AI systems, explain the limitations of AI-generated outputs and communicate ideas in ways that demonstrate originality and human judgement.

Digital and AI literacy is another important dimension of holistic student capacity. General Studies provides an appropriate interdisciplinary space for students to discuss the social, cultural, ethical and economic implications of AI. Students can be guided to examine issues such as algorithmic bias, data privacy, misinformation, automation, changes in employment and unequal access to technology. Such competence is not merely the ability to operate technology, but also includes critical awareness, responsible decision-making and the ability to use technology for purposes that benefit society.

Beyond course content, pedagogical approaches are potential factors determining the extent to which students appreciate the value of General Studies (Saili, 2025). In this study, students are expected to provide more positive evaluations when learning is not based solely on lectures, but also involves discussion of current issues, collaborative learning, presentations, case studies, community-based activities and guided use of AI tools.

The findings suggest that activities connecting General Studies content with students' real-life experiences may enhance perceptions of course relevance. In the AI era, these activities may include comparing human-generated arguments with AI-generated arguments, evaluating the reliability of AI outputs, analysing ethical dilemmas involving automated decision-making, or developing community solutions using digital tools. Such activities can encourage students to use AI critically while maintaining human responsibility for final decisions or outputs.

Accordingly, MPU teaching at UMK can be strengthened through more experiential and digitally informed approaches. Activities such as community projects, discussions of local issues in Kelantan, social entrepreneurship case studies, community problem-solving simulations, interdisciplinary projects and guided AI literacy tasks can make General Studies more closely connected to students' lives. For example, students can investigate the impact of AI on local entrepreneurship, education, cultural preservation, employment or community development.

Assessment practices should also be adapted to the AI era. Rather than relying entirely on conventional written assignments and oral presentation, educators can incorporate reflective journals, project portfolios, group discussions and problem-based tasks. Students should be encouraged to disclose the use of AI tools where appropriate and demonstrate how they verify, revise and critically evaluate AI-generated content.

Overall, General Studies has the potential to play a more strategic role in student development. These courses should not be viewed as additional subjects or merely as curriculum requirements, but as spaces for developing thinking, values, communication skills, social awareness and digital responsibility that complement students' academic specialisations. In the AI era, the unique contribution of General Studies lies in its ability to connect technological change with human values and societal needs.

CONCLUSION

General Studies has substantial potential to support holistic student capacity development in the AI era. Based on the findings, students have positive perceptions of the contribution of General Studies, particularly in developing values and ethics, critical thinking, communication, digital and AI literacy, social awareness and social skills. These findings indicate that the value of General Studies lies not only in course content, but also in learning experiences that enable students to connect knowledge with real-life contexts and emerging technological challenges.

In the context of UMK, strengthening General Studies can form part of a student development strategy that supports the university's entrepreneurial identity and its efforts to produce creative, innovative, ethical and professional human capital. MPU teaching should be more experiential, digitally informed and oriented towards community engagement and problem solving. Students should be guided to use AI responsibly, evaluate information critically, protect data, identify bias and maintain human accountability in academic and professional activities (Gordon, 2022).

Future studies could employ longitudinal designs or mixed-method approaches to assess changes in student capacity before and after taking General Studies courses. Further research could also examine the relationships between AI literacy, ethical reasoning, learning engagement and students' perceptions of General Studies.

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Reasons for Volunteering and its Impacts on Personal Growth: A Case Study of University of Cyberjaya's Students

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ABSTRACT

Volunteerism provides university students with opportunities to contribute to society while developing personal, interpersonal, and professional competencies. This study examines the reasons for volunteering among students at the University of Cyberjaya, Malaysia (UoC) and investigates the perceived impact of volunteering on their personal growth. A quantitative research design was employed using a survey of 303 students, of whom 252 had previous volunteering experience. Descriptive statistics, Spearman correlation, and multiple regression analyses were used to examine students' motivations, personal growth, satisfaction, and institutional support. The findings indicate that developing new skills ($M = 4.29$), gaining new experiences ($M = 4.25$), and the desire to help others ($M = 4.19$) were the strongest reasons for volunteering. Volunteering was positively associated with teamwork, self-confidence, skills development, leadership, communication, and social responsibility. Motivation demonstrated a strong positive relationship with personal growth ($r = .724$, $p < .001$), while institutional support was also strongly associated with personal growth ($r = .697$, $p < .001$). Regression analysis showed that motivation and institutional support significantly predicted personal growth, with the model explaining 66.2% of its variance. The study highlights volunteering as an important component of holistic student development and recommends more flexible, supportive, and meaningful volunteering opportunities within higher education.

Keywords: Personal growth, Impact, Students, University, Volunteering

INTRODUCTION

Volunteerism has increasingly become an important component of higher education because it provides students with opportunities to contribute to society while developing valuable personal and professional competencies. University students participate in volunteering for diverse reasons, including altruistic values, personal development, social connection, skill development, career enhancement, and the desire to contribute to their communities. Clary et al. (1998) explain that volunteering may fulfil different psychological functions, including values, understanding, social, career, protective, and enhancement needs. More recently, a meta-analysis of 61 studies involving 38,327 participants confirmed that volunteer motivations are significantly associated with satisfaction, commitment, intention to continue, and volunteering behaviors (Zhou & Muscente, 2023).

For universities, volunteering should not be viewed merely as an extracurricular activity. It can serve as an experiential learning platform through which students acquire practical competencies and develop values that complement formal academic education. Recent research among Malaysian university students found that volunteering contributed to skill development, personal growth, improved interpersonal relationships, and broader perspectives (Kuwi Hoi et al., 2023). Moreover, effective volunteer management can positively influence students' volunteering satisfaction and quality of life, highlighting the importance of institutional support and management practices (Cho et al., 2024).

Despite growing international interest in student volunteerism, empirical research examining the relationship between volunteering motivations, institutional support, and personal growth within Malaysian higher education remains relatively limited.

This study addresses this gap by examining students at the University of Cyberjaya (UoC). Specifically, it investigates the reasons that encourage students to volunteer, the extent to which volunteering contributes to their personal growth, and the role of institutional support in shaping their volunteering experiences.

The study was guided by three objectives: (1) to identify the reasons for volunteering among UoC students; (2) to evaluate how volunteering contributes to students' personal growth and educational experience; and (3) to assess volunteer management practices and students' satisfaction with volunteering tasks.

RESULTS AND DISCUSSION

The findings indicate that volunteering was relatively common among the respondents. Of the 303 students, 252 (83.2%) reported that they had participated in volunteering activities. However, the intensity of participation was generally low. Among the volunteer respondents, 57.9% had volunteered for less than one year, while 85.7% participated only a few times a year. Despite this relatively occasional participation, 67.1% considered volunteering important to their university experience and a further 25.0% considered it extremely important. The most common volunteering activities were community service (57.5%), environmental activities (57.1%), and fundraising (54.4%).

The strongest motivations for volunteering were primarily associated with personal development and altruistic purposes. Developing new skills recorded the highest mean score (M = 4.29, SD = 0.71), followed by gaining new experiences (M = 4.25, SD = 0.76) and the desire to help others (M = 4.19, SD = 0.75). Influencing positive change in society (M = 4.17, SD = 0.80) and acting according to personal values and beliefs (M = 4.09, SD = 0.81) were also highly rated. In comparison, motivations such as enhancing a CV, peer or family encouragement, fulfilling course requirements, meeting new people, and personal satisfaction received comparatively lower scores.

These findings suggest that students were not motivated solely by external rewards or compulsory academic requirements. Rather, volunteering was valued as an opportunity for learning, experience, contribution, and personal development. This is an important finding for universities because it suggests that volunteering programmes may be more effective when designed around meaningful learning experiences and opportunities for students to make a genuine contribution.

The findings regarding personal growth were particularly positive. Teamwork skills recorded the highest perceived impact (M = 4.32, SD = 0.59), followed by increased self-confidence (M = 4.30, SD = 0.63) and the development of new skills (M = 4.26, SD = 0.63). Leadership skills, social responsibility, and communication abilities each recorded a mean of 4.22. Students also reported positive outcomes in networking, problem-solving, cultural awareness, community connectedness, and time management.

Beyond these specific competencies, volunteering was associated with a moderately positive perceived reduction in stress (M = 3.66, SD = 0.98), while overall satisfaction with volunteering was high, with a mean score of 8.07 out of 10. Importantly, 52.8% of respondents reported that volunteering had significantly changed their perspective on community and social issues, while another 44.4% reported that it had changed their perspective somewhat. Only 2.8% reported no change. These findings suggest that volunteering may contribute not only to individual skill development but also to students' social awareness and sense of responsibility.

The open-ended responses further indicated perceived career-related benefits. The most frequently identified theme was the development of skills, knowledge, and experience (38.5%), followed by communication and interpersonal skills (28.6%) and career clarity and professional relevance (16.7%). Other themes included empathy and service orientation, leadership and teamwork, community and real-world understanding, confidence and self-development, and networking. These findings suggest that volunteering can function as an informal learning environment that complements academic education and contributes to students' career readiness.

The inferential findings provide particularly important evidence concerning the relationship between motivation, institutional support, and personal growth. Spearman correlation analysis demonstrated a strong positive and statistically significant relationship between motivation and personal growth ($r = .724$, $p < .001$). Institutional support also demonstrated a strong positive relationship with personal growth ($r = .697$, $p < .001$). Motivation was additionally associated with overall satisfaction ($r = .548$, $p < .001$), while personal growth was positively associated with satisfaction ($r = .552$, $p < .001$). In contrast, volunteering frequency was not significantly related to personal growth ($r = .053$, $p = .201$).

The regression analysis strengthens this interpretation. The personal-growth model was statistically significant,

$F(6, 245) = 79.90$, $p < .001$, and explained 66.2% of the variance in personal growth. Motivation was a significant positive predictor ($B = .640$, $p < .001$), while institutional support was also a significant positive predictor ($B = 3.872$, $p < .001$). In contrast, volunteering frequency, volunteering duration, age, and gender were not significant predictors.

These findings indicate that the developmental value of volunteering may depend more on the quality of students' motivation and the support they receive than simply on how frequently they participate. This is an important implication for volunteer management in higher education. Increasing the number of volunteering activities alone may not necessarily produce stronger developmental outcomes. Instead, universities should focus on meaningful assignments, supportive supervision, opportunities for skills development, recognition, and appropriate institutional structures.

The study also identified practical barriers that may affect continued participation. Time and academic schedule constraints were the most frequently reported barrier, identified in 59.9% of responses. Transportation and accessibility issues, communication and information problems, and social confidence or interpersonal concerns were other notable barriers. Students indicated that incentives or financial support, transportation assistance, flexible scheduling, peer support, and better information could help sustain their participation.

Taken together, these findings suggest that although students generally value volunteering and perceive substantial personal benefits, universities need to create conditions that make continued participation more manageable. Flexible scheduling is particularly important because students must balance volunteering with academic responsibilities. Better communication, structured group opportunities, recognition, and practical support may further strengthen participation.

CONCLUSION

This study demonstrates that volunteering can make a meaningful contribution to the personal and developmental experiences of university students. Among UoC students, the strongest reasons for volunteering were developing new skills, gaining new experiences, and helping others. Students perceived significant benefits in teamwork, self-confidence, skills development, leadership, communication, social responsibility, and personal growth. Volunteering was also associated with greater social awareness, career-related competencies, and overall satisfaction.

Most importantly, the statistical findings demonstrate that students' motivation and perceived institutional support were strongly associated with personal growth. The regression model confirmed that motivation and institutional support were significant predictors of personal growth, explaining 66.2% of its variance. However, volunteering frequency did not significantly predict personal growth. This suggests that the quality and meaning of volunteering experiences may be more important than participation frequency alone.

The findings have important implications for higher education institutions. Universities should position volunteering as an integral component of holistic education and experiential learning rather than simply as an extracurricular activity. Volunteering programmes should provide meaningful opportunities for students to develop skills, exercise leadership, work collaboratively, engage with communities, and reflect on their experiences. Institutions should also strengthen volunteer management through flexible scheduling, clear communication, recognition, peer support, transportation assistance, and effective programme coordination.

Nevertheless, the findings should be interpreted within the study's limitations. The research was conducted at a single private university, with a sample heavily concentrated in health-related programmes, particularly Medicine and Surgery. The cross-sectional design and reliance on self-reported perceptions also limit causal interpretation. Future research should examine students from multiple public and private universities and different academic disciplines. Longitudinal, qualitative, and mixed-method studies could provide deeper understanding of how volunteering shapes students' personal, professional, and civic development over time.

Overall, the study provides empirical evidence that university volunteering can serve as an important platform for personal development, experiential learning, social responsibility, and career preparation. Strengthening volunteer management and supportive institutional environments may enable universities to maximise the developmental value of volunteering and contribute to preparing socially responsible and capable graduates.

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THEME 6: SYNERGY BETWEEN ACADEMIA, INDUSTRY AND COMMUNITY IN FUTURE EDUCATION

Responsible AI Literacy in Undergraduate Group Assignments: Reducing Collaboration Friction while Preserving Critical Thinking

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ABSTRACT

Undergraduate group assignments are intended to develop collaboration, communication, and problem-solving skills, yet students often experience collaboration friction such as unclear task division, repeated discussion, uneven contribution, and difficult final integration. At the same time, generative artificial intelligence (AI) is increasingly used for brainstorming, outlining, summarising, and language support in higher education. This extended abstract examines how responsible AI literacy can reduce low-value coordination work in group assignments while preserving students' critical thinking and academic responsibility. Using a conceptual approach informed by literature on AI literacy, generative AI in education, academic integrity, and group learning, the paper proposes a five-dimension framework: human-centred collaboration, task and workflow support, critical verification, transparent accountability, and ethical academic integrity. It further translates the framework into three classroom tools: an AI Use Agreement, an AI Contribution Log, and a Human Checkpoint. The contribution is a practical model that treats AI as a collaboration scaffold rather than a substitute for student judgement.

Keywords: Generative AI, AI literacy, group assignments, critical thinking, higher education

INTRODUCTION

Group assignments remain a common assessment practice in higher education because they are expected to develop communication, collaboration, negotiation, peer learning, and shared responsibility. These capabilities are closely related to graduate readiness because future workplaces increasingly require students to work across disciplines, interpret information collectively, and justify decisions in teams. However, the actual student experience of group work can be much less ideal. Students may struggle with unclear task allocation, uneven contribution, repetitive back-and-forth discussion, inconsistent writing styles, scheduling constraints, and pressure on one or two members who integrate the final product. Research on peer and group learning has similarly highlighted the need for fair contribution, transparency, and visible accountability mechanisms in collaborative assessment (Boud et al., 1999; Oakley et al., 2004; Wilson et al., 2018).

Generative AI changes this situation in two ways. First, it offers practical support for low-value but time-consuming processes. For example, students can use AI to turn an assignment brief into a checklist, generate a meeting agenda, summarise discussion points, compare alternative structures, improve transitions, and standardise language across different members' drafts. Second, it creates new risks. Students may accept plausible but inaccurate outputs, rely on AI instead of discussion, blur individual accountability, fabricate references, or submit text that they cannot explain. Recent work on large language models in education therefore emphasises both pedagogical potential and the need for critical thinking, fact-checking, transparency, and human oversight (Cotton et al., 2024; Kasneci et al., 2023; Yan et al., 2024).

This paper positions the problem within a human-centred lifelong-learning perspective. UNESCO's guidance on generative AI in education calls for ethical, safe, equitable, and meaningful use of these tools, while the UNESCO AI Competency Framework for Students identifies human-centred mindset, ethics of AI, AI techniques and applications, and AI system design as important student competencies (Miao & Holmes, 2023;

Miao et al., 2024). In parallel, the World Economic Forum (2025) identifies AI and big data, technological literacy, analytical thinking, and curiosity and lifelong learning as important future skills. Accordingly, this conceptual paper asks: How can responsible AI literacy be framed for undergraduate group assignments so that AI reduces collaboration friction while preserving critical thinking, transparency, and academic responsibility?

The focus on group assignments is deliberately specific. Rather than discussing AI literacy only as a general graduate skill, this paper examines an everyday learning situation in which students already negotiate roles, deadlines, evidence, language, and final presentation quality. This makes group assignments a practical site for teaching responsible AI use. If students learn to use AI openly and critically in a small academic team, they may also develop habits that are transferable to workplace collaboration, where AI-supported communication and documentation are increasingly normal.

RESULTS AND DISCUSSION

As a conceptual extended abstract, the results are presented as a proposed framework and implementation model rather than empirical findings. The main argument is that responsible AI literacy in undergraduate group assignments should not be defined merely as the ability to operate a tool or produce fluent text (Long & Magerko, 2020). It should be understood as the ability to use AI critically, transparently, and ethically within a human-led collaborative process. This distinction matters because group assignments are designed to train students to discuss, disagree, select evidence, justify choices, and take responsibility for a shared output.

Four common forms of collaboration friction can be identified. Task ambiguity occurs when students are uncertain about the assignment brief, expected scope, marking criteria, or division between descriptive and analytical work. Coordination overload occurs when the group spends too much time arranging meetings, repeating similar messages, or clarifying what has already been decided. Integration burden occurs when different members submit sections with inconsistent depth, citation style, tone, or structure. Accountability uncertainty occurs when it is unclear who contributed what, especially when the final product is edited by only one or two students. These forms of friction reduce the time available for higher-value discussion and critical evaluation.

Responsible AI use can address these problems, but only when its role is bounded. In the planning stage, AI may help translate the assignment brief into a checklist, generate possible subtopics, or propose a meeting agenda. During collaboration, AI may summarise discussion notes, convert decisions into action items, or help members compare alternative report structures. During drafting, AI may suggest transitions, identify duplicated points, or improve language consistency. During presentation preparation, AI may generate possible questions for rehearsal. These uses are acceptable because they support the process; they do not remove the need for students to choose evidence, evaluate sources, build arguments, and explain the final answer.

The proposed framework contains five dimensions. The first is human-centred collaboration: AI may help with agenda planning, brainstorming, and discussion summaries, but group members must still decide, justify, and explain the final direction. The second is task and workflow support: AI may help with checklists, timelines, role breakdowns, and action items, but students must negotiate scope and monitor progress. The third is critical verification: AI may support idea comparison and language clarity, but students must check facts, sources, and course concepts. The fourth is transparent accountability: AI use should be recorded through brief process notes so that members can explain how outputs were modified. The fifth is ethical academic integrity: AI may support polishing or formatting, but students must avoid fabricated sources, private-data risks, and direct copying.

These five dimensions place AI in a limited and educationally meaningful role. AI is useful when it reduces low-value coordination, but it becomes risky when it hides weak participation or produces persuasive text that students cannot explain. Therefore, the framework emphasises visible process, human decision-making, and verification. This also makes it suitable for multidisciplinary liberal and general studies courses, where the goal is not only technical competence but also responsible judgement, communication, and human-centred learning.

The proposed five-dimensional framework positions AI as a collaboration scaffold. A scaffold supports learners temporarily while leaving the intellectual responsibility with them. This idea is important for human-centred education because it avoids two extremes. One extreme is prohibition, which may ignore the reality that students already use AI tools informally. The other extreme is uncritical adoption, which may encourage students to

outsource thinking. A middle position is more educationally useful: students may use AI for coordination and clarity, but they must disclose its use, check its outputs, and remain able to defend the final work.

To make this framework operational, the paper proposes three classroom tools. The first is an AI Use Agreement completed at the beginning of the assignment. The agreement should define which uses are allowed, such as brainstorming, outlining, meeting summaries, language polishing, and formatting, and which uses are not allowed, such as submitting unchecked AI-generated arguments, using fabricated references, entering private group data into external systems, or using AI to avoid participation. The agreement turns AI use from a hidden individual choice into a shared group decision.

The second tool is an AI Contribution Log. Each member records the tool used, the purpose of use, the output considered, and the human modification made afterwards. For example, one member may use AI to generate a first outline but then revise it according to the course rubric. Another member may use AI to improve slide wording but must record which content was added, removed, or corrected. This log does not need to be long. Its purpose is to make the learning process visible and to reduce unfairness when AI support changes how effort appears in the final product.

The third tool is a Human Checkpoint before submission. The group should answer several practical questions: Can every member explain the central argument without reading AI text? Are all references real and checked? Does the final report use course concepts accurately? Did the group add its own judgement rather than only accepting generated suggestions? Does each member understand the part they are presenting? These questions help protect critical thinking and presentation readiness. They also help teachers evaluate whether AI has supported learning or merely improved surface fluency.

A simple classroom workflow can integrate the three tools without creating excessive administrative burden. In the first meeting, the group reads the assignment brief and uses AI only to create a preliminary checklist. The group then compares that checklist with the official rubric and corrects it. In the second stage, the group chooses roles, deadlines, and expected outputs, and each member records permitted AI support in the contribution log. During drafting, AI may help improve coherence, but all generated suggestions must be edited and verified by students. Before submission, the Human Checkpoint confirms that the group understands and can defend its work.

This approach can also improve assessment fairness. A common complaint in group assignments is that the final report or presentation may not reveal how much each member contributed. AI may make this problem worse if generated text hides weak participation, but it can also make the process more visible if students are required to record assistance and modification. Therefore, the log should not be treated as a punishment document. It should be treated as learning evidence, similar to a brief process portfolio, showing how the group planned, revised, verified, and justified its work.

The proposal further responds to differences in student confidence. Some students may already use AI frequently, while others may avoid it because they are unsure whether it is allowed. Without explicit classroom norms, both groups face uncertainty: confident users may overuse the tool without disclosure, while less confident users may be excluded from the group workflow or judged unfairly. A shared agreement can reduce this uncertainty by clarifying acceptable boundaries, protecting students from accidental misconduct, and encouraging more equal participation in technology-mediated collaboration.

Nevertheless, AI should not be presented as a complete solution to all group-work problems. It cannot solve interpersonal conflict, free-riding, unequal motivation, or weak disciplinary understanding on its own. In some cases, AI may even make these problems less visible by producing polished but shallow text. It may also reproduce bias, provide inaccurate explanations, or create references that appear real but cannot be verified. For this reason, responsible AI literacy must include not only tool access but repeated practice in checking, discussing, explaining, and revising.

A future pilot needs assessment can be conducted with 30 to 50 undergraduate students who have recently completed group assignments. The survey can use a five-point Likert scale to examine collaboration friction, perceived usefulness of AI, accountability expectations, and concerns about independent thinking. Suggested items include: 'I often experience inefficient communication in group assignments', 'AI tools can help clarify task requirements', 'AI tools can reduce time spent on draft integration', 'students should disclose how AI was used in group assignments', and 'AI may reduce independent thinking if used without clear rules'. Because the pilot is exploratory, analysis should remain descriptive and avoid causal claims.

The expected output of the pilot is not a universal measurement scale, but a practical understanding of student needs. If many students report task ambiguity, instructors may provide clearer assignment briefs and examples of acceptable AI checklist use. If students report high concern about overreliance, the Human Checkpoint can be strengthened. If accountability is the main problem, the AI Contribution Log can be connected with peer assessment. In this way, the pilot needs assessment can inform small but meaningful improvements in group assignment design.

For liberal, Citra, and general studies education, the framework is relevant because it connects technology use with human values. AI literacy is not reduced to prompt-writing skill. It becomes a broader capability involving ethics, communication, collaboration, responsibility, and self-regulated learning. These elements are especially important in multidisciplinary courses where students may come from different programmes, have unequal confidence with technology, and need to produce shared work under time pressure.

The practical contribution of this proposal is its balanced position. It does not ask students to avoid AI, nor does it encourage unrestricted automation. Instead, it treats AI as a visible, limited, verified, and accountable collaboration scaffold. This position is consistent with human-centred lifelong learning because it protects the educational value of discussion, explanation, and reflective judgement while recognising that digital tools are now part of ordinary academic and professional work.

Another implication concerns the role of the lecturer. Responsible AI literacy cannot depend only on students' individual discipline because the boundary between acceptable support and academic misconduct is often unclear. Lecturers can reduce confusion by giving short examples of permitted and prohibited uses in the assignment brief. For instance, using AI to generate a first list of discussion questions may be permitted, while submitting AI-generated analysis without verification may not be permitted. This type of explicit guidance supports students who want to use technology responsibly but lack confidence about institutional expectations.

The proposed framework can also be connected to presentation preparation. In many group assignments, students divide the report and slides quickly, but only one or two members understand the whole argument. AI can help generate possible presentation questions, identify weak transitions between sections, or suggest a rehearsal plan. However, the group should use these outputs as prompts for practice rather than as ready-made answers. The Human Checkpoint can therefore include oral explanation: each member should be able to explain the main claim, one supporting example, and one limitation of the group's work.

In addition, the framework supports professional literacy. Future workplaces increasingly require graduates to collaborate with both people and digital systems. Students who learn to document AI use, verify outputs, and negotiate ethical boundaries in coursework may be better prepared for workplace situations involving AI-assisted reports, meeting summaries, client communication, or internal presentations. The value of the framework is therefore not limited to one assignment. It introduces habits of transparency, review, and shared accountability that can transfer from classroom collaboration to professional collaboration.

A further classroom application is the use of short reflective statements. After completing the assignment, each group can submit a brief reflection explaining how AI was used, what was accepted or rejected, and what the group learned from the process. This reflection should not simply praise AI efficiency. It should require students to identify one moment when human judgement changed or corrected AI output. Such a requirement encourages students to see AI as an object of evaluation rather than an invisible source of answers.

The framework also recognises the importance of inclusivity. Students in the same group may have different language proficiency, digital access, prior experience with AI tools, or confidence in speaking during meetings. Used carefully, AI may lower participation barriers by helping students prepare discussion points or improve clarity before meetings. Used carelessly, it may increase inequality if only confident users control the tool and shape the final output. Therefore, responsible AI literacy should include shared access, agreed boundaries, and opportunities for all members to contribute to decisions.

Finally, the model should be treated as adaptable rather than fixed. Different courses may have different academic integrity policies, disciplinary expectations, and assessment designs. A language course may emphasise oral practice and expression, while a business or social science course may emphasise argument quality, evidence interpretation, and decision justification. The three proposed tools can be adjusted to suit these contexts. What should remain constant is the principle that AI use must be transparent, verifiable, and led by human understanding.

CONCLUSION

This extended abstract argues that responsible AI literacy in undergraduate group assignments should follow a simple principle: AI may reduce low-value collaboration friction, but it must not replace student judgement. AI can support planning, summarising, editing, and rehearsal, yet students must remain responsible for interpretation, evidence checking, decision-making, academic integrity, and explanation of the final work.

The main contribution is a practical framework that links AI literacy with collaborative learning, transparency, and graduate readiness. By proposing an AI Use Agreement, an AI Contribution Log, and a Human Checkpoint, the paper offers a concrete approach for integrating AI into ordinary group assignments without weakening critical thinking. Future research can test the framework through a small survey, classroom intervention, or reflective student portfolio.

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Adopting the ADDIE Instructional Design Model for Digital Ethics and Character Education in Junior High Schools: A Human-Centric Approach for Society 5.0

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ABSTRACT

The deepening penetration of digital media into adolescent life has produced a systemic moral crisis in junior high school students, marked by high rates of cyberbullying, pervasive misinformation, and the steady erosion of accountability in online spaces. Although the Indonesian curriculum has recently undergone transformation through the Eight-Dimension Graduate Profile (PL8D), explicit frameworks for digital ethics and character remain absent from it. This study employs a qualitative method based on a literature study, examining 30 relevant peer-reviewed publications to synthesize a framework for integrating digital ethics and character competencies at the junior high school level. The study adopts the ADDIE framework as a structured instructional design model grounded in Society 5.0's vision of human-centered technology, mapping the digital ethics pillars of awareness, responsibility, integrity, and virtue onto Lickona's character components of moral knowing, moral feeling, and moral action. The resulting design embeds active learning strategies including digital case simulations, structured discussion forums, collaborative projects, and digital reflection journals. This framework aims to equip junior high school students with ethical competencies to navigate digital spaces as responsible participants in a Society 5.0 world.

Keywords: ADDIE model, character education, digital ethics, human centric, society 5.0

INTRODUCTION

Society 5.0 places human flourishing at the center of technological development, orienting AI, IoT, and big data toward resolving social problems rather than replacing human roles (Nastiti & ‘Abdu, 2020; Bahri, 2022). This demands graduates who demonstrate not just technical proficiency but also empathy and moral responsibility combining advanced technology with human-centric values as the character foundation for the next generation (Fricticarani et al., 2023; Bentassil et al., 2025; Cardamone et al., 2025). International examples, from engineering curricula in Poland and Romania to cross-national learning factory projects, confirm that ethical competencies must be embedded in education so that human values govern the global work ecosystem (Olszak & Saczewska-Piotrowska, 2025; Sell et al., 2025; Nitu et al., 2026). The preparation of ethical character cannot be done instantly once individuals have entered the workforce; it must be intervened early at the primary and secondary education level as the primary foundation for future generations.

Indonesia’s policy response has taken shape through the Pancasila Student Profile (P5), recently deepened into the Eight-Dimension Graduate Profile (PL8D) under Deep Learning pedagogy (Ulandari & Rapita, 2023; Anjani et al., 2026). Yet implementation at the junior high school level remains uneven: teachers lack preparation, institutional support is inconsistent, and neither P5 nor PL8D explicitly names digital ethics as a character dimension (Nurhayati et al., 2025; Pramesti et al., 2025) leaving Indonesia’s most intensive and vulnerable digital media users without structured ethical guidance (Hidayat et al., 2024). This study addresses that gap by adopting the ADDIE instructional design model for integrating digital ethics and character education into junior high school learning.

RESULTS AND DISCUSSION

A. Crisis of Digital Ethics Among Junior High School Students

Junior high school students face a paradox of moral deterioration amid Society 5.0's promises. Cyberbullying prevalence reaches 52%, with self-control as the primary protective factor (Bukhori et al., 2024), while misinformation circulation, reduced empathy, and coarsening of digital language compound the picture (Putri et al., 2023). Three structural drivers sustain this crisis: algorithmic platforms rewarding provocative content (Hidayat et al., 2024); digital literacy deficits that prevent students from evaluating information (Bukhori et al., 2024); and a curriculum that has not filled the ethical guidance gap left by family and social environments (Putri et al., 2023) causing students to gradually lose the habits of discipline, empathy, and integrity that responsible digital citizenship requires (Pramesti et al., 2025).

B. Digital Ethics and Character as Human-Centric Competencies

Digital ethics supplies the normative framework for responsible online behavior. Alfikri (2023) identifies four pillars: Awareness (reasoned justification for every digital action), Responsibility (accepting full consequences of online behavior), Integrity (rejecting manipulation, plagiarism, and copyright violations), and Virtue (a disposition toward kindness in digital interactions). Digital character provides the internal architecture enabling ethical behavior to become habitual. Lickona's three-component model as applied by Munawarsyah et al. (2024) is most operationally useful: Moral Knowing (cognitive understanding of ethical behavior), Moral Feeling (empathy and moral pride motivating action), and Moral Action (consistent behavioral translation of knowledge and feeling). Together, these competencies constitute the direct educational expression of Society 5.0's human-centric principle without them, technology engagement risks inverting into humanity serving technology's logic of monetization (Mahbubi, 2024; Zubaedi et al., 2025; Sihombing et al., 2024).

C. ADDIE as an Instructional Design Framework

Among instructional design models, ADDIE stands out for its systematicity and iterative evaluation structure, well-suited to the demands of digital ethics and character education (Arregi et al., 2025; Suratnu, 2023). Its five phases map onto the pedagogical challenge: Analysis maps digital ethics deficits through surveys and interviews; Design converts findings into measurable objectives organized around the four ethics pillars and Lickona's three components; Development produces learning activities, interactive media, and holistic assessment instruments; Implementation delivers the program in real environments with the teacher as ethical role model; Evaluation feeds formative and summative results back into iterative revision (Samosir et al., 2023; Farsangi et al., 2023).

D. Active Learning Strategies

Participatory methods produce significantly stronger value internalization than lecture-based approaches for this age group (Lina & Robbaniyah, 2024; Syahbudin et al., 2024). Four strategies are well-supported by the literature: Digital case simulations place students inside moral dilemmas from real social media scenarios (Suciati et al., 2023); Structured discussion forums build the empathy that transforms abstract
principles into felt obligations, reducing hate speech and misinformation sharing (Wulandari et al., 2021); Collaborative projects engage students in designing positive digital campaigns, applying project-based learning as a Society 5.0 pillar (Fricticarani et al., 2023); and Digital reflection journals develop critical self-analysis and sustained ethical action (Azis et al., 2021; Fepriyanti & Roqib, 2024). Their combined effectiveness depends on teachers functioning as active facilitators and credible ethical models.

E. ADDIE-Based Instructional Design Recommendations

Table 1 presents the consolidated ADDIE-based recommendations.

Table 1. ADDIE-Based Instructional Design Recommendations

Phase	Instructional Design Recommendations
Analysis	Map digital behavior needs through surveys, observations, and interviews with students, teachers, and parents. Identify ethical violations and chart the learning context across school, family, and community.
Design	Construct measurable objectives grounded in the four digital ethics pillars and Lickona's three character components. Design interactive, case-based methods adapted to early adolescent development.
Development	Develop activities for students to encounter and respond to digital ethics situations. Produce visual, interactive media and holistic assessment instruments capturing comprehension, affective engagement, and moral action.

Implementation	Deliver the model in real classroom and digital environments. Position the teacher as facilitator and ethical model; build collaboration with parents for consistent character reinforcement beyond school.
Evaluation	Conduct continuous formative evaluation and summative assessment at cycle's end. Use results as basis for iterative revision of all instructional components.

F. Research Limitations and Future Directions

This study is conceptual and the proposed framework has not yet been tested in classroom implementation. Institutional obstacles persist: teachers anchored in conventional modes, inconsistent support for character pedagogy (Nurhayati et al., 2025), and algorithmic pressure working against moral accountability (Hidayat et al., 2024). Future research should test teacher training models for digital case simulation and collaborative pedagogy (Lina & Robbaniyah, 2024), and extend the framework into family environments through portfolio-based formative evaluation (O'Reilly et al., 2024; Farsangi et al., 2023).

CONCLUSION

This study adopted the ADDIE instructional design model as a structured framework for digital ethics and character education at the junior high school level, grounded in Society 5.0's human-centric principles (Nastiti & 'Abdu, 2020; Bahri, 2022). The digital ethics crisis facing this population is systemic, cyberbullying prevalence reaches 52% (Bukhori et al., 2024), sustained by algorithmic design, digital literacy deficits, and the absence of structured ethical guidance in the curriculum (Pramesti et al., 2025). ADDIE's five-phase structure enables systematic integration of the four digital ethics pillars with Lickona's three character components across each stage of instructional development (Munawarsyah et al., 2024; Arregi et al., 2025), supported by active learning strategies with demonstrated effectiveness (Suciati et al., 2023; Fricticarani et al., 2023). Through this design, Society 5.0's human-centric values can be internalized not as cognitive content but as lived moral habit in digital spaces (Zubaedi et al., 2025; Mahbubi, 2024).

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Artificial Intelligence Adoption and Its Impact on Academic Artificial Intelligence Adoption and Its Impact on Academic Performance: A Comparative Study between Malaysian and Japanese Universities

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ABSTRACT

The rapid adoption of Artificial Intelligence (AI) in higher education has transformed students' learning experiences while raising concerns about its impact on academic performance and integrity. This study compares AI usage and its perceived impact among undergraduate students at Universiti Kebangsaan Malaysia (UKM) and Gifu University (GIFUDAI), Japan. A quantitative cross-sectional survey involving 64 students was conducted, and the data were analysed using descriptive statistics and the Mann–Whitney U test. The findings show that students from both universities actively use AI for academic purposes, particularly for information retrieval, brainstorming and understanding complex concepts. Statistical analysis revealed a significant difference in AI usage between the two institutions ($p = 0.0329$), indicating varying adoption patterns. Although respondents recognised AI as a valuable tool for improving learning efficiency, they also expressed concerns regarding over-reliance, reduced critical thinking and plagiarism. The study is limited by its small, unbalanced sample size and cross-sectional design, restricting the generalisability of the findings. Overall, the results highlight the importance of establishing institutional AI policies and promoting AI literacy to ensure the ethical and responsible use of AI in higher education.

Keywords: Artificial Intelligence (AI), comparative

INTRODUCTION

Artificial Intelligence (AI) has rapidly transformed the higher education ecosystem by changing how students acquire knowledge, complete academic tasks and interact with digital learning environments. Recent developments in generative AI can monitor learning behaviours, analyse performance patterns and automatically adjust learning pathways to meet individual students' needs (Lin et al., 2023). Nevertheless, the growing dependence on AI has also raised concerns regarding potential negative impact on human interaction and cheating in education learning (Seo et al., 2021).

Countries have adopted AI in higher education using different policy approaches. Japan promotes responsible AI implementation through the Ministry of Education, Culture, Sports, Science and Technology (MEXT) guidelines and the Global and Innovation Gateway for All (GIGA) School Programme, emphasising digital literacy, ethics and responsible AI usage (MEXT, 2024). Meanwhile, Malaysia has introduced the National AI Governance and Ethics (AIGE) Framework and the Digital Education Policy (DEP) to strengthen digital infrastructure and AI readiness within educational institutions (MOSTI, 2024). Despite these national initiatives, comparative studies examining students' AI adoption across different educational systems remain limited, particularly between Malaysian and Japanese universities.

Therefore, this study compares undergraduate students from Universiti Kebangsaan Malaysia (UKM) and Gifu University (GIFUDAI), Japan, in terms of their AI adoption, usage patterns and impact on academic performance. A quantitative cross-sectional survey involving 64 undergraduate students was conducted using a structured questionnaire. Descriptive statistics were employed to analyse students' perceptions and usage patterns, while the Mann–Whitney U test was performed to determine whether significant differences existed between the two universities.

RESULTS AND DISCUSSION

The findings demonstrate that AI has become fully integrated into undergraduate learning, with 100% of respondents reporting that they use AI for academic purposes. Based on Figure 1, among the available AI platforms, ChatGPT recorded the highest usage rate, followed by Gemini and DeepSeek, indicating that students favour AI platforms that are widely accessible and easy to use.

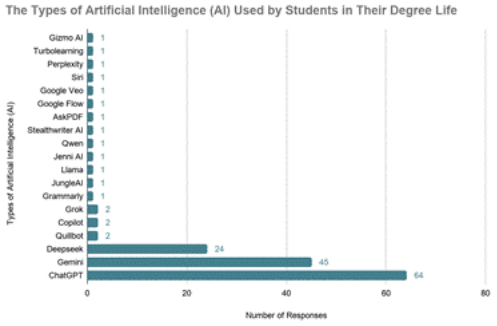

Figure 1 Bar Chart of The Types of Artificial Intelligence (AI) Used by Students in Their Degree Life

Students also demonstrated high AI literacy. All five knowledge-related items achieved mean scores above 4.20, with the highest mean score recorded for verifying AI-generated information using reliable sources with mean equals to 4.78 and recognising AI's multimodal capabilities with mean equals to 4.75. Students primarily utilised AI to support routine academic activities rather than replacing independent learning. Based on Table 1, the most common purpose was finding and browsing academic information with 58 responses, followed by brainstorming ideas and solving academic questions.

Table 1 The number of responses according to their specific objectives for using Artificial Intelligence (AI)

The Purposes of Using AI	Number of Responses
Finding and browsing information	58
Idea brainstorming for assignment and project	55
Solve questions or problems	51
Generate example questions for examination	40
Simplify lecture notes in various forms	35
Generate images and videos	23
Assist in programming	2

These findings indicate that students perceive AI primarily as an academic assistant that enhances productivity and learning efficiency. Similar patterns were reported by Jereb and Urh (2024), who found that university students mainly employ AI for information retrieval and idea generation.

In terms of impact, respondents reported positive perceptions regarding AI's contribution to learning. Based on Table 2, the highest positive mean score was recorded for saving time when completing academic tasks, with a mean equal to 4.45. Despite these benefits, respondents acknowledged several risks associated with excessive AI usage. The strongest concern was that over-dependence on AI may contribute to plagiarism and academic misconduct with a mean equal to 4.60, representing the highest score across all impact-related items.

Table 2 Impact of Using on AI in Education

Questions	Mean Score
I am able to understand better in certain topics with the help of Artificial Intelligence (AI).	4.40
I can score much better in quizzes or examinations with the help of Artificial Intelligence (AI).	4.02
Artificial Intelligence (AI) helps me to improve my critical thinking skills and creativity.	3.84
Artificial Intelligence (AI) can provide knowledge that will be useful for me to do assignments and projects.	4.40
Artificial Intelligence (AI) saves me a lot of time in completing academic tasks or projects.	4.45
Artificial Intelligence (AI) can support personalized learning that matches my learning style and pace.	4.22
Artificial Intelligence (AI) helps me to improve my overall education quality.	4.13
I become too much dependent on Artificial Intelligence (AI) when doing my academic work.	3.80
I become less motivated to study on my own when using too much Artificial Intelligence (AI) in academics.	3.27
Too much dependence on Artificial Intelligence (AI) can lead to plagiarism and ethical issues in academics.	4.60
I sometimes use Artificial Intelligence (AI) without fully understanding the content it provides.	3.42

Artificial Intelligence (AI) makes it harder to develop my own ideas and writing skills.	3.71
Using too much Artificial Intelligence (AI) can reduce meaningful interaction and discussion between students and lecturers.	4.20
I fear that relying on Artificial Intelligence (AI) will negatively affect my long-term academic development.	4.20

These findings are consistent with Farhi et al. (2023), who highlighted growing concerns regarding academic integrity. Collectively, these findings indicate that students recognise AI as a valuable educational resource but remain aware that responsible usage is necessary to preserve independent thinking and academic integrity.

To determine whether differences existed between the two universities, AI usage frequency was analysed using the Mann–Whitney U test.

Table 3 Summary Statistics of Mann-Whitney U Test

University	Sample Size (n)	Median AI Usage Rank
National University of Malaysia	55	4.00 (Often)
Gifu University	9	4.00 (Often)

Based on summary statistics in Table 3, the analysis then produced a Mann–Whitney U statistic of 349 with a p-value of 0.0329, indicating a statistically significant difference in AI usage between UKM and GIFUDAI students ($p < 0.05$). Although both universities reported the same median usage frequency, the distribution of responses differed significantly, suggesting that UKM students generally utilized AI more frequently than students from Gifu University.

These differences may be explained by variations in educational culture. Malaysian universities have increasingly embraced AI-assisted learning as part of broader digital transformation initiatives (Fadhilah et al., 2025), whereas Japanese higher education continues to emphasise independent learning, academic discipline and ethical responsibility, leading students to adopt AI more cautiously (Parker et al., 2025). The findings therefore suggest that institutional culture influences not only the adoption of AI technologies but also students' attitudes towards their educational use.

CONCLUSION

This study demonstrates that AI has become an essential component of undergraduate education in both Malaysia and Japan. Students generally perceive AI as an effective learning assistant that improves understanding, supports academic tasks, and enhances learning efficiency. Nevertheless, respondents also recognise significant risks associated with excessive AI usage, particularly plagiarism, academic dependency and the potential decline of critical thinking skills.

The comparative analysis further revealed statistically significant differences in AI usage between UKM and GIFUDAI, suggesting that national educational environments and institutional culture shape students' AI adoption behaviours. These findings highlight the importance of developing institutional AI governance policies that encourage ethical, critical, and responsible AI usage while maintaining academic integrity.

Future research should involve larger and more balanced samples across multiple universities and adopt mixed-method approaches to investigate the long-term effects of AI on students' academic achievement, cognitive development and learning behaviour. Such evidence will provide stronger guidance for universities seeking to integrate AI sustainably into higher education.

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PRINT4REHAB: A SULAM Framework Integrating Additive Manufacturing and Rehabilitation Technology through TVET–Hospital Collaboration

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ABSTRACT

The growing demand for graduates equipped with technical expertise, interdisciplinary competencies, and social responsibility has encouraged higher education institutions to adopt innovative pedagogical approaches that extend beyond conventional classroom learning. Service-Learning Malaysia – University for Society (SULAM) has emerged as an effective educational strategy that integrates academic knowledge with meaningful community engagement. This conceptual paper proposes PRINT4REHAB, a SULAM framework that integrates additive manufacturing technology with rehabilitation services through collaboration between the Department of Mechanical Engineering, Politeknik Ungku Omar (PUO), and the Occupational Therapy Unit, Hospital Raja Permaisuri Bainun (HRPB). The framework is implemented through the MPU34102 Community Service course involving 30 Bachelor of Mechanical Engineering Technology students, who collaborate with rehabilitation professionals and patients in identifying clinical needs, co-designing assistive devices, fabricating customized rehabilitation tools using three-dimensional (3D) printing technology, and evaluating their usability in real healthcare settings. Beyond technical innovation, PRINT4REHAB promotes experiential learning, empathy-driven engineering design, interdisciplinary collaboration, and lifelong learning through reciprocal knowledge exchange between academia, healthcare practitioners, and the community. The proposed framework demonstrates how TVET institutions can contribute to healthcare innovation while simultaneously enhancing students' employability skills, civic responsibility, and human-centred problem-solving competencies. It also presents a scalable model for strengthening sustainable TVET–hospital partnerships that support quality education, healthcare improvement, and community well-being.

Keywords: Service-Learning (SULAM), Additive Manufacturing, Rehabilitation Technology, TVET, Healthcare Collaboration

INTRODUCTION

Technological advancements associated with the Fourth Industrial Revolution (Industry 4.0) have significantly transformed engineering education by encouraging the integration of digital technologies into teaching and learning processes. Among these emerging technologies, additive manufacturing (AM), commonly known as three-dimensional (3D) printing, has become an important enabling technology for producing customized healthcare products, assistive devices, rehabilitation equipment, and patient-specific solutions (Datta & Barua, 2024; Javaid et al., 2022). The flexibility, affordability, and rapid prototyping capability of additive manufacturing make it particularly suitable for addressing individualized rehabilitation needs that are often difficult to fulfil using commercially available products.

Concurrently, higher education institutions are increasingly expected to produce graduates who possess not only technical competence but also communication skills, ethical awareness, empathy, teamwork, and civic responsibility. In Malaysia, Service-Learning Malaysia –

University for Society (SULAM) has been introduced as a transformative pedagogical approach that integrates academic learning with meaningful community engagement. Through SULAM, students apply disciplinary knowledge to solve authentic community problems while simultaneously developing professional and lifelong learning competencies.

Healthcare rehabilitation represents an ideal environment for implementing interdisciplinary service-learning because rehabilitation professionals frequently encounter unique patient needs requiring customized assistive devices (Estrada-Palavecino et al.,2025). Engineering students, particularly those with expertise in computer-aided design (CAD), additive manufacturing, and product development, possess the technical capabilities to develop innovative rehabilitation solutions while learning directly from healthcare practitioners and patients.

Recognising this opportunity, the Department of Mechanical Engineering, Politeknik Ungku Omar (PUO), initiated PRINT4REHAB in collaboration with the Occupational Therapy Unit of Hospital Raja Permaisuri Bainun (HRPB). The programme is implemented as part of the MPU34102 Community Service course involving 30 undergraduate students enrolled in the Bachelor of Mechanical Engineering Technology programme. Through this course, students are required to apply their engineering knowledge in addressing authentic community needs while developing communication skills, teamwork, leadership, ethical values, and social responsibility through structured community engagement.

Rather than functioning solely as a community service initiative, PRINT4REHAB is conceptualized as a structured SULAM framework that integrates engineering education, healthcare services, and community engagement into a sustainable learning ecosystem.

RESULTS AND DISCUSSION

As a conceptual paper, this study proposes the PRINT4REHAB framework rather than reporting empirical findings. The framework comprises four interconnected phases that integrate engineering education with rehabilitation practice through collaborative learning and community engagement.

Phase 1: Clinical Needs Identification

The PRINT4REHAB programme is conducted through the MPU34102 Community Service course involving 30 Bachelor of Mechanical Engineering Technology students from the Department of Mechanical Engineering, Politeknik Ungku Omar. Students participate in site visits to the Occupational Therapy Unit at Hospital Raja Permaisuri Bainun to observe rehabilitation activities, identify unmet clinical needs, and interact directly with occupational therapists and patients. This authentic learning environment enables students to understand rehabilitation challenges while developing empathy, communication skills, and user-centred problem-solving abilities.

Phase 2: Human-Centred Engineering Design

Based on the identified clinical needs, students collaborate with therapists to conceptualize and design customized assistive devices using CAD software. Human-centred design principles guide the development process, ensuring that proposed solutions priorities usability, safety, accessibility, and patient comfort. Continuous feedback from therapists supports iterative refinement throughout the design process.

Phase 3: Additive Manufacturing and Prototype Validation

Approved designs are fabricated using additive manufacturing technology as shown in Figure 1. The produced prototypes undergo functional evaluation by occupational therapists to assess their suitability for rehabilitation purposes. Necessary design modifications are incorporated before the devices are introduced into clinical practice. This iterative process allows students to experience authentic engineering design cycles while producing practical solutions that address community needs.

Phase 4: Knowledge Transfer and Reflective Learning

The final phase emphasizes reciprocal learning between academia and healthcare practitioners. Students conduct demonstrations on additive manufacturing technology, digital design, and 3D printing applications for rehabilitation. Simultaneously, therapists provide insights into rehabilitation practices, patient-centred care, and clinical problem-solving as shown in Figure 1. Structured reflection activities encourage students to evaluate their technical learning, communication skills, ethical responsibilities, and community contributions.

The proposed framework extends beyond traditional engineering education by integrating technical competencies with humanistic values

through authentic community engagement. It fosters interdisciplinary collaboration among engineering educators, healthcare professionals, students, and patients, thereby strengthening partnerships between TVET institutions and healthcare organizations.

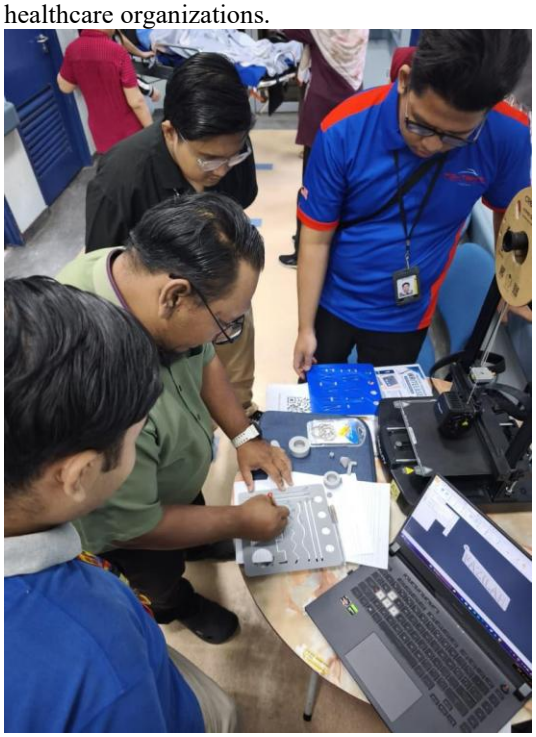

Figure 1 Occupational therapists provide rehabilitation insights during the demonstration and evaluation of a 3D-printed rehabilitation tool prototype

Furthermore, the framework aligns with several Sustainable Development Goals (SDGs), particularly SDG 3 (Good Health and Well-being), SDG 4 (Quality Education), SDG 9 (Industry, Innovation and Infrastructure), SDG 10 (Reduced Inequalities), and SDG 17 (Partnerships for the Goals). By combining education, innovation, and community service within a single pedagogical model, PRINT4REHAB offers a sustainable framework that can be adapted by other TVET institutions seeking to integrate additive manufacturing into healthcare-focused service-learning initiatives.

CONCLUSION

PRINT4REHAB presents a conceptual SULAM framework that integrates additive manufacturing, rehabilitation technology, and TVET–hospital collaboration into a comprehensive educational model. Implemented through the MPU34102 Community Service course for 30 Bachelor of Mechanical Engineering Technology students, the framework positions students, healthcare professionals, and patients as collaborative partners throughout the innovation process. This approach promotes experiential learning, interdisciplinary collaboration, human-centred engineering design, and lifelong learning while enabling students to apply engineering knowledge in authentic healthcare settings. Beyond enhancing technical and professional competencies, the framework demonstrates how engineering education can generate meaningful social impact and strengthen sustainable partnerships between TVET institutions and healthcare providers. Future studies should evaluate the educational outcomes and community impact of the PRINT4REHAB framework following its implementation.

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Integrasi Pembelajaran Luar dalam Susun Atur Reka Bentuk Prasekolah di Malaysia

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ABSTRAK

Kanak-kanak merupakan golongan pelapis pada masa hadapan, Dalam usaha membentuk golongan ini, aspek perkembangan tidak seharusnya di pandang mudah. Kanak-kanak di Malaysia mendapatkan pembelajaran formalnya di usia empat sehingga enam tahun. Di bawah Kementerian Pelajaran Malaysia, enam unsur pembelajaran telah digariskan di dalam Kurikulum Standard Prasekolah Kebangsaan (KSPK) dan antaranya adalah pembelajaran dengan bermain. Pembelajaran dengan bermain ini kerap dikendalikan di luar bilik darjah, dan gaya pendidikan tersebut memberi manfaat kepada perkembangan kanak-kanak. Pembelajaran luar membantu perkembangan kanak-kanak dari segi fizikal, kognitif, sosial dan emosi. Namun begitu, dalam mengendalikan pembelajaran luar, aspek reka bentuk juga perlu dititikberatkan. Maka dengan itu, terlahirlah matlamat kajian ini iaitu untuk mengetahui reka bentuk dan perancangan ruang yang terbaik dalam mengintegrasikan pembelajaran luar prasekolah. Manakala objektif kajian ini adalah untuk mengenal pasti pendekatan reka bentuk prasekolah yang lebih berkesan untuk mempraktikkan pembelajaran luar di Malaysia. Bagi mencapai objektif kajian, kaedah kualitatif telah digunakan. Kajian kes telah dijalankan ke atas empat bangunan yang berbeza negara bagi melihat kelainan dan persamaan reka bentuk antara bangunan-bangunan tersebut. Kajian mendapati ciri landskap lembut dan kejur direka secara ilmiah bagi menolong pembelajaran kanak-kanak serta membantu perkembangan kanak-kanak. Landskap kejur kebanyakannya direka dengan meniru kembali unsur alam semula jadi.

Kata Kunci: Pembelajaran luar, Susun atur, Reka bentuk prasekolah, Perkembangan kanak-kanak

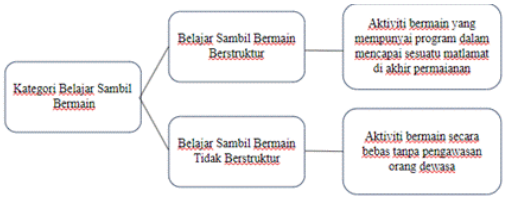
PENGENALAN

Umum mengetahui bahawa kanak-kanak merupakan golongan usia pelapis pada masa akan datang. Dalam usaha membentuk generasi pelapis yang baik, perkembangan kanak-kanak sangat penting bagi menentukan generasi bagaimana yang ingin dibina. Aspek perkembangan kanak-kanak berbeza mengikut peringkat umur menurut definasi Center for Disease Control and Prevention (2021), peringkat perkembangan kanak-kanak bermula dengan tahap bayi baru lahir sehingga satu tahun, kanak-kanak kecil berusia dua sehingga tiga tahun, prasekolah berumur empat sehingga enam tahun, pertengahan kanak-kanak berusia tujuh sehingga 11 tahun, manakala permulaan remaja pula bermula pada usia 12 sehingga 14 tahun dan seterusnya peringkat remaja berusia 15 sehingga 17 tahun. Pertumbuhan pesat perkembangan kanak-kanak adalah pada usia lima hingga enam tahun iaitu pada peringkat pra-sekolah (Azizi Yahaya et al., 2018). Pada peringkat ini amat penting untuk menerapkan pendidikan yang sempurna bagi pertumbuhan kanak-kanak yang seimbang dan sempurna (Azizi Yahaya et al.,

2018). Di dalam Akta Pendidikan 1996 (Akta 550) memperuntukkan pendidikan prasekolah dalam Sistem Pendidikan Kebangsaan, kepada kanak-kanak berumur empat sehingga enam tahun bagi mendapatkan pendidikan awal mereka (Kementerian Pendidikan Malaysia, 2021).

Dekad kini, pembelajaran prasekolah menumpukan pembelajaran di dalam kelas mahupun di luar kelas. Menariknya di sini, pembelajaran di luar kelas membolehkan pelajarnya berinteraksi dengan alam semulajadi. Alam semulajadi merupakan unsur yang tidak lapuk dek masa dan seharusnya dimanfaatkan kerana kesannya terhadap manusia sangat baik. Bahkan alam semulajadi ini mampu memberi impak kepada perkembangan kanak-kanak. Perhubungan antara kanak-kanak dan alam menghasilkan perkembangan yang positif (Saleh et al., 2018). Antara kebaikan lain alam semulajadi terhadap perkembangan kanak-kanak adalah pelajar didedahkan dengan persekitaran yang sihat, meningkatkan daya tumpuan pelajar, sebagai penyalur tekanan, meningkatkan displin diri dan membantu meningkatkan kesihatan fizikal (Childhood by nature, 2018). Namun, pembelajaran luar yang memanfaatkan alam semulajadi di peringkat prasekolah di Malaysia sukar di dapati kerana sistem pembelajaran hanya tertumpu pada aspek pembelajaran di dalam kelas (Saleh et al., 2018).

Bagi menyeragamkan dan menambah baik kualiti prasekolah sama ada swasta atau kerajaan, Kementeriam Pelajaran Malaysia (KPM) telah memformulasi Kurikulum Standard Prasekolah Kebangsaan (KSPK) pada 2019 (Nair & Yassin, 2017). Kurikulum Standard Prasekolah Kebangsaan (KSPK) adalah garis panduan bagi program pendidikan dan penjagaan awal kanak-kanak untuk meningkatkan pencapaian akedemik dan persediaan ke persekolahan dengan mencapai enam unsur pembelajaran iaitu kemanusiaan, kerohanian, sikap, kecekapan, komunikasi, sains dan teknologi serta aestetik dan perkembangan fizikal (Sia et al., 2023). Bagi mencapai ke semua enam unsur berkenanan, belajar melalui bermain merupakan kaedah sangat baik dan telah ditekankan oleh Kementerian Pelajaran Malaysia dan ke semua prasekolah di Malaysia harus menerapkan di dalam program pengajaran (Sia et al., 2023). Belajar sambil bermain ini mempunyai dua kategori iaitu secara berstruktur dan tidak berstruktur (Sia et al., 2023) seperti yang dapat di lihat pada Rajah 1.



Rajah 2. Kategori belajar sambil bermain seperti dinyatakan oleh Wood (2010) & Catalano (2018). (Sumber: Pengarang, 2023)

Persekitaran memainkan peranan penting dalam memastikan proses pembelajaran berjalan dengan lancar, kerana ianya mempengaruhi kesihatan fizikal, emosi dan motivasi guru dan murid (Shera Jouflin & Mohd Hanafi Mohd Yasin, 2022). Marilyn Read (2019) menyatakan rekabentuk persekitaran memainkan peranan penting dalam memberi kualiti terhadap pengalaman kanak-kanak. Oleh itu, pemahaman terhadap hubungan rekabentuk persekitaran dan keperluan tumbesaran kanak-kanak perlulah diambil berat bagi menghasilkan ruang yang lebih inklusif dan responsif terhadap keperluan mereka. Hal ini harus di ketengahkan kerana manfaat pembelajaran luar merupakan medium pembelajaran yang baik. Dengan itu terlahirlah permasalahan kajian iaitu keberkesanan pembelajaran luar berteraskan alam dalam pembelajaran dan pengajaran (PdP) kanak-kanak prasekolah di Malaysia. Matlamat utama kajian ini adalah untuk mengetahui rekabentuk dan perancangan ruang yang terbaik dalam mengintegrasikan pembelajaran luar prasekolah. Manakala objektif kajian ini adalah mengenalpasti pendekatan reka bentuk prasekolah yang lebih berkesan untuk mempraktikan pembelajaran luar di Malaysia.

METODOLOGI

Kajian ini menggunakan kaedah kualitatif. Kaedah kualitatif juga dapat memberikan kefahaman terhadap fenomena yang di kaji (Creswell, 2009). Bagi mencapai objektif kajian kajian kes di gunakan dengan melihat ciri-ciri reka bentuk yang boleh di intergrasikan di prasekolah Malaysia. Kaedah penyelidikan yang digunakan adalah pemerhatian bukan peserta dan terbuka. Pemerhatian dijalankan secara visual terhadap elemen reka bentuk fizikal di ruang tadika. Pemerhatian kedua dijalankan terhadap perilaku kanak-kanak di tadika tersebut melibatkan golongan umur 4, 5 dan 6 tahun.

Carian Bangunan kajian kes telah dilakukan melalui carian laman sesawang seperti 'archdaily', 'dezeen', 'inhabitat', 'architizer' dan 'futurarc', laman sesawang ini merupakan laman sesawang yang sentiasa menampilkan dan membincangkan reka bentuk bangunan yang terkini atau memenangi anugerah reka bentuk terbaik di seluruh dunia. Setelah itu, skop carian bangunan kajian di kecilkan dengan mengambil kira negara dan tipologi bangunan. Negara-negara asia yang mempunyai rumpun yang sama, telah dipilih sebagai panduan bangunan kajian. Negara asia yang dipilih seperi Jepun yang maju dengan teknologi namun mempunyai kekangan ruang tanah dan Vietnam pula negara yang sedang membangun dipilih sebagai kajian. Kajian kes juga tidak mengecualikan Malaysia dimana, kajian kes tempatan dijalankan melalui kajian lapangan. Tambahan itu, tipologi bangunan juga dirujuk sebagai panduan dalam melihat keberkesanan pembelajaran luar. Jadual 1 menunjukkan senarai bangunan kajian yang digunakan sebagai pemerhatian.

Jadual 1. Senarai Bangunan Kajian Kes

	Nama	Negara	Tipologi Bangunan	Laman Luaran
Bangunan Kes 1	Little Urban Forest	Malaysia	Guna semula rumah teres dua tingkat *'corner lot'*	/
Bangunan Kes 2	My Montessori Garden	Vietnam	Bangunan sebuah di tapak lot perumahan	/
Bangunan Kes 3	Kids Mayumi Kindergaten	Jepun	Bangunan sebuah di tapak lot perumahan	/
Bangunan Kes 4	MRN Kindergarten	Jepun	Bangunan sesebuah	/
Bangunan Kes 5	Tadika Tunas UKM	Malaysia	Bangunan sesebuah di Fakulti Pendidikan	/

DAPATAN DAN PERBINCANGAN

Berdasarkan pemerhatian reka bentuk bangunan prasekolah yang terlibat ini mempunyai ruang laman yang dimanfaatkan dalam membantu pembelajaran luar yang seterusnya membantu perkembangan kanak-kanak prasekolah tersebut. Walaupun terdapat perbezaan dari segi penggunaan bangunan seperti bangunan kes 1 menggunakan semula bangunan sedia ada sebagai permis prasekolah namun laman yang sedia ada digunakan dalam menjalankan aktiviti luar sesuai dengan matlamat prasekolah tersebut. Antara ciri yang dapat dilihat di dalam reka bentuk laman prasekolah ini di bahagikan kepada lanskap lembut dan kejur.

Landskap Lembut

Pemerhatian di ke empat-empat bangunan kajian kes telah menerapkan landskap lembut di laman prasekolah. Pada bangunan kajian kes 1, pokok hijau di tanam di sekeliling kawasan prasekolah. Hal ini, sedikit sebanyak membantu dalam memberikan privasi dan keselamatan antara kawasan luar jalan raya dan laman prasekolah berkenaan. Tambahan itu, penggunaan rumput semula jadi digunakan menjadikan kawasan laman lebih segar mata memandang.

Manakala bangunan kajian kes 2 pula, menggunakan landskap lembut sebagai sebahagian kurikulum pembelajaran. Bangunan kajian kes 2 ini, merias sebahagian laman permis dengan tanaman hijau yang boleh di makan atau dengan kata mudah sebahagiannya merupakan kebun. Kebun-kebun kecil ini diletakkan berdekatan dengan ruang kelas yang mempunyai bukaan tingkap yang luas dari lantai ke siling. Rekaan ini memberikan ruang belajar kanak-kanak ini lebih dekat dengan alam semulajadi dengan lebih kerap.

Melalui permerhatian ke empat-empat bangunan kajian, dapat disimpulkan dan disenaraikan bahawa landskap lembut ini bukan sahaja membantu dalam perkembangan emosi kanak-kanak melalui pembelajaran luar bahkan ia juga membantu dalam reka bentuk sesebuah prasekolah. Landskap lembut membantu dalam :-

i. Meredupkan suasana tadika dan memberi teduhan semulajadi kepada kawasan pembelajaran luar.

ii. Sebagai pemisah ruang laman dan jalan raya seterusnya mencipta privasi dan keselamatan kepada permis bangunan.

iii. Sebagai sebahagian daripada pembelajaran luar sambil bermain yang lebih berstuktur seperti belajar bercucuk tanam, belajar dan mengenali mengenai tumbuhan hijau atau bunga.

Landskap Kejur

Permerhatian terhadap ke semua bangunan kajian, landskap kejur banyak di gunakan dalam mereka ruang pembelajaran dan permainan bagi pelajar-pelajarnya. Sebahagian rekaan adalah sebahagian daripada reka bentuk bangunan itu sendiri. Hal ini kerana limitasi ruang sedia ada pada laman permis berkenaan. Ini menjadikan rekaan lebih kreatif dan inovatif tanpa bergantung kepada rekaan tipikal permainan keluaran kilang. Landskap kejur yang digunakan juga lebih bersifat semula jadi dalam memimik alam semula jadi dan kegunaan kehidupan seharian. Menjadikan aktiviti pembelajaran sambil bermain, lebih bersifat nyata dan dekat dengan aktiviti seharian dan alam sekitar.

KESIMPULAN DAN CADANGAN

Secara kesimpulannya, melalui pemerhatian yang telah di lakukan ke atas ke empat-empat kajian, ruang pembelajaran luar di prasekolah di Malaysia boleh diolah dengan lebih menarik dalam membantu pembelajaran luar. Unsur-unsur semula jadi seperti landskap lembut boleh digunakan sebagai rekaan, begitu juga dengan landskap kejur. Konsep landskap kejur yang mengimitasi alam semula jadi menjadikaan rekaan bangunan lebih mesra pengguna. Bahkan menjadikan pengajaran yang diajar adalah perkara yang nyata dan pelajar mampu mengaitkan kepada situsi yang nyata. Selain itu, ia juga mampu mendekatkan pelajar dengan alam semula jadi. Tambahan itu, berbanding dengan reka bentuk pasang siap yang terdapat dipasaran, reka bentuk seperti di dalam pemerhatian kajian lebih mesra alam. Tidak dinafikan ke kedua-dua ciri-ciri reka bentuk yang dinyatakan memberi impak kepada kos dan penjagaannya. Selain itu, reka bentuk di dalam kajian ini telah di reka khas dan diberi tumpuan penuh oleh orang yang bertanggungjawab seperti arkitek, arkitek lanskap serta pereka dalaman. Oleh itu, reka bentuk prasekolah di Malaysia juga seharusnya mengamalkan pekara yang sama. Ini selari dengan keperluan pembelajaran yang telah di gariska di dalam Kurikulum Standard Prasekolah Kebangsaan (KSPK). Akhir sekali, oleh kerana kajian hanya melihat kepada ciri-ciri reka bentuk sahaja, cadangan kajian terhadap kos dan penjagaan juga boleh dipertimbangkan pada masa hadapan.

PENGHARGAAN

Penyelidikan ini menggunakan geran universiti GGPM-2024-017 daripada Universiti Kebangsaan Malaysia untuk mengetengahkan

bangunan bercirikan spesifikasi pengguna akhir bangunan tertentu.

RUJUKAN

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Jotun Colour Studio Kit sebagai Alat Sokongan Industri: Penterjemahan Reka Bentuk Industri dan Pengurusan Perniagaan melalui Projek Capstone dan Work-Based Learning (WBL)

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ABSTRAK

Work-Based Learning (WBL) dan projek capstone dalam Sarjana Muda Sains Citra (SmSn Citra) menyediakan ruang untuk pelajar menterjemahkan pengetahuan universiti kepada masalah dan tugasan sebenar industri. Artikel ini menghuraikan pengalaman sebenar seorang pelajar yang menjalani WBL di Jotun Paints (Malaysia) Sdn. Bhd. dengan dua bidang penumpuan, iaitu Reka Bentuk Industri dan Pengurusan Perniagaan. Semasa ditempatkan dalam pasukan Colour Studio, pelajar terlibat sebagai *drafter intern* dan berinteraksi dengan arkitek, *Interior Designer*, pelanggan, pembekal serta rakan sekerja. Pemerhatian di tempat kerja kemudiannya dikembangkan menjadi projek capstone berkaitan pemilihan produk cat dan keperluan sokongan *Interior Designer*. Soal selidik terhadap 71 responden menunjukkan kepentingan kebolehpercayaan hasil warna, kredibiliti jenama, sokongan teknikal, akses kepada sampel dan panduan warna serta integrasi digital. Dapatan tersebut diterjemahkan kepada pembangunan Jotun Colour Studio Kit sebagai alat sokongan pemilihan warna. Melalui refleksi pengalaman bersama pensyarah, artikel turut menunjukkan bagaimana WBL mengubah kefahaman pelajar terhadap hubungan antara reka bentuk dan perniagaan, di samping membina komunikasi profesional, keupayaan menyelesaikan masalah dan identiti profesional awal.

Kata kunci: pengurusan perniagaan, projek *capstone*, reka bentuk industri, refleksi, *Work-Based Learning* (WBL).

PENGENALAN

Pelaksanaan *Work-Based Learning* (WBL) dalam SmSn Citra memberi peluang kepada pelajar belajar melalui penyertaan dalam amalan kerja sebenar. Nilai pembelajaran tersebut bukan terhasil daripada penempatan semata-mata, tetapi melalui akses kepada tugasan organisasi, interaksi dengan rakan sekerja dan pelanggan, maklum balas penyelia serta tanggungjawab untuk menghasilkan kerja yang mempunyai implikasi sebenar. Billett (2001) melihat pembelajaran di tempat kerja sebagai hasil interaksi antara peluang yang disediakan organisasi dengan penglibatan aktif individu, manakala Raelin (2007) menekankan bahawa pengetahuan menjadi lebih bermakna apabila teori digunakan untuk membuat pertimbangan dalam situasi kerja yang kompleks.

Bagi pelajar SmSn Citra, projek *capstone* menjadi mekanisme untuk menghubungkan pengalaman tersebut dengan bidang penumpuan yang dibina di universiti. Dalam kes ini, pelajar menggabungkan Reka Bentuk Industri dan Pengurusan Perniagaan. Penumpuan Reka Bentuk Industri membekalkan asas pemikiran reka bentuk, teori warna, visualisasi, pemahaman ruang, bahan dan proses. Pengurusan Perniagaan pula membentuk kefahaman tentang pelanggan, pemasaran, pengurusan proses, komunikasi organisasi dan nilai perniagaan. WBL di Jotun menyediakan konteks untuk melihat kedua-dua bidang ini

bukan sebagai pengetahuan yang berasingan, tetapi sebagai kompetensi yang perlu digunakan serentak ketika menyelesaikan tugasan.

Pelajar ditempatkan di bahagian pemasaran, khususnya dalam pasukan Colour Studio, dan menjalankan peranan sebagai *drafter intern*. Tugasan harian termasuk membaca lukisan arkitek, memasukkan cadangan warna ke dalam lukisan digital, menyediakan kombinasi warna, mengurus bahan sokongan warna, membantu aktiviti pemasaran dan berhubung dengan pihak dalaman serta profesional luar. Melalui tugasan ini, pelajar mendapati bahawa *Interior Designer* memainkan peranan penting dalam mempengaruhi spesifikasi warna dan produk cat dalam sesuatu projek, namun mereka memerlukan bahan sokongan yang dapat membantu proses pemilihan, visualisasi dan penerangan warna kepada klien.

Pemerhatian tersebut menjadi asas projek capstone bertajuk Pemilihan Produk Cat dan Keperluan Sokongan *Interior Designer* terhadap Jotun. Projek bertujuan mengenal pasti faktor pemilihan produk cat, menilai ketersediaan produk serta memahami kecenderungan *Interior Designer* dalam proses pemilihan cat. Penulisan artikel ini berasaskan dokumentasi projek, dapatan soal selidik, pengalaman sebenar pelajar semasa WBL dan refleksi yang dibincangkan bersama pensyarah. Refleksi digunakan untuk memaknakan peristiwa kerja dan perubahan kefahaman pelajar, bukan sebagai analisis kualitatif formal.

Secara konseptual, projek ini juga dapat difahami melalui idea *boundary crossing*, apabila pelajar bergerak antara bahasa akademik dan bahasa industri, antara reka bentuk dan perniagaan, serta antara identiti pelajar dan peranan pekerja. Jotun *Colour Studio Kit* pula berfungsi sebagai *boundary object* yang menghubungkan keperluan pasukan *Colour Studio, Interior Designer*, arkitek, pelanggan projek dan kepentingan perniagaan organisasi (Star & Griesemer, 1989; Akkerman & Bakker, 2011).

HASIL DAN PERBINCANGAN

Proses pembangunan Jotun Colour Studio Kit

Pembangunan kit bermula dengan proses memahami keperluan pengguna dan masalah kerja sebenar. Pendekatan projek disusun berasaskan langkah *Design Thinking*, iaitu memahami pengguna, mentakrif masalah, menjana idea, membina prototaip dan menguji cadangan secara awal (Yan & Zhao, 2025). Soal selidik berstruktur diedarkan kepada 71 *Interior Designer*. Item dibangunkan melalui perbincangan pelajar dengan pihak pengurusan pemasaran Jotun dan meneliti enam pertimbangan yang saling berkait: keyakinan terhadap ketepatan warna, kemudahan mendapatkan maklumat dan sampel, kredibiliti jenama, sokongan teknikal, kesetiaan jenama serta kedudukan jenama sebagai rakan reka bentuk.

Dapatan deskriptif menunjukkan bahawa kebolehpercayaan hasil warna merupakan pertimbangan utama. Bagi *Interior Designer*, warna yang dipilih perlu dapat diterjemahkan dengan konsisten daripada cadangan reka bentuk kepada sampel dan hasil akhir pada permukaan sebenar. Kredibiliti jenama dan sokongan teknikal juga penting kerana mereka perlu menerangkan dan mempertahankan pilihan warna kepada klien, kontraktor dan pihak projek. Justeru, pemilihan cat bukan semata-mata keputusan estetika atau harga, ia berkait dengan keyakinan profesional, risiko projek dan tahap sokongan yang diterima daripada jenama.

Dari aspek ketersediaan, platform dan katalog digital membantu proses visualisasi awal, tetapi responden masih memerlukan sampel fizikal, panduan kombinasi warna dan konsultasi yang mudah dicapai. Jurang antara visual digital dengan pengalaman warna sebenar menjadi titik penting projek. Pelajar kemudian menterjemahkan dapatan tersebut kepada Jotun *Colour Studio Kit*, iaitu set kad warna terpilih berasaskan projek sebenar Jotun yang boleh digunakan sebagai bahan rujukan ketika berbincang dengan klien dan membina palet warna.

Rajah 1. Jotun Colour Studio Kit yang dibangunkan

Penterjemahan dua penumpuan berlaku secara langsung dalam pembangunan kit. Reka Bentuk Industri digunakan untuk memilih dan menyusun warna, mempertimbangkan kebolehgunaan bahan fizikal serta memastikan persembahan visual mudah dirujuk. Pengurusan Perniagaan pula digunakan untuk memahami keperluan pengguna profesional, hubungan B2B, nilai jenama, bahan pemasaran dan potensi sokongan terhadap kesetiaan pelanggan. Dengan itu, kit bukan sekadar produk visual, tetapi penyelesaian yang menghubungkan pengalaman pengguna dengan strategi sokongan pelanggan. Nilai projek kepada organisasi terletak pada sifatnya yang praktikal dan berasaskan masalah sebenar, bukan pada skala inovasinya.

Pengalaman WBL sebagai ruang penterjemahan ilmu

Pengalaman harian di Colour Studio memperlihatkan bahawa reka bentuk dan perniagaan bertemu dalam setiap tugasan. Semasa membaca lukisan arkitek dan menyediakan cadangan warna, pelajar perlu memahami ruang, komposisi dan persepsi warna. Namun hasil kerja tersebut juga perlu menepati kehendak klien, spesifikasi produk, jadual projek dan proses dalaman. Pelajar mula memahami bahawa kreativiti dalam industri perlu disokong oleh ketepatan teknikal, pengetahuan produk dan keupayaan menjelaskan rasional kepada pihak berkepentingan.

Satu pembelajaran yang kukuh datang daripada komunikasi dan dokumentasi profesional. Pelajar mendapati bahawa arahan kerja, permintaan bahan dan keputusan perlu mempunyai rekod yang jelas melalui e-mel, borang atau dokumen sokongan. Pengalaman mengurus *fan deck*, bahan pemasaran dan urusan dengan pembekal menunjukkan bahawa dokumentasi bukan kerja pentadbiran sampingan, tetapi sebahagian daripada akauntabiliti profesional. Rekod yang jelas membantu mengelakkan salah faham dan memberikan asas untuk membuat susulan atau mempertahankan keputusan kerja.

Pelajar juga diberi peluang berinteraksi dalam ruang B2B yang sebenar. Antara pengalaman penting ialah menerangkan produk Jotun kepada arkitek semasa acara industri. Kepercayaan ini mengubah kedudukan pelajar daripada pemerhati kepada individu yang mewakili organisasi dalam komunikasi produk. Untuk melaksanakan peranan tersebut, pelajar perlu menggunakan bahasa yang sesuai dengan audiens profesional, memahami keperluan mereka dan menghubungkan ciri produk dengan konteks projek. Pengalaman ini memperkukuh keyakinan serta kefahaman bahawa pengetahuan teknikal hanya memberi nilai apabila dapat dikomunikasikan dengan jelas.

Selepas beberapa bulan, pelajar turut diberi tanggungjawab mengurus projek warna, berurusan dengan arkitek dan klien serta menyelaras pembangunan Jotun *Colour Studio Kit*. Tanggungjawab ini menuntut pengurusan masa, penyusunan keutamaan dan koordinasi dengan ahli pasukan. Dalam satu situasi, permintaan menyediakan bahan acara dalam masa yang singkat memerlukan pelajar berhubung dengan pasukan pembelian, pembekal dan pengurus secara serentak. Peristiwa tersebut memperlihatkan realiti kerja yang tidak sentiasa *linear,* pelan boleh berubah, arahan datang daripada beberapa pihak dan penyelesaian perlu dibuat dalam kekangan masa.

Refleksi bersama pensyarah dan pembentukan identiti profesional

Apabila pengalaman tersebut direfleksikan bersama pensyarah, pembelajaran yang pada awalnya kelihatan sebagai siri tugasan harian dapat dilihat sebagai proses pembentukan kompetensi dan identiti profesional. Pelajar menyedari bahawa kemampuan membaca lukisan, menyediakan visual atau memilih warna sahaja belum mencukupi. Keupayaan sebenar ialah menggabungkan kemahiran reka bentuk dengan komunikasi, pengurusan risiko, dokumentasi, pertimbangan pelanggan dan

kefahaman tentang bagaimana organisasi membuat keputusan.

Refleksi juga membantu pelajar menilai semula kefahaman terhadap dua bidang penumpuan. Reka Bentuk Industri tidak lagi dilihat hanya sebagai penghasilan visual atau objek, tetapi sebagai proses menyelesaikan masalah pengguna melalui warna, ruang, bahan dan alat sokongan yang boleh digunakan. Pengurusan Perniagaan pula tidak lagi terbatas kepada teori pengurusan, tetapi hadir dalam bentuk hubungan B2B, koordinasi pasukan, pengurusan pelanggan, pembelian, pemasaran dan penjagaan nilai jenama. Kedua-dua bidang bertemu dalam projek capstone apabila keputusan reka bentuk perlu mempunyai justifikasi pengguna dan perniagaan. Perubahan paling ketara ialah peralihan cara pelajar melihat dirinya di tempat kerja. Pada peringkat awal, pelajar banyak bergantung pada arahan untuk memahami istilah produk, budaya kerja dan standard hasil. Apabila tanggungjawab bertambah, pelajar mula mengurus tugasan sendiri, berkomunikasi dengan profesional luar dan membuat keputusan yang perlu dipertanggungjawabkan. Proses ini selari dengan pembentukan identiti profesional, apabila individu mula memahami nilai, bahasa, *standard* dan peranan komuniti kerja yang disertainya (Trede et al., 2012). Dalam konteks ini, keyakinan tidak muncul kerana semua tugas berjalan lancar, tetapi kerana pelajar belajar menghadapi tekanan, menerima maklum balas, membetulkan kesilapan dan tetap menyiapkan kerja.

Refleksi bersama pensyarah turut menegaskan bahawa sumbangan pelajar WBL kepada industri tidak semestinya berbentuk inovasi teknologi berskala besar. Jotun *Colour Studio Kit* memperlihatkan satu bentuk inovasi yang lebih kontekstual, masalah yang kecil tetapi nyata dikenal pasti melalui kerja harian, disokong oleh data pengguna dan diterjemahkan kepada alat yang boleh digunakan oleh organisasi. Di sinilah capstone menjadi penting, kerana ia memaksa pelajar menghubungkan pengalaman kerja dengan teori dan menghasilkan sesuatu yang boleh dinilai dari sudut kegunaan.

Implikasi terhadap reka bentuk WBL dan projek *capstone*

Pengalaman ini mencadangkan bahawa reka bentuk WBL yang bermakna perlu memberi ruang kepada pelajar bergerak secara berperingkat daripada tugasan sokongan kepada tanggungjawab yang lebih autentik. Dalam kes ini, kepercayaan untuk berurusan dengan arkitek dan klien serta menyelaras Colour Studio Kit memberi peluang kepada pelajar melihat akibat sebenar keputusan kerja. Tanggungjawab sedemikian menjadikan pengetahuan bidang penumpuan lebih mudah dipersoal, diuji dan disesuaikan berbanding jika pelajar hanya memerhati proses organisasi.

Projek capstone juga lebih bermakna apabila bermula daripada masalah yang benar-benar ditemui semasa bekerja. Jotun *Colour Studio Kit* tidak bermula sebagai idea akademik yang dibawa masuk ke industri, tetapi daripada pemerhatian terhadap keperluan *Interior Designer* dan kekangan pemilihan warna. Hubungan ini menjadikan projek lebih relevan kepada organisasi dan membantu pelajar memahami bahawa nilai sesuatu inovasi bergantung pada kesesuaian konteks, kebolehgunaan dan penerimaan pihak berkepentingan, bukan semata-mata pada kerumitan produk.

Akhirnya, refleksi bersama pensyarah berfungsi sebagai jambatan antara pengalaman kerja dengan pembelajaran akademik. Perbincangan terhadap peristiwa sebenar membantu pelajar mengenal pasti pengetahuan yang tersirat di sebalik tindakan harian, misalnya mengapa dokumentasi penting, bagaimana komunikasi silang berfungsi mempengaruhi hasil kerja, dan bagaimana pertimbangan pelanggan perlu diseimbangkan dengan ketepatan reka bentuk. Dengan cara ini, WBL bukan sekadar pengalaman bekerja selama setahun, tetapi proses membina keupayaan untuk menilai tindakan sendiri dan membawa pembelajaran tersebut ke situasi profesional seterusnya.

KESIMPULAN

Pengalaman WBL di Jotun menunjukkan bagaimana dua penumpuan SmSn Citra dapat diterjemahkan secara integratif melalui masalah industri sebenar. Reka Bentuk Industri menyediakan asas untuk memahami warna, ruang, visual dan kebolehgunaan bahan

sokongan, manakala Pengurusan Perniagaan membantu pelajar memahami pengguna profesional, hubungan B2B, proses organisasi dan nilai jenama. Jotun Colour Studio Kit menjadi hasil nyata daripada pertemuan kedua-dua bidang tersebut dan menunjukkan bagaimana projek capstone boleh memberi nilai tambah melalui penyelesaian yang praktikal serta dekat dengan keperluan kerja.

Pada masa yang sama, pengalaman sebenar dan refleksi bersama pensyarah menunjukkan bahawa hasil paling penting WBL tidak terhad kepada produk akhir. Pelajar membina komunikasi profesional, ketelitian dokumentasi, keupayaan mengurus tekanan dan konflik arahan, serta keberanian mengambil tanggungjawab. Perubahan daripada pelajar yang melaksanakan arahan kepada penyumbang yang boleh menjelaskan rasional kerja menandakan perkembangan identiti profesional awal.

Walau bagaimanapun, soal selidik 71 *Interior Designer* hanya memberikan gambaran awal tentang keperluan pengguna. Projek belum dinilai secara mendalam tentang pengalaman menggunakan kit yang telah dibangunkan. Penilaian susulan boleh melibatkan sesi penggunaan atau temu bual bersama *Interior Designer*, arkitek dan pasukan Jotun bagi menilai kebolehgunaan, kandungan warna serta kesesuaian integrasi bahan fizikal dan digital. Penambahbaikan tersebut boleh mengukuhkan Colour Studio Kit sebagai alat sokongan profesional yang benar-benar berpandukan pengalaman pengguna.

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Developing an Edu-Traffic Living Lab for Experiential Road Safety Education: Insights from Primary School Teachers

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ABSTRACT

Road safety education is essential for developing children's knowledge and safe behaviours as road users. However, existing instructional approaches in primary schools remain predominantly classroom-based, providing limited opportunities for pupils to apply road safety concepts in authentic contexts. This study aimed to develop a teacher informed conceptual model for an Edu-Traffic Living Lab by exploring primary school teachers' perspectives on current road safety education practices, educational needs, and the essential components of an experiential learning environment. A qualitative exploratory design was employed using semi-structured interviews with four purposively selected primary school teachers. The interview data were analysed using reflexive thematic analysis, complemented by a review of relevant literature and policy documents. Four themes emerged: I.) limitations of current road safety education, II.) the need for experiential learning, II.) essential design components of an Edu-Traffic Living Lab, and IV.) sustainable university-school collaboration. The findings indicate that teachers strongly support an interactive, simulation-based learning environment integrating authentic traffic scenarios, STEM-orientated activities, and digital learning innovations to enhance pupils' engagement and behavioural competence. The study proposes a teacher-informed conceptual model that positions the Edu-Traffic Living Lab as a collaborative educational ecosystem rather than merely a physical learning facility. This model provides practical guidance for developing sustainable road safety education and supports future educational initiatives aligned with Sustainable Development Goals 4 and 11.

Keywords: Road Safety Education, Edu-Traffic Living Lab, Experiential Learning, Primary School Teachers, University-School Collaboration.

INTRODUCTION

Road traffic injuries remain one of the most pressing global public health concerns, particularly among children and young people. According to the World Health Organization (WHO, 2023), approximately 1.19 million people die annually as a result of road traffic crashes, while millions more suffer non-fatal injuries that often lead to long-term physical, psychological, and socioeconomic consequences. Despite continuous efforts to improve road safety Worldwide, road traffic injuries remain the leading cause of death among children and young

adults aged between 5 and 29 years (WHO, 2023). These alarming statistics highlight the need for comprehensive road safety initiatives that extend beyond legislation and infrastructure development to include effective educational interventions from an early age.

Road Safety Education (RSE) has long been recognised as an important preventive strategy for cultivating children's awareness, knowledge, attitudes, and safe behaviours as road users. Consequently, many countries have incorporated road safety education into school curricula to familiarise pupils with traffic rules, pedestrian safety, hazard recognition, and responsible road use. However, current road safety education in many primary schools continues to rely predominantly on teacher-centred instruction, printed learning materials, and awareness campaigns, providing limited opportunities for children to apply their knowledge in authentic traffic situations. Since safe road behaviour requires practical judgement and decision-making rather than factual knowledge alone, conventional instructional approaches may not sufficiently prepare children for real-world traffic environments (International Transport Forum [ITF], 2022).

Recent evidence further suggests that interactive and experiential learning approaches are more effective in promoting children's road safety competencies than conventional classroom instruction. In their systematic literature review, Shahril and Sidek (2023) reported that simulation-based, learner-centred, and interactive learning activities significantly enhance children's engagement and understanding of road safety concepts. Likewise, Kourmousi et al. (2024) demonstrated that interactive road safety programmes implemented in primary schools improved pupils' road safety knowledge, participation, and learning motivation. These findings reinforce the growing consensus that experiential learning provides meaningful opportunities for children to develop behavioural competencies through authentic learning experiences rather than passive knowledge acquisition.

Experiential learning as proposed by Kolb (1984), emphasises that learning occurs through a continuous cycle comprising concrete experience, reflective observation, abstract conceptualisation, and active experimentation. This pedagogical approach enables learners to construct knowledge by engaging directly with realistic situations, reflecting upon their experiences, and applying newly acquired understanding to future contexts. Such an approach is particularly relevant to road safety education, where behavioural competence, situational awareness, and decision-making skills are developed more effectively through authentic practice than through theoretical instruction alone.

Complementing experiential learning, the Living Lab concept provides an innovative educational framework that integrates authentic learning environments with stakeholder collaboration and user-centred innovation. Living Labs encourage the co-creation of knowledge through partnerships among educational institutions, communities, public agencies, and end users, thereby facilitating learning in real-life contexts rather than isolated classroom settings (Leminen et al., 2012). Within the context of primary education, an Edu-Traffic Living Lab offers opportunities to simulate realistic traffic environments where children can actively practise road safety skills while universities collaborate with schools and communities to develop sustainable educational innovations.

Although previous studies have demonstrated the effectiveness of various road safety interventions, most have focused on evaluating individual programmes, digital applications, or simulation activities (Kourmousi et al., 2024; Shahril & Sidek, 2023). Comparatively little attention has been devoted to developing a comprehensive conceptual model that integrates experiential learning, Living Lab principles, and university–school collaboration into a sustainable framework for road safety education. Furthermore, the perspectives of primary school teachers remain underexplored, despite their central role in implementing road safety education and understanding children's learning needs. Their

professional insights are essential for ensuring that future educational innovations are pedagogically meaningful, practically feasible, and responsive to classroom realities.

Therefore, this study aims to develop a conceptual Edu-Traffic Living Lab for experiential road safety education by exploring primary school teachers' perspectives on current practices, educational needs, and the essential components of an effective learning environment. By integrating teachers' insights with established theories of experiential learning and Living Lab innovation, the study proposes a sustainable educational model that strengthens collaboration between universities and primary schools while contributing to the advancement of innovative, child-centred road safety education.

RESULTS AND DISCUSSION

The qualitative data generated from semi-structured interviews with four primary school teachers were analysed using reflexive thematic analysis. Four interrelated themes emerged from the analysis: I.) limitations of current road safety education practices, II) the need for authentic experiential learning, III) co-designing the Edu-Traffic Living Lab, and IV) sustainable university–school collaboration. Together, these themes informed the development of a teacher-informed conceptual model for the proposed Edu-Traffic Living Lab.

1. Current Limitations of Road Safety Education

All participants acknowledged that road safety education is an important component of primary education. However, they consistently described current instructional practices as predominantly classroom-based and theoretical, with limited opportunities for pupils to transfer knowledge into authentic situations. Although schools introduce traffic rules, pedestrian safety, and road signage through existing learning modules, pupils rarely experience realistic traffic environments where they can practise these skills safely. One teacher explained:

"Our pupils already learn about road safety in class, but they rarely have the opportunity to practise it in a realistic environment." (T1)

The participants agreed that this limitation reduces children's ability to translate conceptual understanding into safe road behaviour. This finding supports previous studies indicating that conventional road safety education frequently emphasises cognitive knowledge while providing insufficient opportunities for behavioural application (International Transport Forum [ITF], 2022; Shahril & Sidek, 2023). Likewise, Kourmousi et al. (2024) demonstrated that interactive learning environments significantly improve children's participation and understanding compared with traditional classroom instruction. These findings reinforce the argument that effective road safety education should integrate practical learning experiences that encourage children to actively apply their knowledge within authentic contexts.

2. The Need for Authentic Experiential Learning

The second theme highlighted teachers' strong preference for experiential learning as an effective pedagogical approach for developing road safety competence. Participants believed that children learn most effectively when they actively participate in realistic situations rather than passively receiving information. One teacher commented:

"Learning would be much more enjoyable if we could move outside the classroom. Students could experience how traffic lights function, how to cross the road safely, and how to interpret road signs." (T2)

This finding strongly reflects Kolb's (1984) Experiential Learning Theory, which emphasises learning through concrete experience, reflection, conceptualisation, and experimentation. Rather than memorising traffic regulations, children construct meaningful understanding by engaging directly with realistic situations. Recent systematic reviews similarly conclude that experiential learning improves learners'

engagement, motivation, and long-term retention because knowledge is acquired through active participation rather than passive instruction (Susiloningsih et al., 2023). Within the context of road safety education, experiential learning therefore provides opportunities for pupils to develop practical judgement, hazard recognition, and safe behavioural responses before encountering real traffic environments.

3. Co-designing the Edu-Traffic Living Lab

Perhaps the most significant finding of this study was teachers' vision of the Edu-Traffic Living Lab as an authentic learning ecosystem rather than simply a school landscape. Participants proposed that the facility should incorporate realistic road infrastructure, including miniature roads, pedestrian crossings, traffic lights, roundabouts, road signage, cycling lanes, and simulation activities. More importantly, they emphasised that the environment should integrate interactive learning technologies, problem-solving activities, and STEM-orientated educational elements. As one participant explained:

"It would be great if we did not only develop a typical school landscape but also created a space where students could simulate real traffic situations and experience traffic courses themselves." (T3)

Another teacher further suggested:
"We already have road safety modules, but innovations from universities, such as interactive Quizizz activities during simulations and STEM elements incorporated into the facilities, would benefit students significantly. Teachers would also be excited to use such a learning environment." (T4)

Unlike previous studies that primarily evaluated the effectiveness of individual interventions (Ismail et al., 2023; Kourmousi et al., 2024), participants in this study envisioned a holistic learning ecosystem that integrates physical infrastructure, experiential pedagogy, digital technologies, and interdisciplinary learning. This finding extends the Living Lab concept proposed by Leminen et al. (2012), where innovation emerges through collaboration between end users and institutional stakeholders. In this study, teachers acted not merely as programme implementers but as co-designers whose professional experiences informed the development of the proposed educational model.

4. Sustainable University–School Collaboration

The final theme emphasised the importance of sustained collaboration between universities and primary schools. Rather than expecting schools to independently develop specialised facilities, participants viewed universities as strategic partners capable of contributing research expertise, innovative teaching approaches, student facilitators, and continuous programme evaluation. Such collaboration was perceived as essential for ensuring the long-term sustainability of the proposed Edu-Traffic Living Lab.

These findings align with community-engaged learning, which positions universities as active contributors to addressing societal challenges through collaborative knowledge creation (Bringle et al., 2020). The Living Lab framework similarly advocates partnerships among educational institutions, communities, public agencies, and users to co-create innovative solutions (Leminen et al., 2012). Consequently, the proposed Edu-Traffic Living Lab extends beyond a physical simulation facility by functioning as a collaborative educational platform that supports continuous innovation, community engagement, and experiential learning.

Overall, the findings suggest that the contribution of this study lies not in proposing another road safety programme, but in developing a teacher-informed conceptual model of an Edu-Traffic Living Lab. The model integrates experiential learning principles, authentic traffic simulation, STEM-orientated educational innovation, and university–school collaboration into a sustainable educational ecosystem. By positioning teachers as co-designers rather than passive recipients of innovation, the proposed model offers a practical

and theoretically grounded framework for transforming road safety education into an engaging, authentic, and future-orientated learning experience for primary school children.

CONCLUSION

This study developed a teacher-informed conceptual model for an Edu-Traffic Living Lab by exploring primary school teachers' perspectives on experiential road safety education. The findings indicate that current road safety instruction remains predominantly classroom-based, limiting pupils' opportunities to apply knowledge in authentic traffic situations. Teachers consistently highlighted the need for interactive, simulation-based learning environments that promote active participation, practical experience, and meaningful engagement. Respondents also emphasised the importance of integrating innovative teaching approaches, STEM elements, and university–school collaboration to strengthen the effectiveness and sustainability of road safety education.

The proposed Edu-Traffic Living Lab extends beyond a physical learning facility by functioning as a collaborative educational ecosystem that integrates experiential learning, authentic traffic simulation, and stakeholder partnership. As a teacher-informed conceptual model, it provides a practical framework for designing future-ready road safety education while supporting the aspirations of Sustainable Development Goal (SDG) 4: Quality Education through learner-centred and experiential pedagogies and SDG 11: Sustainable Cities and Communities by promoting safer road use among future generations.

Although the study involved a limited number of primary school teachers and the model has yet to be implemented, it establishes a strong foundation for future research. Subsequent studies should validate the proposed model with broader stakeholder groups and evaluate its effectiveness in improving children's road safety knowledge, behavioural competence, and long-term safety practices.

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Penterjemahan Pendidikan Khas Dan Pengurusan Perniagaan Melalui Pembangunan Prototaip Animasi Bahasa Isyarat Malaysia Di Durioo Sdn. Bhd.

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ABSTRAK

Pembelajaran Berasaskan Kerja (*Work-Based Learning*, WBL) dan projek *capstone* dalam Program Sarjana Muda Sains Citra (SmSn Citra) menyediakan ruang untuk pelajar mengintegrasikan bidang penumpuan interdisiplin dengan masalah autentik industri. Kertas ini menghuraikan satu kajian kes pelajar dengan penumpuan Pengurusan Perniagaan dan Pendidikan Khas yang menjalani WBL di Durioo, sebuah syarikat pemula kandungan animasi kanak-kanak. Pelajar mengenal pasti keterbatasan akses kandungan bagi kanak-kanak pekak lalu membangunkan prototaip animasi dengan penterjemah Bahasa Isyarat Malaysia (BIM) menggunakan teknik *picture-in-picture*. Kajian kes deskriptif ini berasaskan dokumentasi proses pembangunan, artefak prototaip, soal selidik dari 100 orang responden dan refleksi pelajar. Dapatan deskriptif menunjukkan penerimaan awal yang tinggi terhadap kejelasan visual, kualiti integrasi dan kegunaan prototaip, manakala niat melanggan memberikan petunjuk awal potensi pasaran. Pendidikan Khas diterjemahkan melalui prinsip akses, komunikasi visual dan pengurangan halangan media, sementara Pengurusan Perniagaan diterapkan melalui orientasi pelanggan, proposisi nilai, segmentasi dan pengujian penerimaan. Projek ini menunjukkan bahawa projek *capstone* WBL boleh menghasilkan *output* nyata yang menambah nilai industri sambil membina kompetensi dan identiti profesional pelajar.

Kata Kunci: *work-based learning* (WBL), projek *capstone*, pendidikan khas, Bahasa Isyarat Malaysia, inovasi inklusif

PENGENALAN

Struktur program SmSn Citra mewajibkan pelajar menjalani *Work-Based Learning* (WBL) selama 12 bulan dan menghasilkan projek *capstone* yang menghubungkan pembelajaran universiti dengan amalan organisasi. Nilai pendidikan WBL tidak terhasil hanya melalui kehadiran di tempat kerja, tetapi melalui penyusunan pengalaman yang membolehkan pelajar memerhati, mengambil bahagian, menguji pengetahuan dan membuat refleksi terhadap tindakan profesional. Pembelajaran di tempat kerja juga bersifat kontekstual, dan terikat kepada amalan sebenar serta pengalaman praktikal dan penciptaan pengetahuan baharu (Tynjälä, 2008).

Kertas ini membincangkan pengalaman seorang pelajar SmSn Citra yang mengambil penumpuan Pendidikan Khas dan Pengurusan Perniagaan dan menjalani WBL di Durioo. Durioo adalah sebuah syarikat pemula yang menghasilkan kandungan digital dan animasi kanak-kanak untuk menyampaikan mesej pendidikan, dakwah dan moral. Konteks syarikat pemula penting kepada pengalaman WBL kerana struktur yang lebih kecil lazimnya memberikan pelajar pendedahan kepada pelbagai fungsi, proses keputusan yang pantas dan keperluan menghasilkan *output* dengan sumber yang terhad. Ini memerlukan pelajar menyesuaikan cadangan akademik dengan

identiti jenama, aliran produksi, keutamaan pengguna dan kebolehlaksanaan operasi.

Pemerhatian pelajar mendapati platform Durioo+ belum menyediakan ciri visual BIM yang membolehkan kanak-kanak pekak mengikuti jalan cerita dan mesej moral secara langsung. Pendidikan kanak-kanak pekak perlu mengambil kira perbezaan bahasa, akses visual dan cara pemprosesan maklumat yang tidak semestinya sama dengan murid pendengaran (Marschark & Knoors, 2012). Penyelidikan teknologi multimedia turut menunjukkan bahawa lapisan video bahasa isyarat boleh digunakan untuk memperluas akses kandungan, walaupun kualiti terjemahan, saiz paparan, penyegerakan dan penilaian bersama pengguna pekak perlu diberi perhatian (Araújo et al., 2014). Oleh itu, masalah industri ini memberi ruang yang sesuai untuk mengintegrasikan Pendidikan Khas dan Pengurusan Perniagaan menjadi satu projek *capstone*.

HASIL DAN PERBINCANGAN

Penterjemahan penumpuan pendidikan khas kepada reka bentuk media inklusif

Penumpuan Pendidikan Khas membekalkan lensa untuk melihat ketiadaan BIM bukan sebagai kekurangan pada kanak-kanak pekak, tetapi sebagai halangan yang wujud pada reka bentuk media. Oleh itu, pelajar mencadangkan penyesuaian kandungan agar lebih mudah diakses untuk pengguna pekak (Rajah 2). Untuk tujuan tersebut, pelajar memilih episod siri animasi Mina Mila yang merupakan salah satu siri animasi yang mengandungi mesej moral yang berimpak (Rajah 1).

Rajah 1 : Logo Mina Mila

Rajah 2: Thumbnail Mina Mila bahasa isyarat

Selepas pemilihan Mina Mila, pelajar berbincang dengan penterjemah BIM, merakam penterjemahan BIM menggunakan skrin hijau dan menggabungkan rakaman ke sudut video asal melalui teknik *picture-in-picture* (PIP) (Rajah 4). Keputusan tentang saiz kotak PIP, kedudukan penterjemah, kejelasan tangan, ekspresi muka dan gangguan terhadap visual utama merupakan terjemahan praktikal kepada prinsip akses visual. Integrasi BIM juga menunjukkan bahawa keterangkuman perlu dirancang sejak awal produksi, bukan ditambah sebagai elemen kosmetik selepas kandungan siap (Rajah 3).

Penglibatan penterjemah manusia membantu menjaga ketepatan bahasa dan ekspresi, namun pembangunan seterusnya perlu melibatkan komuniti pekak dan pakar BIM secara lebih sistematik. Ini penting kerana bahasa isyarat ialah bahasa semula jadi dengan struktur tersendiri, dan keberkesanan paparan tidak boleh dinilai hanya oleh pengguna pendengaran atau melalui kualiti teknikal video.

Rajah 3: Proses edit bagi memasukkan rakaman penterjemahan BIM

Rajah 4: Hasil akhir setelah memasukkan penterjemah BIM secara *picture-in-picture*

Penterjemahan Pengurusan Perniagaan kepada proposisi nilai industri

Penumpuan Pengurusan Perniagaan diterjemahkan melalui proses mengenal pasti keperluan pengguna yang belum dipenuhi, membentuk segmen sasaran dan menguji penerimaan terhadap ciri produk baharu. Orientasi pasaran menekankan pemahaman tentang pelanggan dan penciptaan nilai yang relevan kepada mereka (Narver & Slater, 1990). Dalam projek ini, kanak-kanak pekak, ibu bapa dan guru tidak dilihat hanya sebagai penerima manfaat sosial, tetapi sebagai pihak berkepentingan yang mempunyai keperluan penggunaan, kriteria kualiti dan pengaruh terhadap keputusan melanggan.

Dalam konteks syarikat pemula, prototaip memberikan mekanisme kos lebih rendah untuk menguji idea sebelum pelaburan produksi secara meluas. Nilai industri projek bukan hanya terletak pada satu video siap, tetapi merangkumi bukti konsep, aliran kerja produksi, kriteria visual, maklum balas pengguna serta petunjuk awal tentang segmen pasaran Pendidikan Khas. Pendekatan ini menghubungkan inklusiviti dengan strategi perniagaan secara berhati-hati: akses untuk komuniti yang kurang terwakili boleh menjadi sumber inovasi dan pembezaan, dan bukanlah semata-mata kepada peluang komersial.

Jadual 1. Penterjemahan teori kepada projek dan nilai industri

Lensa penumpuan	Penterjemahan dalam projek *capstone* dan nilai kepada Durioo
Pendidikan Khas	Mengenal pasti halangan akses; menggunakan BIM sebagai medium visual; menilai saiz, kejelasan dan kebolehgunaan PIP. Nilai industri: kandungan lebih inklusif dan panduan reka bentuk awal.
Pengurusan Perniagaan	Mengenal pasti segmen pengguna; membentuk proposisi nilai; menguji penerimaan dan niat melanggan. Nilai industri: bukti konsep dan maklumat awal untuk keputusan produk.
Integrasi interdisiplin	Menyelaraskan ketepatan BIM, penceritaan, identiti jenama dan kebolehlaksanaan produksi. Nilai industri: inovasi yang menggabungkan impak sosial dengan pertimbangan pasaran.
WBL dan capstone	Mengubah masalah autentik kepada prototaip yang boleh dinilai oleh industri. Nilai industri: sumbangan pelajar melangkaui tugasan rutin penempatan.

Penerimaan awal dan sumbangan kepada industri

Bagi menilai penerimaan awal prototaip animasi Mina Mila yang diintegrasikan dengan penterjemah BIM secara *Picture-in-Picture* (PIP), soal selidik telah diedarkan kepada 100 orang responden yang merangkumi 20 murid OKU pendengaran berumur 12 hingga 20 tahun (dengan bimbingan ibu bapa atau guru bagi murid di bawah 12 tahun), 37 ibu bapa, dan 43 guru Pendidikan Khas. Instrumen ini difokuskan kepada tiga domain utama mengikut kelompok sampel: penilaian keseronokan dan kefahaman visual BIM dalam kalangan murid, tahap penerimaan serta niat melanggan (*subscription intention*) platform Durioo+ oleh ibu bapa, serta penilaian guru terhadap keberkesanan pedagogi dan profesionalisme prototaip ini sebagai bahan bantu mengajar digital. Penilaian berstruktur ini bertujuan mengukur sejauh mana aplikasi PIP-BIM berasaskan perisian *CapCut* ini berupaya memenuhi kriteria *Universal Design for Learning* (UDL) serta potensi nilai komersialnya di pasaran.

Soal selidik dirangka merangkumi tiga domain utama: (1) keseronokan dan kefahaman visual

murid - menilai kebolehfahaman jalan cerita menerusi bahasa isyarat serta keberkesanannya membantu penguasaan nilai Islam dan adab; (2) penerimaan dan niat melanggan dalam kalangan ibu bapa - mengukur kemudahan pengajaran nilai moral di rumah serta sejauh mana ciri BIM menjadi faktor utama dorongan langganan platform Durioo+; dan (3) keberkesanan pedagogi dan profesionalisme guru - melibatkan penilaian pematuhan teknik *Picture-in-Picture* (PIP) terhadap standard visual murid pekak serta keupayaan integrasi BIM dalam meningkatkan daya tumpuan (*attention span*) murid.

Hasil soal selidik dianalisis secara deskriptif. Sebanyak 99% responden bersetuju bahawa saiz kotak PIP sesuai dan pergerakan tangan penterjemah jelas. Sebanyak 95% melaporkan kepuasan terhadap kualiti integrasi BIM dan 95% bersetuju bahawa prototaip memudahkan penyampaian nilai moral kepada kanak-kanak di rumah. Di samping itu, 94% menyatakan niat yang tinggi untuk melanggan platform sekiranya ciri BIM disediakan secara rasmi. Dapatan ini menunjukkan kesesuaian awal ciri yang dicadangkan dan memberi organisasi maklumat pengguna yang boleh menyokong keputusan untuk kajian rintis seterusnya.

Walau bagaimanapun, peratusan tersebut perlu ditafsirkan sebagai persepsi terhadap prototaip, bukannya bukti bahawa BIM telah menyebabkan peningkatan kefahaman atau bahawa permintaan komersial sebenar telah terbentuk. Soal selidik menggabungkan tiga kumpulan responden yang berbeza, kajian dihadkan kepada episod tertentu dan tiada perbandingan dengan versi tanpa BIM, sari kata atau reka bentuk alternatif. Niat melanggan juga tidak sama dengan tingkah laku pembelian. Oleh itu, sumbangan yang boleh dipertahankan pada tahap ini ialah penghasilan inovasi boleh guna, pengesahan penerimaan awal dan pembentukan asas bukti untuk pembangunan produk.

Refleksi pembelajaran teori dan pembangunan diri

WBL membuatkan pelajar menyedari bahawa teori menjadi berguna hanya apabila diterjemahkan melalui pertimbangan konteks. Pengetahuan pendidikan khas perlu disesuaikan dengan bahasa media, jadual produksi dan pengalaman pengguna. Konsep perniagaan pula perlu diseimbangkan dengan etika keterangkuman serta kepentingan komuniti pekak. Refleksi pelajar mengenai penterjemahan teori kepada amali dalam penghasilan prototaip menyatakan:

> "Secara akademik, saya menjangkakan prinsip aksesibiliti *Universal Design for Learning* (UDL) mudah diintegrasikan melalui reka bentuk PIP-BIM. Bagaimanapun, realiti produksi di Durioo+ menuntut pertimbangan komersial yang ketat agar visual tidak mengganggu estetika animasi asal. Bagi menangani cabaran ini, saya menyelaraskan keputusan projek dengan mengoptimumkan saiz kotak isyarat menggunakan perisian CapCut demi menjaga orientasi pelanggan dan nilai pasaran."

Proses menilai pengalaman membantu pelajar membina identiti pra-profesional, termasuk kefahaman tentang kemahiran, nilai, standard dan kedudukan diri dalam dunia kerja (Jackson, 2017). Refleksi pelajar berkaitan pembangunan diri dan kesiapsiagaan kerjaya menyatakan:

> "Melalui projek WBL ini, keyakinan diri saya berkembang pesat terutamanya dalam menguasai kemahiran teknikal penyuntingan video bagi menyelaraskan pergerakan bahasa isyarat dengan audio animasi secara tepat. Proses ini menjadi platform pembelajaran serampang dua mata yang membolehkan saya mempelajari asas Bahasa Isyarat Malaysia (BIM) secara praktikal sambil mengedit. Pengalaman menyelesaikan masalah teknikal dan komunikasi aktif bersama penterjemah serta penyelia industri ini terbukti membina sensitiviti etika, pengurusan masa, serta kesiapsiagaan saya sebagai pekerja masa hadapan yang inklusif dan berdaya saing."

Analisis refleksi pelajar memperlihatkan dua lapisan pembangunan. Pertama, pelajar membina keupayaan untuk memilih, menyesuaikan dan mempertahankan penggunaan teori dalam keputusan produk. Kedua, pelajar membina kompetensi profesional melalui rundingan, pengurusan maklum balas, koordinasi pihak

berkepentingan dan tanggungjawab terhadap *output* yang akan dikaitkan dengan organisasi. Dalam konteks syarikat pemula, pengalaman ini berpotensi mempercepat pembelajaran kerana pelajar dapat melihat hubungan langsung antara idea, produksi, respons pengguna dan implikasi perniagaan.

KESIMPULAN

Kajian ini menunjukkan bagaimana WBL dan projek *capstone* dalam SmSn Citra dapat menukarkan gabungan penumpuan Pendidikan Khas dan Pengurusan Perniagaan kepada sumbangan yang nyata kepada industri. Melalui prototaip animasi PIP berasaskan BIM, pelajar mengurangkan satu halangan akses kandungan, menguji penerimaan pengguna dan menyediakan bukti konsep yang boleh dipertimbangkan oleh Durioo. Kekuatan projek terletak pada integrasi matlamat inklusiviti dengan pertimbangan nilai pengguna dan kebolehlaksanaan produk, bukan pada dakwaan bahawa prototaip telah membuktikan keberkesanan pembelajaran atau kejayaan pasaran. Langkah seterusnya perlu melibatkan reka bentuk bersama komuniti pekak dan pakar BIM, penilaian kefahaman sebelum dan selepas tontonan, perbandingan dengan sari kata atau konfigurasi PIP lain, pengujian pada pelbagai peranti serta analisis kos produksi. Kajian rintis pada platform sebenar juga diperlukan untuk menilai penggunaan, pengekalan penonton dan tingkah laku langganan.

Kesimpulannya, projek *capstone* pelajar WBL berpotensi memberikan nilai tambah yang signifikan kepada pihak Durioo dengan meluaskan jangkauan pasaran kepada komuniti pekak. Lebih utama lagi, integrasi perkhidmatan BIM menerusi teknik PIP dalam siri animasi Mina Mila berjaya membuka ruang aksesibiliti saksama, sekali gus membolehkan kanak-kanak OKU pendengaran menghayati mesej moral dan nilai murni yang disampaikan secara inklusif.

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Integrasi Kecerdasan Buatan dan Gamifikasi dalam Pembelajaran Servis Misi Sukarelawan KEWASA 4.0: Pemerkasaan Literasi Digital Guru dan Komuniti Luar Bandar

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ABSTRAK

Transformasi pendidikan digital menuntut penguasaan teknologi yang lebih bermakna, khususnya dalam konteks guru dan komuniti luar bandar yang masih berhadapan jurang pendedahan kepada inovasi pedagogi. Artikel ini membincangkan pelaksanaan Misi Sukarelawan Kembara Anak Watan ke Sabah 4.0 (KEWASA 4.0) sebagai inisiatif pembelajaran servis bagi memperkasa literasi digital melalui integrasi Kecerdasan Buatan (AI) dan gamifikasi. Pelaksanaan menggunakan pendekatan pemindahan ilmu berasaskan ceramah dan bengkel dengan kerjasama Akademi Siber Teknopolis. Guru SK Madai, Kunak dan SMK Bugaya II, Semporna didedahkan kepada aplikasi AI, gamifikasi, penjanaan Rancangan Pengajaran Harian dan kuiz digital, manakala komuniti Kampung Lormalong mengikuti bengkel penghasilan poster digital serta penghantaran hasil melalui Telegram. Dapatan pelaksanaan menunjukkan peningkatan kesedaran terhadap inovasi pedagogi, keyakinan menggunakan aplikasi digital dan potensi kesinambungan program apabila Semporna Prihatin menyatakan minat untuk memperluas bengkel gamifikasi kepada guru setempat. Program ini menunjukkan potensi model sinergi akademiaindustri-komuniti dalam menyokong literasi digital, kemandirian komuniti dan pembangunan kompetensi mahasiswa sedia industri.

Kata Kunci: Kecerdasan Buatan, Gamifikasi, Pembelajaran Servis, Literasi Digital, Sinergi Komuniti.

PENGENALAN

Perkembangan Kecerdasan Buatan (AI) telah mengubah landskap pendidikan melalui kaedah pengajaran yang lebih interaktif, adaptif dan berpusatkan murid (Hwang et al., 2020). Namun, guru di kawasan luar bandar masih berhadapan jurang digital serta akses terhad kepada inovasi pedagogi. UNESCO (2023) menekankan kepentingan penguasaan AI secara beretika dan bermakna, manakala gamifikasi berpotensi mewujudkan pengalaman pembelajaran yang lebih interaktif dan bermotivasi.

Jurang digital memerlukan pendekatan yang menghubungkan institusi pendidikan, industri dan komuniti. Dalam pembelajaran servis, mahasiswa bertindak sebagai ejen perubahan sosial sambil mengembangkan kemahiran pengurusan projek, komunikasi dan penyelesaian masalah melalui pengalaman lapangan yang berasaskan keperluan komuniti (Jacoby, 2014). Pendekatan ini selari dengan Dasar Pendidikan Digital yang menekankan pengukuhan kompetensi digital pendidik serta penggunaan teknologi dalam ekosistem pendidikan (Kementerian Pendidikan Malaysia, 2023).

Berlandaskan keperluan tersebut, Program Kembara Anak Watan ke Sabah 4.0 (KEWASA 4.0) anjuran mahasiswa Universiti Kebangsaan Malaysia memobilisasi kepakaran digital ke kawasan luar bandar Sabah melalui sinergi akademia, industri dan komuniti. Bersama Akademi Siber Teknopolis, guru SK Madai, Kunak dan SMK Bugaya II,

Semporna diberikan pendedahan kepada penggunaan AI dan gamifikasi dalam pengajaran dan pembelajaran. Pemindahan ilmu turut diperluas kepada komuniti Kampung Lormalong, Kunak melalui bengkel reka bentuk poster digital. Artikel ini menghuraikan pelaksanaan dan impak program terhadap literasi digital guru dan komuniti, di samping meneliti nilai tambahnya terhadap pembangunan kompetensi mahasiswa sedia industri.

HASIL DAN PERBINCANGAN

Pelaksanaan bersama guru menunjukkan penerimaan yang positif terhadap integrasi AI dan gamifikasi. Pendedahan kepada penjanaan Rancangan Pengajaran Harian (RPH), bank soalan kuiz dan bahan bantu mengajar digital membantu guru melihat potensi AI dalam memudahkan persediaan pengajaran. Elemen gamifikasi pula memperkenalkan pendekatan kelas yang lebih interaktif, selari dengan prinsip yang menekankan motivasi serta penglibatan pengguna melalui elemen permainan (Deterding et al., 2011; Hamari et al., 2014). Dalam konteks ini, AI dan gamifikasi berfungsi sebagai alat sokongan pedagogi yang memperluas pilihan strategi pengajaran guru.

Bagi komuniti Kampung Lormalong, bengkel penghasilan poster digital memberi pengalaman praktikal menggunakan aplikasi reka bentuk dan komunikasi digital. Peserta menghasilkan bahan visual dan menghantar hasil melalui Telegram, sekali gus membiasakan mereka dengan proses penghasilan, perkongsian dan pengurusan maklumat secara digital. Aktiviti ini memperluas skop literasi digital daripada penggunaan peranti kepada penghasilan kandungan dan komunikasi dalam talian. Minat Semporna Prihatin untuk bekerjasama melaksanakan bengkel gamifikasi pada skala yang lebih luas turut menunjukkan potensi kesinambungan program daripada aktiviti sekali laksana kepada kerjasama komuniti yang berterusan.

Dari sudut pembangunan mahasiswa, program turut melibatkan pengurusan dana tunai operasi RM10,300 serta sumbangan barangan melebihi RM42,000. Pengurusan penajaan, kebajikan dan logistik memberi ruang kepada sekretariat mahasiswa mengaplikasikan komunikasi, koordinasi, tadbir urus kewangan dan pengurusan risiko. Pembelajaran servis sekali gus memindahkan ilmu kepada komuniti dan membentuk pengalaman autentik yang menghubungkan pengetahuan akademik dengan tuntutan kerja lapangan.

Secara keseluruhan, pelaksanaan KEWASA 4.0 menggambarkan fungsi saling melengkapi dalam model sinergi tiga hala: akademia membekalkan modal insan dan kerangka pembelajaran, rakan industri menyumbang kepakaran teknologi, manakala komuniti menyediakan konteks sebenar untuk aplikasi ilmu. Walaupun dapatan artikel ini berasaskan pengalaman pelaksanaan program dan bukannya pengukuran eksperimen, pemerhatian terhadap penglibatan peserta serta minat rakan strategik untuk meneruskan aktiviti menunjukkan potensi model ini sebagai pendekatan pemerkasaan literasi digital yang kontekstual dan boleh dikembangkan.

KESIMPULAN

KEWASA 4.0 menunjukkan bahawa pembelajaran servis boleh menjadi medium praktikal untuk mengintegrasikan AI dan gamifikasi dalam pemerkasaan literasi digital guru serta komuniti luar bandar. Pendedahan kepada alat AI, kuiz gamifikasi dan penghasilan kandungan digital membantu memperluas pengalaman teknologi peserta, manakala jaringan dengan industri dan NGO membuka ruang kepada kesinambungan pemindahan ilmu. Pada masa yang sama, pengurusan program memberi pengalaman autentik kepada mahasiswa dalam koordinasi, komunikasi dan tadbir urus projek komuniti. Model sinergi akademia-industri-komuniti ini berpotensi dijadikan rujukan bagi program pemerkasaan digital yang lebih tersusun. Kajian lanjutan disarankan menggunakan instrumen pra dan pasca program serta maklum balas peserta bagi menilai perubahan literasi digital dan keberkesanan intervensi secara lebih sistematik.

PENGHARGAAN

Para penulis merakamkan penghargaan kepada Kolej Tun Hussein Onn dan Pusat Pengajian CITRA Universiti, UKM; SK Madai; SMK Bugaya II; Akademi Siber Teknopolis; komuniti Kampung Lormalong; Semporna Prihatin; Persatuan Alumni Siswa Kunak; serta semua rakan penaja yang menyumbang dana, kepakaran dan material bagi menjayakan KEWASA 4.0.

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Sinergi Akademia dan Komuniti Melalui SULAM: Memugar Literasi Masa Hadapan dan Kesiagaan Global dalam Ekspedisi KEWASA 4.0 ke Sabah

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ABSTRAK

Dalam mendepani era Revolusi Industri 5.0 yang sarat dengan ketidaktentuan dunia VUCA (*Volatile, Uncertain, Complex, Ambiguous*) dan BANI (*Brittle, Anxious, Non-linear, Incomprehensible*), institusi pengajian tinggi memikul tanggungjawab besar untuk melahirkan modal insan yang rintang cabaran dan celik digital. Kajian ini membincangkan pelaksanaan program Misi Sukarelawan: Kembara Anak Watan ke Sabah 4.0 (KEWASA 4.0) anjuran Kolej Tun Hussein Onn, Universiti Kebangsaan Malaysia (UKM) sebagai sebuah model manifestasi Pembelajaran Khidmat kepada Masyarakat (SULAM). Program ini melibatkan kohort berstruktur seramai 23 orang mahasiswa yang mengaplikasikan ilmu akademik di lapangan pedalaman Kunak dan Semporna, Sabah. Objektif kajian adalah untuk menilai keberkesanan pemindahan ilmu digital melalui bengkel STEM dan *Digital Library*, serta menganalisis impak ekspedisi terhadap pembangunan kompetensi insaniah, empati, dan kesiagaan global mahasiswa dalam mendokong Matlamat Pembangunan Mampan (SDG). Hasil kajian menunjukkan peningkatan signifikan terhadap literasi digital komuniti luar bandar dan pemantapan keupayaan pengurusan krisis serta kecerdasan emosi (EQ) mahasiswa. Kesimpulannya, sinergi akademia-komuniti menerusi pendekatan SULAM berstruktur merupakan instrumen kritikal dalam ekosistem pendidikan masa hadapan bagi melahirkan graduan holistik yang mendokong kelestarian sejagat.

Kata Kunci: SULAM, Sinergi Akademia-Komuniti, Kecerdasan Buatan (AI), Dunia VUCA/BANI, KEWASA 4.0.

PENGENALAN

Landskap pendidikan tinggi kontemporari semakin dipengaruhi oleh persekitaran VUCA dan BANI yang dicirikan oleh perubahan pantas, ketidaktentuan, kompleksiti, kekaburan, kerapuhan sistem, keresahan sosial, ketidaklinearan dan kesukaran memahami sesuatu fenomena secara mudah. Dalam konteks pendidikan, situasi ini menuntut pendekatan pembelajaran yang bukan sahaja berorientasikan penguasaan ilmu, malah membina daya tahan, keupayaan adaptasi, kecerdasan emosi, literasi digital dan kemahiran menyelesaikan masalah

dalam situasi sebenar (Hadar et al., 2020; Olkowicz, 2024). Krisis pendidikan global pasca-COVID-19 turut menunjukkan bahawa institusi pendidikan tinggi perlu lebih bersedia terhadap gangguan digital, perubahan mod pembelajaran dan keperluan membangunkan mahasiswa yang fleksibel serta responsif terhadap cabaran masyarakat (Bozkurt et al., 2020; Rapanta et al., 2020; Watermeyer et al., 2021).

Sehubungan itu, pelaksanaan KEWASA 4.0 melalui pendekatan SULAM dapat dilihat sebagai satu ruang pembelajaran autentik yang membolehkan mahasiswa mengaplikasikan ilmu di lapangan, berinteraksi dengan komuniti luar bandar, mengurus cabaran sebenar serta membina kesiagaan global. Aktiviti literasi digital, STEM dan pengenalan AI dalam program ini turut selari dengan perkembangan pendidikan masa hadapan yang menuntut integrasi teknologi secara inklusif, beretika dan responsif terhadap keperluan komuniti (Crompton & Burke, 2023; Kasneci et al., 2023; Nguyen et al., 2023).

Pelaksanaan KEWASA 4.0 mengambil kira jurang akses pendidikan digital dan sosioekonomi antara kawasan bandar dengan wilayah pedalaman sosiogeografi, khususnya di pantai timur Sabah seperti Kunak dan Semporna, yang kekal menjadi kekangan kritikal dalam agenda pembangunan modal insan negara. Murid-murid luar bandar didapati kurang mendapat pendedahan terhadap literasi teknologi sedia masa hadapan seperti elemen sains gunaan (STEM) dan pengurusan maklumat digital.

Rentas daripada itu, program khidmat masyarakat tradisional mahasiswa lazimnya dikesan bersifat sehala, bermusim, dan sekadar berorientasikan kebajikan amal (charity-based) tanpa disandarkan kepada kerangka akademik atau refleksi impak dua hala yang mampan. Oleh itu, program KEWASA 4.0 dirangka secara holistik bagi merapatkan jurang berkenaan menerusi pendekatan tiga serangkai iaitu kebajikan, pendidikan, dan kesukarelawanan berasaskan kurikulum. Kajian ini bertujuan untuk menilai keberkesanan pemindahan ilmu digital KEWASA 4.0 serta menganalisis peranannya dalam membentuk kebolehpasaran, empati, dan kesiagaan mahasiswa UKM dalam mengemudi landskap industri yang mencabar.

HASIL DAN PERBINCANGAN

Program KEWASA 4.0 telah dilaksanakan dari 30 April hingga 7 Mei 2026 yang menggerakkan seramai 23 orang sukarelawan mahasiswa dan 2 orang penasihat akademia UKM ke beberapa lokaliti pedalaman Sabah. Berlandaskan kerangka kerja SULAM, program ini dipetakan secara sistematik kepada tiga komponen utama: Akademik (Aplikasi Ilmu), Komuniti (Khidmat Masyarakat), dan Refleksi (Kemahiran Insaniah). Berdasarkan laporan lapangan, hasil impak dua hala yang signifikan telah direkodkan:

1. Sinergi Akademik-Komuniti dalam Merapatkan Jurang Digital

Komponen akademik dijelmakan melalui pemindahan ilmu digital secara hibrid menerusi slot Eksplorasi STEM di SK Madai dan SMK Bugaya 2, serta reka bentuk pengurusan maklumat melalui pemasangan instrumen Digital Library. Hasil aktiviti menunjukkan murid-murid di kawasan pedalaman ini berjaya didedahkan dengan pengenalan asas Kecerdasan Buatan (AI) dan aplikasi sains gunaan. Penglibatan aktif ini merangsang minat murid sekolah terhadap teknologi masa hadapan, sekali gus membuktikan peranan akademia sebagai pengimbang kepada jurang pengagihan ilmu digital semasa nasional. Bagi pihak mahasiswa, keperluan untuk membina modul AI yang mudah dicerna menuntut fleksibiliti intelektual (intellectual flexibility) dan mengasah literasi digital mereka sendiri sebelum mengajar.

2. Navigasi Dunia VUCA/BANI dan Pengurusan Krisis Lapangan

Menguruskan operasi logistik, kekangan kewangan, hulu-hilir pergerakan, dan keselamatan 23 orang sukarelawan merentas wilayah fizikal pedalaman Sabah memaksa

mahasiswa keluar daripada zon selesa akademik mereka. Apabila berhadapan dengan situasi luar jangka di lapangan (realiti dunia BANI), mahasiswa diuji untuk mempamerkan kepimpinan adaptif, penyelesaian masalah secara kritis, dan ketangkasan mengurus krisis (crisis management). Ini secara langsung mematangkan kemandirian organisasi mahasiswa sebelum mereka beralih ke sektor industri.

3. Pematangan Emosi melalui Refleksi Silang Budaya dan Sokongan SDG

Komponen komuniti dan refleksi dicapai secara mendalam melalui penempatan mahasiswa bersama keluarga angkat di Kampung Lormalong, Kunak, serta interaksi sosial bersama kelompok rentan di Rumah Anak Asnaf Semporna. Dialog dua hala "Kopi Chat" dan malam kebudayaan bersama penduduk setempat merangsang komunikasi interpersonal, kecerdasan emosi (EQ), dan pemupukan nilai empati yang tinggi terhadap realiti sosioekonomi masyarakat luar bandar.

Selain itu, manifestasi program KEWASA 4.0 didapati menyokong kuat agenda global Matlamat Pembangunan Mampan (SDG) Pertubuhan Bangsa-Bangsa Bersatu (PBB). Aktiviti STEM dan makmal maklumat menyokong SDG 4 (Pendidikan Berkualiti), manakala agihan sumbangan kebajikan serta bimbingan akademik kepada golongan asnaf luar bandar mendokong SDG 10 (Mengurangkan Ketidaksamaan). Sinergi tiga komponen SULAM dalam KEWASA 4.0 digambarkan seperti dalam Jadual 1 bawah:

Elemen SULAM	Komponen Projek KEWASA	Justifikasi & Impak Pendidikan Masa Hadapan
Akademik (Aplikasi Ilmu)	Eksplorasi STEM, Modul AI, dan Pemasangan Digital Library di SK Madai & SMK Bugaya 2.	Mahasiswa memindahkan pengetahuan sains dan pengurusan teknologi; merapatkan jurang literasi digital luar bandar (SDG 4).
Komuniti (Khidmat Masyarakat)	Gotong-royong, agihan barangan asnaf di Semporna, bantuan warga emas di Kg. Lormalong.	Menyasar kelompok rentan bagi mengurangkan ketidaksamaan sosioekonomi tempatan (SDG 10).
Refleksi (Kemahiran Insaniah)	Program Keluarga Angkat, Dialog "Kopi Chat", dan Malam Pertukaran Kebudayaan.	Membina empati sosiokultural, kecerdasan emosi (EQ), komunikasi interpersonal, dan kebolehpasaran graduan.

Jadual 1 Pemetaan Komponen Projek KEWASA 4.0 Berdasarkan Elemen SULAM bagi Pendidikan Masa Hadapan

KESIMPULAN

Secara keseluruhannya, program KEWASA 4.0 merupakan satu contoh terbaik (role model) manifestasi keberkesanan kaedah SULAM yang berjaya menterjemahkan teori sinergi akademia-komuniti kepada impak nyata yang merubah kualiti hidup masyarakat. Melalui pendekatan berstruktur ini, universiti bukan sahaja berfungsi sebagai pusat kecemerlangan akademik, bahkan bertindak sebagai penggerak kelestarian masyarakat. Program lapangan hibrid sebegini terbukti berjaya melahirkan generasi graduan masa hadapan yang bukan sahaja tangkas teknologi dan sedia mendepani cabaran industri era Industri 5.0, malah memiliki kecerdasan emosi yang tinggi serta rintang terhadap dinamika dunia VUCA dan BANI. Pendekatan SULAM berpandukan data ini amat disyorkan untuk diarusperdanakan dan diteruskan oleh institusi pengajian tinggi negara demi kelestarian modal insan sejagat.

PENGHARGAAN

Penulis ingin merakamkan setinggi-tinggi penghargaan kepada pihak pengurusan Kolej Tun Hussein Onn, Jabatan Hal Ehwal Pelajar Universiti Kebangsaan Malaysia (UKM), para penaja rasmi, serta komuniti daerah Kunak dan Semporna, Sabah atas sokongan dana, fasiliti, dan kerjasama yang tidak berbelah bahagi sepanjang

pelaksanaan ekspedisi KEWASA 4.0 ini dijalankan.

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Petrosains sebagai Ekosistem Pembelajaran Berasaskan Kerja: Penterjemahan Pengetahuan Interdisiplin kepada Inovasi Keselamatan dan Keterangkuman

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ABSTRAK

Pembelajaran berasaskan kerja (Work-based Learning, WBL) menyediakan ruang untuk pelajar menghubungkan pengetahuan akademik dengan situasi dan keperluan sebenar di industri. Dalam Program Sarjana Muda Sains Citra (SmSn Citra), pelajar menjalani WBL selama 12 bulan dan menghasilkan projek capstone yang menterjemahkan gabungan bidang penumpuan mereka kepada penyelesaian yang relevan kepada organisasi. Artikel berbentuk reflektif ini membincangkan pengalaman sebenar dua orang pelajar SmSn Citra yang menjalani WBL di Petrosains, berdasarkan pelaksanaan projek capstone, pengalaman kerja harian dan refleksi bersama pensyarah. Projek pertama menggabungkan Pengurusan Perniagaan dan Kimia melalui pembangunan modul pengukuhan kesedaran keselamatan kimia dalam sesi onboarding HR untuk peserta Graduate Employability Enhancement Scheme (GEES) dan pelajar *intern*. Modul yang dilaksanakan kepada 18 peserta meningkatkan skor min pengetahuan daripada 5.72/11 kepada 9.61/11, bersamaan peningkatan 35.35 mata peratusan. Projek kedua menggabungkan Digital Multimedia dan Komunikasi Media Penyiaran melalui pembangunan CalmCast, iaitu prototaip penyiaran sensori interaktif untuk menyokong pengalaman audiens neurodivergen. Penilaian awal menunjukkan respons positif terhadap aspek audio, visual, interaktiviti dan elemen multisensori, walaupun keberkesanan terhadap pengguna neurodivergen masih memerlukan penilaian lanjut. Secara keseluruhan, kedua-dua pengalaman menunjukkan bagaimana WBL membolehkan pelajar menterjemahkan pengetahuan interdisiplin kepada penyelesaian organisasi sambil membina keyakinan, pertimbangan profesional dan identiti sebagai pengamal bidang.

Kata Kunci: inovasi keselamatan, neurodivergen, pembelajaran berasaskan kerja (WBL), pengetahuan interdisiplin, refleksi

PENGENALAN

Pembelajaran berasaskan kerja (WBL) ialah pendekatan kurikulum yang menghubungkan pembelajaran akademik dengan penglibatan pelajar dalam amalan kerja sebenar. Nilai pendidikan WBL tidak terhasil hanya melalui penempatan di organisasi, tetapi melalui integrasi antara pengalaman kerja, objektif kurikulum, tugasan autentik, bimbingan dan refleksi (Billett, 2009; Tynjälä, 2008). Apabila elemen ini saling menyokong, pelajar bukan sahaja belajar melaksanakan tugas, tetapi turut belajar mentafsir situasi, membuat pertimbangan, menyesuaikan

pengetahuan dengan konteks organisasi dan membina identiti profesional.

Program Sarjana Muda Sains Citra (SmSn Citra) di Universiti Kebangsaan Malaysia menawarkan struktur pengajian yang fleksibel dan interdisiplin. Pelajar membina bidang penumpuan berdasarkan minat dan hala tuju kerjaya sebelum menjalani pembelajaran berasaskan industri (WBL) selama 12 bulan. Dalam fasa ini, projek capstone menjadi jambatan antara pengetahuan yang dibina di universiti dengan keperluan sebenar organisasi. Pelajar perlu mengenal pasti isu, memahami konteks, membangunkan penyelesaian, mendapatkan maklum balas dan menilai nilai praktikal projek yang dihasilkan. Artikel ini membincangkan dua pengalaman WBL sebenar di Petrosains. Petrosains adalah sebuah pusat pembelajaran sains interaktif yang berorientasikan pengalaman, teknologi dan penglibatan pengunjung. Ini menyediakan persekitaran yang sesuai untuk proses pembelajaran secara WBL. Meskipun kedua-dua pelajar mempunyai bidang penumpuan dan projek capstone yang berbeza (Jadual 1), matlamat mereka adalah sama iaitu menterjemahkan ilmu interdisiplin kepada penyelesaian berguna untuk industri. Perbincangan artikel turut menggunakan refleksi pelajar dan refleksi bersama pensyarah untuk menjelaskan bagaimana pengalaman kerja membentuk pembelajaran, keyakinan dan identiti profesional mereka.

Jadual 1: Perbandingan bidang penumpuan dan projek capstone
dua orang pelajar

	Bidang penumpuan	Projek capstone
Pelajar 1	Pengurusan Perniagaan dan Kimia	Pembangunan modul *onboarding* keselamatan kimia untuk GEES dan intern
Pelajar 2	Digital Multimedia dan Komunikasi Media Penyiaran	Pembangunan prototaip Calmcast untuk pengunjung neurodivergen

HASIL DAN PERBINCANGAN

Petrosains sebagai ekosistem WBL

Petrosains menyediakan konteks kerja sebenar yang membolehkan pelajar melihat bahawa masalah organisasi jarang hadir dalam bentuk yang tersusun seperti tugasan di bilik kuliah. Mereka perlu memahami prosedur, pengguna, kekangan masa, keutamaan organisasi dan maklum balas daripada pihak berkepentingan sebelum sesuatu penyelesaian boleh dibangunkan. Daripada perspektif pedagogi integratif, pengetahuan daripada universiti memberi asas konsep dan prinsip reka bentuk, manakala pengalaman kerja memberi kefahaman tentang prosedur, pengguna dan realiti pelaksanaan. Interaksi dengan HR, HSE, pasukan media, penyelia dan pengguna pula membantu pelajar memahami bahasa, jangkaan dan budaya kerja organisasi. Apabila pelajar menilai semula idea berdasarkan data, maklum balas dan refleksi, mereka belajar menyesuaikan pengetahuan kepada konteks sebenar. Modul dan prototaip yang dihasilkan boleh dilihat sebagai artifak yang menghubungkan dunia akademik dengan dunia industri kerana kedua-duanya menterjemahkan konsep kepada bentuk yang boleh digunakan, dinilai dan diperhalusi (Akkerman & Bakker, 2011).

Kes 1: Penumpuan Pengurusan Perniagaan dan Kimia dalam pembangunan modul keselamatan

Projek pertama, iaitu pengukuhan kesedaran keselamatan kimia melalui sesi *onboarding* HR (*human resource*), lahir daripada pengalaman pelajar yang terlibat secara langsung dalam operasi sumber manusia. Melalui pemerhatian proses *onboarding*, pelajar mendapati kandungan sedia ada masih bersifat umum dan boleh diperkukuh dengan pendedahan keselamatan kimia yang lebih dekat dengan konteks Petrosains. Pengetahuan Pengurusan Perniagaan digunakan untuk memahami fungsi *onboarding*, latihan dalaman dan sosialisasi warga kerja baharu, manakala pengetahuan Kimia digunakan untuk memilih kandungan seperti *hazard* dari ais

kering dan gas propana, simbol *Globally Harmonized System* (GHS), fungsi *Personal Protective Equipment* (PPE), langkah keselamatan demonstrasi serta tindakan kecemasan. Dengan itu, dua bidang penumpuan tidak digunakan secara berasingan, tetapi digabungkan untuk menjawab satu keperluan organisasi yang dikenal pasti semasa WBL.

Pembangunan modul dilaksanakan secara berstruktur menggunakan Model ADDIE. Pada fasa analisis, pelajar meneliti modul *onboarding* dan dokumen HSE bagi mengenal pasti jurang kandungan. Pengetahuan kimia kemudian diterjemahkan kepada objektif pembelajaran, slaid visual yang ringkas dan kuiz pra-pasca. Modul dilaksanakan kepada 18 peserta yang terdiri daripada peserta GEES dan intern. Skor min meningkat daripada 5.72/11 (52.02%) dalam pra-ujian kepada 9.61/11 (87.37%) dalam pasca-ujian, iaitu peningkatan 3.89 markah atau 35.35 mata peratusan. Dapatan ini menunjukkan peningkatan pengetahuan asas sejurus selepas intervensi. Namun, penilaian tersebut tidak mengukur kemahiran praktikal mengendalikan bahan kimia atau pengekalan pengetahuan dalam jangka panjang.

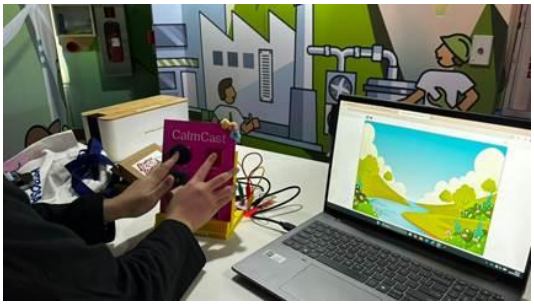
Gambar 1: Muka hadapan modul yang dihasilkan

Nilai projek pembangunan modul ini sebenarnya terletak pada proses mengenal pasti jurang sebenar dan menterjemahkan gabungan ilmu HR serta kimia kepada bahan pendedahan awal yang lebih spesifik kepada operasi Petrosains.

Kes 2: Penumpuan Digital Multimedia dan Komunikasi Media Penyiaran dalam pembangunan prototaip CalmCast

Projek kedua bermula daripada kesedaran bahawa komunikasi sains yang menarik kepada audiens umum tidak semestinya selesa atau mudah diproses oleh semua pengguna. Sepanjang WBL, pelajar memerhatikan pengalaman pengunjung dan meneliti bagaimana bunyi, warna, animasi, susunan maklumat dan interaktiviti boleh memberi kesan berbeza kepada individu dengan profil pemprosesan sensori yang berbeza. Penumpuan Digital Multimedia memberikan pelajar asas untuk mereka bentuk pengalaman pengguna, elemen audio visual dan interaktiviti, manakala penumpuan Komunikasi Media Penyiaran membantu pelajar mempertimbangkan nada suara, kejelasan arahan, aliran mesej dan kesesuaian medium. Pertimbangan ini selari dengan prinsip pembelajaran multimedia yang menekankan reka bentuk visual dan perkataan secara terancang bagi mengurangkan beban kognitif yang tidak perlu (Mayer, 2020), serta pemahaman bahawa pola pemprosesan sensori berbeza antara individu (Dunn, 1997).

Melalui kajian literatur, pemerhatian, temu bual, soal selidik, pembangunan prototaip dan maklum balas awal, pelajar menghasilkan CalmCast sebagai penyiaran sensori interaktif bertemakan sains. Prototaip ini menggunakan bunyi yang tenang, kelantangan terkawal, warna yang tidak terlalu terang, grafik dan animasi ringkas, kandungan yang tersusun serta elemen sentuhan melalui Makey Makey dan Scratch. Sepanjang pembangunan, maklum balas mendorong pelajar mengurangkan visual yang terlalu padat dan memberi pengguna kawalan yang lebih baik terhadap rangsangan audio serta visual.



Gambar 2: Prototaip CalmCast yang dihasilkan

Penilaian awal menunjukkan bahawa elemen audio visual mudah difahami, interaktiviti mudah digunakan dan pengalaman multisensori berpotensi menarik perhatian pengguna. Dapatan ini menjadi petunjuk kebolehgunaan awal, dan bukannya bukti keberkesanan hasil pembelajaran atau keselesaan semua audiens neurodivergen. Untuk langkah berikutnya, penilaian perlu melibatkan pengguna neurodivergen, penjaga, guru pendidikan khas dan pakar berkaitan secara lebih sistematik.

Perbandingan dua kes: Sinergi universiti-industri kepada transformasi dan translasi pengetahuan

Apabila kedua-dua kes dibandingkan, persamaan utamanya bukan pada bentuk produk, tetapi pada proses pembelajaran yang dilalui. Dalam kedua-dua projek, pelajar bermula dengan pemerhatian terhadap situasi kerja dan mengenal pasti jurang yang nyata dalam konteks organisasi. Pelajar kemudian menghubungkan konsep daripada dua bidang penumpuan dengan bahasa dan keperluan Petrosains, membangunkan penyelesaian awal, menerima maklum balas dan menambah baik hasil berdasarkan bukti yang diperoleh. Proses ini mencerminkan pembelajaran merentas sempadan antara universiti dan industri: pengetahuan yang pada asalnya berbentuk konsep perlu diterjemahkan, dirunding dan diubah suai sebelum menjadi berguna dalam amalan.

Kedua-dua projek juga memperlihatkan dua dimensi tanggungjawab sebuah pusat pembelajaran sains. Modul keselamatan menyokong kesiapsiagaan warga kerja yang terlibat dengan demonstrasi dan eksperimen, manakala CalmCast memberi perhatian kepada keterangkuman pengalaman pengunjung yang mempunyai profil sensori berbeza. Perbandingan ini memperlihatkan kekuatan pendidikan interdisiplin: ilmu teknikal sahaja tidak mencukupi tanpa pemahaman tentang tingkahlaku dan keperluan manusia. Penyelesaian berpusatkan pengguna pula memerlukan asas kandungan dan teknologi yang tepat. Bagi pelajar, proses tersebut menjadikan *capstone* bukan sekadar produk akhir, tetapi bukti bahawa ilmu yang dibina di universiti boleh diberi makna baharu apabila berhadapan dengan keperluan sebenar industri.

Refleksi pengalaman WBL dan pembangunan diri pelajar

Dalam WBL, sebahagian pembelajaran berlaku melalui pengalaman harian yang sukar ditunjukkan hanya melalui skor ujian atau produk akhir. Oleh itu, refleksi digunakan dalam artikel ini untuk memahami bagaimana pelajar mentafsir pengalaman mereka selepas terlibat dalam tugasan sebenar, menerima kepercayaan daripada organisasi, menghadapi kekangan dan menambah baik projek. Refleksi ini bukan analisis formal terhadap keseluruhan pengalaman WBL, tetapi merupakan refleksi pengalaman sebenar pelajar yang dibincangkan bersama pensyarah bagi menghubungkan peristiwa kerja dengan pengetahuan akademik, perubahan pemikiran dan perkembangan profesional. Pendekatan reflektif seperti ini membantu pelajar membina agensi dan identiti profesional melalui pengalaman kerja yang telah dilalui (Trede & Jackson, 2021).

Pelajar 1: Daripada melaksanakan tugasan HR kepada keyakinan profesional

Sepanjang penempatan, pelajar 1 terlibat secara langsung dalam operasi harian HR, termasuk penyelarasan *onboarding* untuk *intern* dan peserta GEES, semakan *log sheet*, pengurusan data, penapisan resume, bantuan pengiraan elaun serta sokongan terhadap latihan staf. Melalui pengalaman ini, beliau mula memahami bahawa kerja HR yang kelihatan rutin sebenarnya menuntut ketelitian, disiplin, pengurusan maklumat dan kepekaan terhadap kesan keputusan kepada orang lain. Pengalaman mengendalikan tugasan sebenar juga memperluas pemahamannya daripada melihat HR sebagai fungsi pentadbiran kepada fungsi organisasi yang memerlukan koordinasi dan pertimbangan profesional.

Perubahan paling ketara ialah peningkatan keyakinan untuk bekerja secara lebih berdikari. Pada peringkat awal, pelajar berhati-hati apabila mengendalikan tugasan, khususnya yang melibatkan data syarikat. Namun, apabila staf mula memberi kepercayaan selepas penerangan tugas yang ringkas, beliau belajar membuat semakan sendiri, bertanya apabila perlu dan bertanggungjawab terhadap hasil kerja. Dalam refleksi bersama pensyarah, pengalaman ini dilihat sebagai peralihan penting daripada bergantung pada arahan kepada mengambil pemilikan atau tanggungjawab terhadap tugasan. WBL bukan sahaja membolehkan beliau menggunakan pengetahuan akademik, tetapi mengajar bahawa kompetensi profesional terbina melalui ketelitian, kebolehpercayaan, penyesuaian diri dan keberanian menerima tanggungjawab.

Pelajar 2: Daripada reka bentuk media kepada kepekaan terhadap pengguna

Pengalaman membangunkan CalmCast mengubah cara pelajar 2 memahami reka bentuk media. Pada awalnya, perhatian lebih tertumpu kepada aspek kreativiti dan daya tarikan audio visual. Namun, pemerhatian, temu bual, interaksi dengan kakitangan dan maklum balas terhadap prototaip menunjukkan bahawa media yang menarik tidak semestinya sesuai untuk semua pengguna. Beliau mula memberi perhatian kepada variasi kebolehan dan pemprosesan sensori, lalu menilai semula pilihan warna, kepadatan visual, kelantangan audio, susunan kandungan dan bentuk interaktiviti. Antara penambahbaikan yang dibuat ialah menggunakan warna yang lebih lembut, mengurangkan visual yang terlalu padat dan mengawal rangsangan audio.

Refleksi bersama pensyarah membantu pelajar 2 melihat perubahan tersebut bukan hanya sebagai penambahbaikan teknikal, tetapi sebagai perkembangan cara berfikir sebagai pengamal media. Beliau belajar bahawa keputusan reka bentuk membawa implikasi kepada akses, keselesaan dan pengalaman pengguna. Jika pengalaman pelajar 1 banyak membina keyakinan, tanggungjawab dan pemahaman terhadap operasi organisasi, pengalaman pelajar 2 pula membina empati reka bentuk dan kepekaan terhadap kepelbagaian pengguna. Walaupun konteks kedua-duanya berbeza, refleksi mereka menunjukkan pola pembelajaran yang sama: pengetahuan teori memberi titik mula, pengalaman kerja mencabar andaian awal, maklum balas memerlukan penyesuaian, dan refleksi membantu pelajar memahami bagaimana mereka berubah daripada pelajar kepada penyumbang dalam organisasi.

KESIMPULAN

Pengalaman dua orang pelajar di Petrosains menunjukkan bahawa WBL menjadi bermakna apabila pelajar berhadapan dengan masalah autentik dan diberi ruang untuk menghubungkan masalah tersebut dengan pengetahuan yang dibina di universiti. Projek pertama menterjemahkan gabungan Pengurusan Perniagaan dan Kimia kepada modul *onboarding* keselamatan kimia, manakala projek kedua menterjemahkan Digital Multimedia dan Komunikasi Media Penyiaran kepada prototaip komunikasi yang lebih mesra sensori. Kedua-dua projek berbeza dari segi pengguna dan hasil, tetapi melalui proses yang serupa: mengenal pasti keperluan, menghubungkan ilmu, membangunkan penyelesaian, menerima maklum balas dan menambah baik hasil dalam konteks sebenar organisasi.

Refleksi pengalaman sebenar pelajar bersama pensyarah memperlihatkan satu lagi hasil penting WBL yang tidak dapat dinilai melalui produk semata-mata. Pelajar 1 membina keyakinan, ketelitian dan keberanian mengambil tanggungjawab melalui tugasan HR, manakala pelajar 2 membina kepekaan terhadap kepelbagaian pengguna dan tanggungjawab reka bentuk melalui pembangunan CalmCast. Oleh itu, nilai WBL terletak pada hubungan antara kandungan akademik, konteks industri, bimbingan, peluang menghasilkan sesuatu yang berguna dan refleksi terhadap pengalaman.

PENGHARGAAN

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Behavioural Theory, Public-Health Literacy and Community Engagement: A Review of TRA/TPB for Wolbachia-Based Dengue Prevention

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ABSTRACT

Wolbachia-based mosquito control is a promising biological strategy for reducing dengue transmission, but its sustained implementation depends on informed community acceptance. This focused narrative review examines how the Theory of Reasoned Action (TRA) and the Theory of Planned Behaviour (TPB) explain public responses to Wolbachia programmes and how these frameworks can strengthen public-health learning and participation. Literature published between 2020 and 2025 was synthesised with attention to attitudes, subjective norms, perceived behavioural control, trust, risk perception, information-seeking, and cultural influences. The review indicates that favourable attitudes develop when communities understand the intervention's effectiveness and safeguards; supportive norms are reinforced by trusted institutions and local leaders; and perceived control increases when residents receive accessible information and meaningful opportunities to participate. Biological evidence alone is therefore insufficient to secure durable support. Transparent risk communication, culturally responsive education, collaborative learning, and continuous feedback are also required. TRA and TPB provide a practical framework for universities, health authorities, local organisations, communication partners, and communities to translate scientific evidence into informed collective action and more socially responsive dengue-control programmes.

Keywords: Wolbachia, dengue prevention, planned behaviour, public-health literacy, community engagement

INTRODUCTION

Dengue remains a major public-health challenge in tropical and subtropical regions. Conventional vector-control measures, including source reduction and insecticide-based interventions, are difficult to sustain and may be weakened by operational constraints and insecticide resistance. Wolbachia-based control offers an alternative by introducing Wolbachia into Aedes aegypti populations, thereby reducing the mosquitoes' capacity to transmit dengue and, depending on the deployment strategy, influencing mosquito reproduction. Field programmes have reported substantial reductions in dengue incidence, demonstrating the intervention's epidemiological potential (Indriani et al., 2020; Hoffmann et al., 2024; Velez et al., 2023).

Technical effectiveness, however, does not automatically produce social acceptance. Communities are asked to evaluate an unfamiliar biological intervention, interpret evidence about benefits and uncertainty, trust implementing institutions, and decide whether to support local deployment. Existing Wolbachia literature concentrates heavily on entomological and epidemiological outcomes, while the behavioural and educational processes underlying acceptance receive less systematic attention. Surveys have identified awareness, knowledge, perceived safety, institutional trust, and community support as important, but these factors are not always organised within an explanatory behavioural framework (Arham et al., 2021; Soh et al., 2021).

TRA and TPB address this gap by explaining how behavioural beliefs form attitudes, how perceived social expectations create subjective norms, and how perceived capacity or opportunity shapes behavioural control and intention (Fishbein & Ajzen, 1975; Ajzen, 1991). This review therefore examines the use of TRA/TPB in Wolbachia-based dengue prevention, identifies psychosocial and contextual determinants of acceptance, and considers how behavioural evidence can guide public-health education, community engagement, and collaborative implementation.

METHODOLOGY

A focused narrative-review approach was used to synthesise studies published from 2020 to 2025. Materials were included when they applied TRA or

TPB, reported behavioural evidence relevant to Wolbachia acceptance, or examined community participation in Wolbachia-based dengue prevention and closely related public-health interventions. Peer-reviewed articles, reviews, conference papers, theses, books, and credible institutional sources were considered. Information was extracted on study setting, intervention evidence, behavioural constructs, community-acceptance findings, and educational or engagement implications. The synthesis compared evidence across attitudes, subjective norms, perceived behavioural control, trust, risk perception, information-seeking, and cultural context. As a focused narrative review, the study provides a conceptual synthesis rather than an exhaustive systematic-review estimate.

RESULTS AND DISCUSSION

Biological promise and the behavioural evidence gap

The reviewed evidence supports Wolbachia as a credible dengue-control innovation. Stable mosquito establishment and reductions in dengue incidence have been documented in Indonesia, Malaysia, and Colombia (Tantowijoyo et al., 2020; Hoffmann et al., 2024; Velez et al., 2023). Nevertheless, effectiveness varies with ecological conditions, strain characteristics, monitoring quality, deployment design, and programme continuity (Ooi & Wilder-Smith, 2022). These findings indicate that biological performance and social implementation must be considered together.

The review also identified an imbalance in the evidence base. Biological efficacy is extensively assessed, whereas explicit measurement of TRA/TPB constructs is comparatively limited. Community acceptance is often reported as a general outcome without explaining how beliefs become intentions, how trusted actors shape social expectations, or whether residents feel capable of participating. This limits the design and evaluation of communication and engagement strategies. A theory-informed approach can identify which beliefs and barriers to participation require attention, rather than treating public acceptance as a single, fixed attitude.

TRA/TPB determinants of community acceptance

Attitude is strengthened when residents perceive that Wolbachia can reduce dengue, lessen reliance on chemical control, and operate within credible safety and monitoring arrangements. Conversely, uncertainty about ecological effects, long-term consequences, and programme transparency may create negative behavioural beliefs and resistance (Popovici et al., 2010). Risk communication should therefore present benefits, uncertainties, safeguards, and monitoring procedures together rather than relying on persuasive claims alone.

Subjective norms reflect the influence of people and institutions whose views are considered important. Support from health professionals, scientists, community and religious leaders, peers, and local organisations can strengthen acceptance when these actors are trusted and consistent. Institutional credibility is especially important because community members may lack the technical background to independently assess the intervention. Transparent decision-making and visible accountability can consequently reinforce both trust and supportive social expectations (Arham et al., 2021).

Perceived behavioural control concerns whether residents understand what is expected of them and believe they can meaningfully participate. Accessible information, clear feedback channels, consultation before deployment, and opportunities to contribute to message design or local decisions increase perceived control. One-way awareness campaigns may improve exposure to information but do not necessarily create ownership. Participation should therefore be designed as an ongoing process rather than as a single approval activity.

Table 1. Behavioural synthesis for community-oriented Wolbachia implementation

Construct	Evidence and programme implication
Attitude	Effectiveness, safety and environmental benefits support favourable beliefs; balanced evidence and risk communication are required.
Subjective norms	Trusted health authorities, researchers and local leaders can reinforce supportive expectations through consistent and accountable communication.
Perceived behavioural control	Accessible resources, consultation and feedback channels strengthen residents' confidence and capacity to participate.
Contextual influences	Trust, risk perception, public-health literacy, culture and misinformation should be addressed through locally responsive education.

Public-health literacy and collaborative learning

The findings suggest that community acceptance should be understood as a learning process. Residents must interpret biological information, distinguish credible evidence from misinformation, consider ethical and ecological concerns, and understand their role in collective prevention. Public-health literacy therefore links scientific knowledge with responsible decision-making. It is most effectively developed

through dialogue, practical explanation, opportunities to ask questions, and feedback that demonstrates how community concerns influence programme delivery.

Collaboration can distribute these learning functions across complementary actors. Universities can translate evidence into accessible resources, contribute behavioural evaluation, and involve students in interdisciplinary or community-based learning. Health authorities can provide operational information, surveillance findings, and accountability. Local organisations, schools, community and religious leaders, media partners, and residents can adapt messages to local language, values, and experience. This approach positions communities as contributors to responsible implementation rather than passive recipients of technical information.

Implications and limitations

TRA/TPB can guide both programme design and evaluation. Communication about effectiveness and safeguards can address behavioural beliefs and attitudes; visible support from credible local actors can strengthen subjective norms; and accessible participation mechanisms can improve perceived behavioural control. Evaluation should measure changes in these constructs alongside knowledge, trust, intention, participation, and programme outcomes. Continuous monitoring is necessary because perceptions can change as deployment progresses or new information emerges.

The evidence remains geographically concentrated and uses inconsistent measures of behavioural constructs. Community-engagement strategies are often insufficiently documented and rarely evaluated as educational interventions. Most studies are cross-sectional, restricting conclusions about changes in trust, risk perception, and intention over time. The focused narrative design of this review also does not provide the exhaustive coverage or quantitative synthesis of a formal systematic review. Future studies should use longitudinal and mixed-method designs, include diverse cultural settings, and transparently evaluate co-designed education and feedback mechanisms.

CONCLUSION

TRA and TPB provide a coherent explanation of how attitudes, subjective norms, and perceived behavioural control shape community intentions toward Wolbachia-based dengue prevention. Trust, risk perception, information-seeking, culture, and public-health literacy further influence how scientific evidence is interpreted. These behavioural and educational dimensions should be incorporated alongside biological efficacy when programmes are planned, communicated, and evaluated. Sustainable implementation requires transparent evidence, culturally responsive learning, trusted community intermediaries, accessible feedback, and participation before and throughout deployment. Collaboration among universities, health authorities, local organisations, communication partners, and communities can convert technical evidence into informed collective action. Future research should consistently measure TRA/TPB constructs and examine how acceptance changes across the implementation cycle. Integrating behavioural understanding with scientific innovation can support dengue-control programmes that are effective, socially legitimate, adaptive, and responsive to community needs.

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Pembangunan Komunikasi Profesional melalui WBL: Daripada Komunikasi Berorientasikan Mesej kepada Komunikasi Berorientasikan Tindakan

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ABSTRAK

Work-Based Learning (WBL) menyediakan ruang untuk pelajar membangunkan komunikasi profesional melalui tugasan sebenar dan interaksi dengan penyelia, rakan sekerja, pelanggan serta pihak berkepentingan. Kertas ini membincangkan pembangunan kemahiran komunikasi profesional berdasarkan pengalaman pelajar-pelajar Sarjana Muda Sains Citra (SmSn Citra) yang menjalani WBL selama 12 bulan dalam konteks organisasi yang berbeza. Data diperoleh melalui refleksi bersama pelajar-pensyarah dalam satu sesi temu bual kumpulan fokus (FGD) yang menggunakan soalan berasaskan pendekatan *behavioural-event interview* (BEI). Peserta diminta membina semula peristiwa komunikasi yang signifikan dengan memberi perhatian kepada konteks, tindakan, respons pihak lain, akibat dan pembelajaran yang diperoleh. Transkrip dianalisis secara tematik dan induktif. Empat tema dikenal pasti: (i) penyesuaian komunikasi mengikut konteks dan audiens; (ii) peralihan daripada andaian kepada pengesahan dan dokumentasi; (iii) pembinaan ketegasan melalui rundingan; dan (iv) penyelarasan antara pihak berkepentingan untuk kesinambungan aliran kerja. Naratif peserta menunjukkan perubahan daripada sekadar menyampaikan mesej kepada komunikasi yang lebih berorientasikan tindakan, iaitu membaca audiens, penyesuaian konteks, mengesahkan maklumat, mendokumentasikan tindakan, membuat susulan dan menyelaras pihak yang berkaitan. Dapatan ini terhad kepada refleksi kontekstual empat orang pelajar sahaja dan bukan sebagai ukuran prestasi komunikasi atau generalisasi kepada semua pelajar WBL.

Kata kunci: komunikasi profesional; refleksi; *work-based learning* (WBL); pembangunan kompetensi; sains citra (*liberal science*)

PENGENALAN

Work-Based Learning (WBL) menghubungkan pembelajaran di universiti dengan pengalaman kerja sebenar. Melalui penyertaan dalam tugasan organisasi, pelajar bukan sahaja menggunakan pengetahuan sedia ada, tetapi turut mempelajari prosedur, jangkaan dan cara bekerja bersama orang lain. Pengalaman kerja boleh menyokong pembangunan kemahiran kebolehpasaran, termasuk komunikasi, penyelesaian masalah dan pengurusan diri, apabila pengalaman tersebut disepadukan dengan reka bentuk pembelajaran yang sesuai (Billett, 2009; Jackson, 2015). Penempatan kerja juga boleh menyumbang kepada pembentukan identiti pra-profesional apabila pelajar semakin memahami peranan, nilai dan bentuk sumbangan yang dijangkakan dalam organisasi (Jackson, 2017).

Dalam konteks pekerjaan, komunikasi tidak terhad kepada kebolehan bercakap atau menulis dengan baik. Pelajar perlu memilih saluran yang sesuai, menyesuaikan bahasa dengan audiens, menjelaskan arahan, mengesahkan maklumat, mendokumentasikan tindakan, membuat susulan dan berunding apabila berlaku perubahan atau konflik. Kajian tentang kemahiran komunikasi graduan turut menekankan kepentingan komunikasi lisan dalam kesiapsiagaan profesional, manakala penyelidikan WBL menunjukkan bahawa pembangunan kemahiran berlaku melalui pengalaman sebenar dan interaksi di tempat kerja (Jackson, 2015).

Namun, pengalaman kerja tidak semestinya menjadi pembelajaran yang disedari secara automatik. Refleksi membantu pelajar bergerak daripada menceritakan apa yang berlaku kepada menilai tindakan, akibat dan perubahan yang perlu dilakukan. Refleksi yang dibimbing boleh menyokong pemikiran yang lebih mendalam (Ryan, 2013). Aktiviti refleksi yang berstruktur dan dialogik dapat membantu pelajar menafsir pengalaman profesional mereka (Trede & Jackson, 2021). Pada masa yang sama, refleksi perlu digunakan secara berhati-hati dan tidak dianggap sebagai gambaran objektif prestasi kerana ia tetap merupakan tafsiran peserta terhadap pengalaman mereka (Siebert & Walsh, 2013).

Berdasarkan premis di atas, artikel ini memberi tumpuan khusus kepada bagaimana tiga orang pelajar memahami pembangunan kemahiran komunikasi profesional melalui pengalaman WBL. Ketiga-tiga orang pelajar adalah di bawah program Sarjana Muda Sains Citra (SmSn Citra) dan menjalani penempatan WBL selama 12 bulan di industri yang berbeza (Jadual 1). Fokus analisis bukan untuk menilai tahap kompetensi secara *standard*, tetapi untuk mengenal pasti bentuk perubahan komunikasi yang dapat dikesan dalam naratif pengalaman kerja mereka.

Jadual 1. Ringkasan latar belakang WBL tiga pelajar

Pelajar	Penempatan WBL	Skop Kerja
P1	Syarikat penerbangan komersial	Operasi darat dan perkhidmatan penumpang. Rotasi pentadbiran. Menilai bukti pematuhan item keselamatan.
P2	Kilang pembuatan makanan – kompleks tiga logi pengeluaran	*Human resource department* – terlibat dengan latihan dan rekod data, penjadualan temuduga, *onboarding*, pemfailan dan *domestic inquiry.*
P3	Agensi kerajaan yang mempromosi pelancongan dan merancang strategi pemasaran pelancongan	Rotasi Unit Sokongan Industri, Pengiklanan Global, Pengiklanan Domestik dan Media Sosial, serta Sekretariat Visit Malaysia: menyelaras acara, membuat susulan jemputan/rakan strategik, menghadiri mesyuarat, networking, membantu penajaan dan menyelia penggambaran.
P4	Syarikat teknologi pendidikan – menyediakan platform pembelajaran kendiri dalam aplikasi / web untuk murid 7 hingga 17 tahun	Kerja utama secara jarak jauh dalam fungsi biasiswa/kerjasama: mencari pelajar dan penaja berpotensi, menghantar e-mel, menetapkan mesyuarat, membantu persetujuan kontrak dan hubungan klien; menghasilkan cadangan e-book serta membuat pembentangan mingguan.

HASIL DAN PERBINCANGAN

Refleksi bersama pelajar-pensyarah

Kertas ini menggunakan refleksi bersama antara pelajar dan pensyarah. Pelajar membawa pengalaman yang dialami dalam organisasi, manakala pensyarah menyediakan struktur pertanyaan untuk membantu peserta menghuraikan peristiwa secara lebih terperinci. Dialog ini menghasilkan naratif reflektif tentang situasi kerja, tindakan yang diambil, respons pihak lain, akibat dan pembelajaran yang dikenal pasti oleh peserta.

Refleksi dilaksanakan melalui FGD menggunakan protokol yang diadaptasi daripada pendekatan *behavioural-event interview* (BEI). BEI menumpukan peristiwa sebenar dan meminta peserta memperincikan situasi, peranan, tindakan serta hasil, berbanding memberikan penilaian umum tentang diri (McClelland, 1998). Peserta diminta memilih pengalaman komunikasi yang berjaya, mencabar atau melibatkan kesilapan. Soalan susulan termasuk “Apakah yang anda katakan?”, “Bagaimana pihak itu bertindak balas?”, “Apakah risiko jika mesej tidak jelas?” dan “Apakah yang anda ubah selepas kejadian tersebut?”. FGD dirakam dan ditranskripsikan untuk analisis.

Analisis tema

Analisis tema dijalankan secara induktif dengan membaca transkrip berulang kali, mengenal pasti pola yang berkaitan dengan pengalaman komunikasi dan membentuk tema daripada pola tersebut (Braun & Clarke, 2006). Petikan dipilih untuk menunjukkan hubungan antara peristiwa, tindakan dan pembelajaran. Suntingan petikan dibuat secara minimum dan campuran bahasa Melayu-Inggeris dikekalkan kerana mencerminkan cara peserta menceritakan pengalaman mereka. Empat tema dibentuk: (1) penyesuaian komunikasi mengikut konteks dan audiens; (2) peralihan daripada andaian kepada pengesahan dan dokumentasi; (3) pembinaan ketegasan melalui rundingan; dan (4) penyelarasan pihak berkepentingan serta kesinambungan aliran kerja.

Tema 1: Penyesuaian komunikasi mengikut konteks dan audiens

Tema pertama menunjukkan bahawa peserta mula melihat komunikasi sebagai tindakan yang perlu disesuaikan dengan audiens dan keadaan. Penyesuaian melibatkan bahasa, nada, tahap penerangan, saluran komunikasi dan, apabila perlu, bantuan pihak lain. Dalam konteks operasi penerbangan, P1 berhadapan dengan penumpang antarabangsa yang tidak dapat berkomunikasi dalam bahasa Inggeris. Beliau menggunakan aplikasi terjemahan dan mendapatkan bantuan penyelia yang boleh berbahasa Mandarin. Pengalaman ini menunjukkan bahawa keberkesanan komunikasi tidak bergantung pada kebolehan penutur semata-mata, tetapi pada usaha mencari saluran yang membolehkan maksud difahami.

> “... saya terpaksa panggil *supervisor* saya ... untuk *communicate* dengan diaorang ... Kadang tu diaorang *just* tunjuk macam *translation* dekat telefon tu ... okay baru saya faham apa diaorang nak.” (P1)

P1 juga belajar mengekalkan prosedur ketika berhadapan dengan penumpang yang cuba menggunakan barisan kelas perniagaan tanpa kelayakan. Penolakan tidak disampaikan sebagai arahan semata-mata; beliau menerangkan kedudukan penumpang dan menawarkan alternatif, termasuk laluan yang lebih cepat apabila sesuai. Di sini, penyesuaian komunikasi berlaku serentak dengan pematuhan prosedur.

Pengalaman P2 pula menunjukkan bahawa istilah yang kelihatan jelas kepada penutur boleh ditafsir secara berbeza oleh orang lain. Beliau menyedari bahawa pertanyaan kerja perlu menyatakan konteks, tarikh, mod latihan dan tindakan yang dimaksudkan. P4 turut menggambarkan bagaimana arahan abstrak tentang format Excel menjadi jelas selepas demonstrasi visual. Merentas pengalaman ini, pelajar belajar bahawa memahami maksud sendiri tidak menjamin bahawa audiens memahami perkara yang sama.

Tema 2: Daripada andaian kepada pengesahan dan dokumentasi

Tema kedua berkaitan dengan perubahan daripada bergantung kepada andaian kepada amalan pengesahan dan penciptaan jejak kerja. P1 menceritakan pengalaman membantu urusan temu duga tanpa memaklumkan penyelia kerana menganggap pihak pentadbiran telah membuat *handover*. Apabila penyelia menegaskan "*cannot assume ... you have to tell me*", P1 menyedari bahawa tanggungjawab komunikasi termasuk memastikan pihak yang berkaitan benar-benar menerima maklumat.

Dalam tugasan lain, e-mel, rekod dan jadual pemerhatian digunakan untuk mengesahkan maklumat dan meminta bukti yang betul. P2 pula mengaitkan kejelasan komunikasi dengan ketepatan data latihan, tarikh dan laporan. Apabila telefonnya rosak pada hari temu duga yang perlu dijadualkan semula, beliau mendapatkan nombor calon daripada e-mel dan menggunakan telefon rakan supaya dapat menghubungi calon bagi memaklumkan pembatalan temuduga.

> "Walaupun telefon pecah, saya cepat-cepat cari nombor *candidate* dekat e-mel ... *call* pakai *phone* kawan." (P2)

Naratif P3 mengenai satu peristiwa di mana dokumen yang diserahkannya kepada jabatan lain dikatakan hilang. Beliau cuba membuat penjelasan namun tidak dapat diterima kerana tiada bukti. P3 mula menyedari akan keterbatasan penjelasan lisan apabila tiada jejak serahan yang mudah dirujuk sebagai bukti dokumentasi. Secara keseluruhan, dokumentasi dalam pengalaman pelajar ini bukan sekadar kerja pentadbiran, tetapi ia menjadi cara mengurangkan ketidakpastian, menunjukkan tindakan yang telah diambil dan menyokong akauntabiliti.

Tema 3: Membina ketegasan melalui rundingan

Komunikasi profesional dalam naratif pelajar turut melibatkan ketegasan, khususnya apabila mereka perlu mengekalkan prosedur, mengurus perubahan atau menjelaskan kedudukan. P1 perlu menolak permintaan penumpang yang tidak selaras dengan prosedur, tetapi pada masa yang sama menawarkan pilihan alternatif dan mendapatkan bantuan penyelia apabila situasi melebihi pengalaman atau kuasa keputusannya.

P2 pula perlu menghubungi semula calon apabila ketua jabatan atau *plant manager* mengubah jadual temu duga pada saat akhir. Beliau menyedari bahawa perubahan di peringkat organisasi memberi kesan kepada calon yang mungkin telah mengambil cuti atau membuat persediaan lebih awal. Contoh-contoh ini menunjukkan bahawa ketegasan tidak muncul sebagai tindakan yang keras, tetapi sebagai keupayaan mengurus keperluan organisasi sambil mengekalkan kesopanan dan pertimbangan terhadap pihak lain.

P3 menggambarkan keperluan mendekati pihak luar, membina jaringan dan menjelaskan kedudukan apabila tindakannya dipersoalkan. Pengalaman ini menunjukkan satu bentuk komunikasi representasional: peserta bukan lagi bercakap hanya sebagai individu, tetapi dalam kedudukan sebagai wakil organisasi.

> "Saya kena buat *networking* dengan orang-orang luar ... kena *involve* juga." (P3)

Tema 4: Menyelaras pihak berkepentingan dan kesinambungan aliran kerja

Tema keempat menunjukkan bahawa komunikasi menjadi sebahagian daripada penyelarasan kerja. Maklumat perlu sampai kepada orang yang betul pada masa yang sesuai, disertai pemahaman tentang tindakan seterusnya. P1 menggunakan e-mel, Excel sepunya dan *handover* untuk menghubungkan tugasan pentadbiran, sumber manusia dan operasi stesen. P2 pula menyelaras calon, *head of department, plant manager* dan beberapa loji dalam urusan temu duga, termasuk menghubungi calon, menyusun slot dan mengumpulkan dokumen.

P3 membuat susulan jemputan dan berinteraksi dengan pegawai serta pihak luar untuk menyokong aktiviti organisasi. P4 pula menghubungkan prospek, pelajar, penaja dan klien melalui carian, e-mel, penetapan mesyuarat dan persetujuan kerjasama. Pembentangan mingguan menyediakan ruang pelaporan kemajuan dan maklum balas.

> "Cari pelajar yang baru, *send e-mail ... set meeting ...* cari *potential* untuk *collaboration*." (P4)

Tema ini berbeza daripada dokumentasi kerana fokusnya ialah kesinambungan tindakan. Mesej boleh tepat, tetapi kerja masih boleh terganggu sekiranya *handover*, masa, pemilik tugas atau susulan tidak diselaraskan. Naratif yang dikongsikan pelajar menunjukkan bahawa komunikasi menjadi mekanisme yang menghubungkan tugasan antara individu dan unit kerja.

Trajektori pembangunan komunikasi profesional

Apabila empat tema dibaca bersama, satu trajektori dapat diperhatikan dalam naratif keempat-empat orang pelajar iaitu pergerakan dari komunikasi yang berorientasikan mesej kepada komunikasi yang lebih berorientasikan tindakan. Pada peringkat awal pengalaman yang diceritakan, tumpuan banyak diberikan kepada apa yang perlu disampaikan. Selepas berhadapan dengan salah faham, perubahan jadual, prosedur, pelanggan dan kebergantungan tugas, pelajar mula memberi perhatian kepada siapa yang perlu menerima maklumat, konteks yang perlu dilengkapkan, bukti yang perlu disimpan dan tindakan susulan yang perlu berlaku.

Perubahan ini tidak semestinya linear atau seragam bagi semua peserta. Bukti yang tersedia menunjukkan bentuk pembelajaran yang berbeza mengikut konteks kerja. P1 menekankan pengesahan, prosedur dan empati; P2 menekankan kejelasan bahasa, kepantasan mesej susulan dan pengurusan pihak berkaitan; P3 menonjolkan komunikasi dengan pihak berkepentingan dan jaringan; manakala P4 menunjukkan kepentingan mendapatkan kejelasan, menerima pembetulan dan melaporkan kemajuan. Oleh sebab data berbentuk naratif reflektif, perubahan tersebut lebih tepat difahami sebagai perkembangan yang dikenalpasti oleh pelajar melalui pengalaman mereka, bukan sebagai bukti sebab-akibat bahawa WBL sahaja menghasilkan kompetensi tersebut.

Dari sudut pedagogi, pengalaman ini mencadangkan bahawa persediaan WBL boleh memberi perhatian kepada komunikasi sebagai amalan berperingkat: membaca audiens, melengkapkan konteks, mengesahkan, mendokumentasikan, berunding, membuat eskalasi apabila perlu dan menyelaras tindakan. Refleksi berasaskan peristiwa membantu membezakan antara “saya telah menyampaikan mesej” dengan persoalan yang lebih profesional iaitu “adakah mesej difahami, siapakah yang perlu bertindak, apakah bukti yang diperlukan dan adakah tindakan susulan telah diselesaikan?”. Dapatan ini selari secara umum dengan literatur yang melihat WBL sebagai konteks bagi pembangunan kemahiran kebolehpasaran (Jackson, 2015) dan refleksi berstruktur sebagai cara membantu pelajar menafsir pengalaman profesional (Trede & Jackson, 2021).

KESIMPULAN

Artikel ini membincangkan pembangunan komunikasi profesional melalui pengalaman WBL berdasarkan refleksi pelajar bersama pensyarah. Empat tema menerangkan bagaimana pelajar belajar menyesuaikan komunikasi dengan audiens, menggantikan andaian dengan pengesahan dan dokumentasi, membina ketegasan melalui rundingan, serta menggunakan komunikasi untuk menyelaras pihak dan kesinambungan kerja. Merentas tema, komunikasi profesional dalam naratif pelajar bergerak daripada penyampaian mesej kepada perhatian yang lebih besar terhadap kefahaman, akauntabiliti dan tindakan susulan.

Kaedah refleksi berasaskan peristiwa membantu pelajar mengingat kembali pengalaman spesifik yang dilalui dan menghuraikan apa yang telah dilakukan serta apa yang dipelajari. Walau bagaimanapun, kajian ini bergantung pada naratif kendiri dalam FGD dan kedalaman bukti tidak seragam antara keempat-empat pelajar. Dapatan tidak mewakili semua pengalaman WBL dan tidak boleh dianggap sebagai penilaian prestasi komunikasi pelajar-pelajar tersebut. Kajian lanjutan boleh menggabungkan refleksi peserta dengan maklum balas penyelia atau pemerhatian di lapangan bagi membina gambaran yang lebih lengkap tentang perkembangan komunikasi profesional para pelajar.

PENGHARGAAN

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Pembangunan Permainan Interaktif Rizab Biosfera Tasik Chini Melalui SULAM Untuk Kelestarian Warisan UNESCO

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ABSTRAK

Tasik Chini Rizab Biosfera (TCRB) UNESCO memiliki warisan alam semula jadi dan budaya komuniti Orang Asli Jakun yang tinggi nilainya. Namun demikian, kesedaran awam khususnya generasi muda mengenainya masih kurang dan semakin dilupakan akibat kaedah penyampaian maklumat yang statik. Justeru, kajian ini bertujuan untuk membangun Permainan Interaktif bertemakan TCRB UNESCO melalui inisiatif SULAM tidak langsung bagi meningkatkan kesedaran awam tentang warisan ini. Objektif kajian adalah untuk mengenalpasti elemen persekitaran, identiti dan budaya Orang Asli Tasik Chini; dan membangunkan permainan interaktif pendekatan didik hibur dengan pengalaman pembelajaran imersif. Metodologi kajian melibatkan fasa analisis, reka bentuk dan pembangunan yang sistematik bagi menstruktur navigasi, elemen serta mekanik permainan. Melalui aktiviti SULAM pelbagai fakulti di TCRB, keperluan sumber bahan dan kandungan permainan dikenalpasti dan tahap kesedaran dinilai. Prototaip permainan ini menawarkan penerokaan pengguna melalui melalui tiga senario utama: Perkampungan Orang Asli, Explorasi Hutan dan Menelusuri Tasik sambil menghayati flora dan fauna serta melakukan pelbagai aktiviti permainan. Kajian ini memberi impak signifikan dalam mendigitalkan khazanah warisan negara agar sejajar dengan gaya pembelajaran masa kini. Inovasi ini diharap menjadi pemangkin kepada pembangunan bahan digital warisan, melonjakkan kesedaran awam, serta memartabatkan TCRB sebagai ikon pendidikan, pelancongan, dan pembangunan lestari.

Kata Kunci: Orang Asli, permainan serius, SULAM, Tasik Chini Rizab Biosfera UNESCO (TCRB), warisan.

PENGENALAN

Tasik Chini, Pahang telah diistiharkan sebagai Rizab Biosfera UNESCO (Tasik Chini Rizab Biosfera - TCRB) dan memiliki nilai warisan semula jadi dan budaya yang tidak ternilai; namun kesedaran mengenainya masih kurang dan semakin pudar apalagi dalam kalangan generasi muda. Kaedah penyampaian maklumat tentang warisan yang konvensional, statik dan kurang interaktif sering gagal menarik minat golongan ini menyebabkan pengetahuan mengenai biodiversiti flora, fauna, serta komuniti Orang Asli Jakun di Tasik Chini semakin dilupakan. Pendekatan konvensional ini didapati kurang berkesan untuk menarik minat pelajar berbanding kaedah gamifikasi (permainan) yang terbukti dapat meningkatkan motivasi dan penglibatan pengguna dalam konteks pembelajaran warisan budaya (Hamari et al., 2014).

Bagi menangani isu ini dan jurang yang wujud, kajian ini bertujuan untuk membangunkan permainan interaktif bertemakan TCRB UNESCO melalui inisiatif SULAM tidak langsung. Tujuannya adalah untuk meningkatkan kesedaran awam tentang warisan alam semula jadi dan budaya komuniti Orang Asli yang mendiami TCRB. Permainan yang dibangunkan adalah permainan serius yang berkemampuan menyediakan pengalaman interaktif (Dacosta & Kinsell, 2022) dan imersif bagi pembelajaran berasaskan pengalaman.

SULAM adalah singkatan bagi *Service-learning Malaysia – University for Society* (KPM, 2019) dan dalam kajian ini koloborasi inter-fakulti di Universiti Kebangsaan Malaysia (UKM) dijalankan melibatkan tiga fakulti iaitu Fakulti Teknologi dan Sains Maklumat (FTSM), Fakulti Sains dan Teknologi (FST), dan Fakulti Pengajian Sains Citra (FPSC).

Objektif kajian ini adalah untuk:

- mengenalpasti elemen persekitaran, identiti dan budaya Orang Asli Tasik Chini yang sesuai,
- mereka bentuk dan membangun permainan interaktif dengan pendekatan didik hibur bagi menonjolkan TCRB dengan menyediakan pengalaman pembelajaran yang imersif,

Metodologi kajian melibatkan fasa analisis, reka bentuk dan pembangunan yang sistematik bagi menstruktur senario dan navigasi penceritaan, tahap permainan, elemen serta mekanik permainan. Kertas ini akan membincangkan dapatan awal kesedaran tentang TCRB dalam kalangan pelajar-pelajar pelbagai fakulti yang menjalani lawatan lapangan ke Tasik Chini. Hasil lawatan dan interaksi antara pelajar dengan komuniti Orang Asli tempatan menyediakan input bagi pengisian dan reka bentuk pembangunan permainan interaktif Tasik Chini.

Makmal Alami Pusat Penyelidikan Tasik Chini (PPTC), UKM di Pahang dimanfaatkan melalui aktiviti SULAM untuk aktiviti kemasyarakatan, keperluan sumber bahan dan elemen kandungan permainan dikenalpasti dan tahap kesedaran tentang TCRB turut dinilai.

PEMBANGUNAN DAN HASIL PERBINCANGAN

Perlaksanaan kajian dan pembangunan permainan ditunjukkan dalam Rajah 1 bermula dengan persediaan dalam mengenalpasti genre dan tema; elemen dan mekanik permainan; dan juga prinsip dan teori yang akan diintegrasi dalam permainan.

Rajah 1 Aliran pelaksanaan kajian

Aktiviti SULAM dan lawatan lapangan ke Tasik Chini bertujuan untuk menyediakan pengalaman pembelajaran pengalaman. Soal selidik diedarkan sebelum dan selepas lawatan lapangan untuk mengukur KAP, singkatan kepada Pengetahuan (*Knowledge*), Sikap (*Attitude*), dan Amalan (*Practice*). Jadual 1 menunjukkan tahap kebolehpercayaan keseluruhan data (Alpha Cronbach) yang direkodkan melepasi nilai ambang 0.6, membuktikan kesahan instrumen ini.

Jadual 1. Kesahan Instrumen KAP

Domain	Bilangan Item	Ujian Alpha Cronbach
Pengetahuan	5	0.780
Sikap	5	0.850
Amalan	5	0.739

Analisis statistik deskriptif dalam Jadual 2 memaparkan peningkatan dalam domain:

- Pengetahuan: Peningkatan ketara sebanyak +17.08% (daripada min 4.04 kepada 4.73).
- Amalan: Peningkatan +5.50% (daripada min 4.36 kepada 4.60).
- Sikap: Peningkatan +2.36% (daripada min 4.66 kepada 4.77). Walaupun peratusan ini nampak kecil, namun skor ini untuk sikap masih dianggap tinggi.

Jadual 2. Analisis Deskriptif Hasil KAP

Domain	Purata Ujian Pra (SD)	Purata Ujian Pasca (SD)
Pengetahuan	4.04 (0.67)	4.73 (0.34)
Sikap	4.66 (0.40)	4.77 (0.34)
Amalan	4.36 (0.55)	4.60 (0.42)

Perubahan positif yang signifikan dapat dilihat dalam domain pengetahuan dan amalan, menandakan apa yang diketahui dapat mencetuskan niat perlindungan alam sekitar, sekaligus memberi kesan dalam pemuliharaan rizab biosfera UNESCO ini.

Rajah 2 SULAM dan sesi belajar bersama komuniti Orang Asli Tasik Chini

Aktiviti turut melibatkan lawatan dan interaksi langsung bersama komuniti Orang Asli (Rajah 2) semasa di Tasik Chini yang bertujuan untuk mengenalpasti elemen persekitaran, identiti dan budaya Orang Asli Tasik Chini yang sesuai digunakan sebagai kandungan permainan. Seterusnya prototaip permainan dibangunkan dengan mengintegrasi komponen kesedaran, prinsip reka bentuk antara muka dan interaksi, serta komponen permainan.

Prototaip dibangunkan menggunakan Powerpoint yang boleh dimainkan secara dalam talian. Kreativiti pelajar dipaparkan dalam jalan cerita, watak dan ujiminda yang ditonjolkan dalam permainan tersebut. Pengetahuan mengenai flora dan fauna serta ekosistem Tasik Chini juga diterjemahkan dalam permainan tersebut.Antara muka permainan ditunjukkan dalam Rajah 3.

Pengguna boleh meneroka permainan warisan UNESCO ini melalui tiga senario utama: Perkampungan Orang Asli, Explorasi Hutan dan Menelusuri Tasik sambil menghayati flora dan fauna serta melakukan pelbagai aktiviti permainan. Integrasi Teori pembelajaran berasaskan pengalaman (Kolb 1984) menyediakan persekitaran permainan yang lebih dinamik dan realistik.

Rajah 3 Antara muka prototaip permainan interaktif TCRB

KESIMPULAN

Inisiatif hibrid teknologi-budaya ini memberikan implikasi dasar yang mantap dengan reka bentuk dan pembangunan Permainan Interaktif Tasik Chini bertindak sebagai jentera advokasi awam untuk meningkatkan kesedaran awam dan komitmen institusi penyelidikan di Malaysia bagi memenuhi mandat Rizab Biosfera UNESCO.

Dari sudut sosial pula, SULAM langsung dan tidak langsung yang dijalankan mengalihkan paradigma daripada kajian berkonsepkan eksploitasi kepada kolaborasi simbiotik. Komuniti Orang Asli Jakun dilibatkan sebagai pakar rujuk subjek dan bertindak sebagai ‘guru’ di lapangan. Produk permainan dapat menarik orang awam untuk mengunjungi Tasik Chini bagi mendapatkan

pengalaman yang sebenar, sekaligus meningkatkan sosio-ekonomi dan konsep pelancongan ilmu bagi Komuniti Orang Asli Jakun.

Kesimpulannya, permainan interaktif TCRB ini bertindak melangkaui sebuah medium hiburan semata-mata, namun merupakan peti khazanah arkib digital yang memastikan peradaban dan pengetahuan watan masyarakat peribumi tidak luput ditelan permodenan atau bencana alam semulajadi.

Kajian ini memberi impak signifikan dalam mendigitalkan khazanah warisan negara, agar mudah dicapai, relevan dan sejajar dengan gaya pembelajaran digital masa kini. Diharapkan inovasi ini mampu menjadi pemangkin kepada pembangunan bahan digital warisan negara berasaskan permainan yang lebih meluas, meningkatkan kesedaran awam tentang TCRB sekaligus memartabatkan Tasik Chini sebagai ikon rizab UNESCO untuk pembangunan, pelancongan dan pendidikan yang lestari.

PENGHARGAAN

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Artificial Intelligence, Human Agency and Ethical Judgment: Philosophical Literacy for a Technology-Mediated Society

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ABSTRACT

Artificial intelligence (AI) increasingly influences learning, employment, communication, and decisions that affect individual and public life. Yet AI is often approached primarily as a technical instrument, leaving its implications for knowledge, autonomy, dignity, justice, and responsibility insufficiently examined. This qualitative library-based review analyses AI through humanism, utilitarian and deontological ethics, and technological determinism. Academic books, peer-reviewed literature, and institutional guidance were conceptually synthesised across education, work, social interaction, privacy, bias, dependence, and accountability. Four findings emerge: computational performance does not establish consciousness or moral understanding; efficiency must remain subordinate to dignity and rights; cognitive offloading and algorithmic influence may weaken autonomous judgment; and responsibility must remain traceable across developers, institutions, deployers, and users. The review argues that philosophical literacy is essential for responsible engagement with AI. Education should therefore combine critical inquiry, ethical reasoning, digital literacy, and reflective human oversight. This approach enables learners to evaluate AI claims, recognise embedded values and power relations, and use technology without surrendering responsibility, creativity, or independent judgment.

Keywords: artificial intelligence, philosophical literacy, human agency, AI ethics, critical thinking

INTRODUCTION

AI has moved from specialized laboratories into ordinary life. Recommendation systems shape what people read and watch; generative tools assist writing and learning; automated systems support recruitment, healthcare, finance, surveillance, and public administration. These developments improve speed, access, and analytical capacity, but they also influence how people know, choose, communicate, and accept responsibility. AI is therefore not only a computational innovation. It is a philosophical issue because it changes the conditions under which human judgment and social power operate.

A central conceptual question concerns whether successful performance amounts to genuine intelligence. AI can classify, predict, generate language, and imitate reasoning, yet functional capability does not necessarily imply consciousness, intention, understanding, or moral awareness. Searle's (1980) critique of computational understanding remains relevant: syntactically appropriate outputs may be produced without semantic comprehension. Russell and Norvig (2021) similarly distinguish the engineering of intelligent agents from broader philosophical claims about minds. Treating fluent output as human-like understanding can encourage misplaced trust and obscure the limitations of probabilistic systems.

The educational problem is consequently broader than learning how to operate AI tools. Learners need concepts for questioning evidence, evaluating consequences, recognizing rights and duties, and deciding which forms of judgment should remain human. Existing discussions frequently separate digital competence from ethical and philosophical inquiry. This review addresses that gap by examining AI through the lenses of humanism, utilitarianism, deontology, and technological determinism, and by considering how these perspectives can cultivate critical, responsible, and lifelong engagement with technology.

METHODOLOGY

The study used qualitative library research and conceptual thematic analysis. Academic books, peer-reviewed articles, and credible institutional guidance were examined for arguments concerning intelligence, human dignity, consequences, moral duties, technological influence, privacy, bias, autonomy, and accountability. The source material was organized through four philosophical lenses: humanism, utilitarian ethics, deontological ethics, and technological determinism. The analysis then compared how these lenses illuminate the use of AI in education, employment, social interaction, and consequential decision-making. The approach is interpretive rather than empirical; it clarifies concepts, tensions, and educational implications but does not measure attitudes or evaluate a specific AI system.

RESULTS AND DISCUSSION

Intelligence, understanding, and epistemic responsibility

The first finding is that AI's ability to produce useful or persuasive outputs must not be confused with consciousness, truth, or moral understanding. AI systems generate responses from models, data, and optimization objectives; they can reproduce errors, omissions, and embedded assumptions. Users therefore retain epistemic responsibility: they must verify claims, examine sources, recognize uncertainty, and distinguish computational confidence from justified knowledge. This is particularly important in education, where uncritical dependence may replace inquiry with the acquisition of answers. AI should support interpretation and exploration, not become an unquestioned authority.

Human dignity, consequences, and moral duties

Humanism places dignity, freedom, empathy, creativity, and well-being at the center of technological progress. From this perspective, AI is valuable when it extends human capability and widens access, but problematic when people are reduced to data points or when efficiency displaces meaningful human relationships. Shneiderman (2020) argues for human-centered AI that remains reliable, safe, and trustworthy. The implication is not that every task must remain manual, but that AI design and use should preserve human purpose, contestability, and welfare.

Utilitarian ethics evaluates AI by its consequences. Systems that improve diagnosis, accessibility, transport, or productivity may generate substantial social benefit. However, aggregate benefit can conceal unequal burdens. Deontological ethics adds that privacy, consent, fairness, and respect cannot be ignored merely because a system is efficient. An automated decision that benefits many may still be objectionable if individuals cannot understand, challenge, or appeal its outcome. Responsible evaluation must therefore consider both outcomes and duties (Floridi & Cowls, 2019; UNESCO, 2021).

Autonomy, dependence, and technological influence

The third finding concerns human agency. AI can reduce routine cognitive effort, personalize learning, and assist complex decisions. Yet repeated cognitive offloading may weaken independent judgment when users accept outputs without reflection. Recommendation systems and algorithmic interfaces also shape attention, preferences, and available choices. Technological determinism helps reveal how social practices can reorganise themselves around a technology, while its critics remind us that institutions and users retain the capacity to govern design and adoption. Autonomy is protected when people understand how systems influence them, can refuse or contest automated recommendations, and continue practicing reasoning, creativity, and interpersonal judgment.

Bias, privacy, and distributed responsibility

AI systems may reproduce historical inequalities because their datasets, categories, and objectives reflect human institutions. Bias is not simply a technical defect; it raises questions about recognition, justice, and who bears the consequences of classification. Similarly, extensive data collection can conflict with privacy and informed consent. The ethical challenge is intensified by distributed responsibility: an outcome may involve model developers, data providers, organizations, professionals, and users. Because machines do not possess conscience in the human sense, accountability cannot be delegated to the system itself. Traceability, explanation, oversight, and avenues for redress are necessary throughout the AI lifecycle (Mittelstadt et al., 2016; Winfield & Jirotka, 2018).

Table 1. Philosophical lenses and educational contributions

Philosophical lens	Contribution to learning and judgment
Humanism	Tests whether AI supports dignity, empathy, creativity, inclusion, and human flourishing.
Utilitarianism	Compares benefits and harms while identifying who gains, who bears risk, and which outcomes count.
Deontology	Protects duties and rights such as consent, privacy, fairness, transparency, and the ability to appeal.
Technological determinism	Examines how systems reshape behaviour and institutions while preserving space for human governance and choice.

Philosophical literacy for responsible AI use

The synthesis indicates that responsible AI education should connect technical awareness with philosophical literacy. Learners should be able to ask what a system claims to know, which values are embedded in its design, whose interests are served, what rights may be affected, and who remains accountable. These questions support critical thinking and prevent both technological enthusiasm and technological fear from replacing reasoned judgment.

A suitable learning approach is interdisciplinary and case-based. Students can examine AI-supported hiring, medical recommendations, generative writing, facial recognition, or personalized media through competing philosophical lenses. Comparing consequences, duties, human values, and institutional effects makes ethical disagreement visible and strengthens reason-giving. Reflective disclosure of AI use, source verification, assessment designs that require explanation, and dialogue about uncertainty can preserve academic integrity while acknowledging that AI is already part of contemporary learning.

The same capacities remain relevant beyond formal study. As workplaces and civic institutions change, individuals must continually update digital knowledge while retaining the ability to question automated authority. Philosophical literacy therefore contributes to lifelong learning, responsible citizenship, adaptability, and professional judgment. Universities can support this development through collaboration among educators, technologists, employers, policymakers, and communities, ensuring that practical AI competence remains connected to social responsibility.

Limitations and future directions

This review is conceptual and does not include empirical interviews, surveys, classroom observations, or evaluation of a specific AI platform. Its conclusions identify normative tensions rather than causal effects. Future research should investigate how philosophical and ethical learning influences students' verification practices, reliance on AI, willingness to challenge automated decisions, and capacity to justify the responsible use of AI. Comparative studies across disciplines and cultural settings would also clarify how different educational communities understand autonomy, fairness, authorship, and accountability.

CONCLUSION

AI is a philosophical issue because it affects not only what humans can do, but how they understand knowledge, exercise autonomy, distribute opportunities, and assign responsibility. This review identifies four connected challenges: performance without human-like understanding, efficiency that may conflict with dignity and rights, dependence that can weaken independent judgment, and accountability distributed across complex sociotechnical systems. Humanism, utilitarianism, deontology, and technological determinism provide complementary tools for examining these challenges. Their educational value lies in helping learners move beyond passive tool use toward critical and ethically defensible judgment. AI should augment rather than displace human reasoning, creativity, empathy, and responsibility. Embedding philosophical inquiry, critical digital literacy, case-based dialogue, source verification, and reflective human oversight within learning can prepare individuals to engage with technological change throughout their lives. The responsible future of AI ultimately depends not on technical capability alone, but on informed human choices and institutions capable of aligning innovation with dignity, justice, and the common good.

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Langkah Kemampanan Kewangan Universiti

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ABSTRAK

Tiga teras utama dalam menggerakkan universiti ke tahap yang cemerlang setaraf dengan universiti-universito terkemuka dunia iaiti Kebolehpasaran, Penarafan dan Penjanaan. Kestabilan para ketiaga-tiga elemen ini akan memudahkan pengurusan universiti untuk membawa universiti sederap kehadapan. Parameter yang paling dominan dan mencabar serta memacu kepada pencapaian parameter-parameter lain adadalah kemampanan kewangan. Sehingga kini tiada direktori khas yang menyenarai instrumen-instrumen penjanaan kewangan yang bioleh dijadikan rujukan kepada pentadbir universti. Kertas ini akan mengungkap 4 langkah dalam memastikan kemampanan/kestabilan kewangan universiti, instrumen penjanaan universiti serta beberapa kajian kes yang memberikan nilai impak kepada universiti. Alhir kami mencadangkan model pentadbiran dalam memastikan kemampanan kewangan kepada universiti dan fakulti.

Kata Kunci: Kemampanan Kewangan, Langkah, Instrumen Penjanaan, Pendekatan Berpusatkan Fakulti

PENGENALAN

Universiti kini menghadapi cabaran dalam meletakkan prestasi dan kemampanan kewangan berada dalam keadaan terbaik. Kemampanan kewangan merupakan salah satu cabaran utama yang dihadapi oleh universiti-universiti Malaysia (Nik Ahmad et al. 2019). Sebahagian besar pembiayaan pendapatan universiti awam datang terus daripada kerajaan Malaysia dan bertindak sebagai institusi yang diurus sendiri di bawah Akta Universiti dan Kolej Universiti 1971. Kemampanan kewangan universiti merujuk kepada keupayaan jangka panjangnya untuk mengekalkan kesihatan kewangan dan memenuhi misi akademiknya dengan mempelbagaikan aliran pendapatan, mengurus kos dengan berkesan dan menyesuaikan diri dengan perubahan ekonomi, dan bukannya bergantung semata-mata kepada pembiayaan kerajaan (Crick et al. 2024). Dana yang besar diperlukan bagi setiap institusi dalam merancakkan aktiviti penyelidikan, penerbitan, akademik, pembangunan pelajar, membentuk rangkaian profesional, pembangunan prasarana, khidmat masyarakat dan banyak lagi yang menjadi cabaran bagi setiap institusi pengajian tinggi negara (E-Vahdati 2020). Lebih-lebih lagi hampir kesemua institusi premium ini kini berusia lebih daripada 50 tahun. Bangunan mula nampak lusuh, peralatan mula ketinggalan zaman, persekitaran pula terbiar dan tidak terjaga. Oleh itu, pengurusan universiti perlu diterajui dengan halatuju yang berbeza kerana universiti memerlukan dana yang besar untuk mentransformasikan penampilan fakulti dan pada masa yang sama kos penyelenggaraan juga tinggi setiap tahun. Universiti perlu mempunyai instrumen penjanaan yang lestari dalam menampung keperluan kewangan, menjadikannya sentiasa relevan dalam menempatkannya sebagai sebuah universiti yang terbaik di persada antarabangsa dalam penarafan QS dan THE.

EMPAT (4) LANGKAH KEMAMPANAN KEWANGAN

Secara umumnya, terdapat empat (4) langkah bagi memastikan kemampanan kewangan universiti mengikut turutan yang betul. Langkah pertama adalah mengenalpasti aset yang boleh mendatangkan pendapatan kepada universiti atau dipanggil mengewangkan aset atau juga memaksimumkan penggunaan aset (leveraging asset). Antara aset yang boleh diewangkan ialah sewaan tapak, ruang, bangunan, peralatan, tanah (Moreno 2025). Selain daripada itu, perkhidmatan juga boleh dikategorikan sebagai aset seperti hospital, latihan dan rundingan, estet, ladang solar, pengkomersilan produk dan lain-lain. Setiap aset dan perkhidmatan perlu semtiasa dipertingkatkan kualiti supaya memberikan pulangan yang maksimum (Kinetic Voice 2025).

Langkah kedua adalah dengan membangunkan dan mempelbagaikan instrumen penjanaan seperti pengambilan pelajar saluran terus, penawaran kursus *microcredentia*l, *Open and Distance Learning* (ODL) sijil profesional, geran penyelidikan, endowmen, sumbangan

filantrofi, kolaborasi strategik bersama pihak luar, kursi, pelaburan, pengkomersilan, penjualan buku, majalah dan cenderamata dan lain-lain. Pengurusan fakulti perlu kreatif dan sentiasa mengintai sebarang peluang untuk membentuk instrumen baru. Lebih banyak intrumen penjanaan yang ada maka lebih banyak sumber pendapatan bagi universiti tersebut.

Langkah ketiga ialah penjimatan khususnya dari segi operasi seperti perbelanjaan, tenaga kerja, pengunaan utiliti, pendigitalan dan lain-lain. Penjimatan ini penting tetapi tidak boleh mengekang kepada perkembangan universiti. Strategi penjimatan dan keluwesan perlu diamalkan dengan bijak dalam memastikan motivasi tenaga kerja dalam keadaan terbaik dan kemajuan universiti dapat dilaksanakan serentak. Pemasangan panel solar juga menjimatkan penggunaan tenaga serta meningkatkan pendapatan universiti.

Langkah Keempat adalah kawalan kewangan melalui pengembangan jaringan, pembukaan kampus pesisir dan ofis satelit baru, meningkatkan pelaburan, pembinaan prasarana, pembangunan sumber manusia dan transformasi digital sepenuhnya. Kawalan kewangan lebih menekankan kepada pemerkasaan setiap instrumen yang menjana kepada pendapatan universiti dan menambahbaik sekiraya terdapat kekurangan.

Dana penjanaan ini boleh digunakan sepenuhnya untuk peningkatan dan naik taraf prasarana, kebajikan pelajar dan kelestarian penyelidikan. Kewujudan instrumen-instrumen penjanaan ini sangat membantu dan memberi manfaat kepada warga fakulti, pelajar khususnya tempatan dan universiti amnya. Persekitaran menjadi lebih baik, selesa, kondusif dan memangkin kepada percambahan dan penerokaan ilmu baru dilkalangan para pelajar. Dana penjanaan juga boleh digunakan untuk membina bilik-bilik kuliah baru, studio, peralatan makmal, ruang belajar, ruang rekreasi, cat semula bangunan dan banyak lagi. Selain daripada itu, dana penjanaan juga digunakan untuk membantu pelajar-pelajar yang mempunyai masalah kewangan dan menampung keperluan pelajar yang menjalani program mobiliti di universiti luar negara (outbound mobility). Perubahan teknologi seperti AI, Quantum dan lain-lain juga menyebabkan penyelidikan universiti menjadi kurang relevan dan dana yang besar digunakan untuk menganjak penyelidikan tempatan menjadikannya selari dengan tumpuan penyelidikan dunia (Ab-Rahman et al. 2011).

Empat (4) langkah ini penting dalam membentuk kestabilan kewangan institusi dan boleh juga diaplikasi dalam pengurusan kewangan kendiri. Dengan adanya perancangan kewangan yang betul dan berstrategik mampu mengubah taraf kehidupan individu dan keluarga.

SENARAI INSTRUMEN PENJANAAN

Rajah 1 menunjukkan empat pendekatan utama penjanaan pendapatan universiti, iaitu sumbangan, yuran dan perkhidmatan akademik, monetisasi aset dan aktiviti komersial, serta kolaborasi strategik (Evans 2025). Sumbangan merangkumi filantropi, penajaan, biasiswa, wakaf dan instrumen pembiayaan lain. Yuran dan perkhidmatan akademik pula melibatkan pelajar antarabangsa, program mobiliti, ODL, micro-credential, latihan, seminar dan persidangan (Usher & Balfour 2023). Monetisasi aset dan komersial memberi tumpuan kepada pengoptimuman prasarana, ruang perniagaan, tanah, tenaga solar, hospital dan hotel universiti. Sementara itu, kolaborasi strategik melibatkan kerjasama dengan industri dan rakan strategik melalui kursi akademik, penajaan prasarana, model BOT dan usahasama produk.

Keempat-empat pendekatan ini bertujuan mempelbagaikan sumber pendapatan, mengurangkan kebergantungan kepada sumber kewangan tradisional dan meningkatkan kelestarian kewangan universiti. Pendapatan yang dijana seterusnya dapat menyokong peningkatan kualiti akademik, penyelidikan dan inovasi, pembangunan prasarana serta manfaat kepada masyarakat dan negara. Secara keseluruhannya, kerangka ini menekankan bahawa penjanaan pendapatan bukan sekadar untuk meningkatkan hasil kewangan, tetapi merupakan strategi untuk memperkukuh daya saing dan kelestarian universiti dalam jangka panjang.

Rajah 1: Kerangka Instrumen Penjanaan Pendapatan Universiti

KAJIAN KES

Majlis Penyerahan POC dan PAPR

Pusat Perhubungan Alumni berjaya mengumpulkan sebanyak RM460,334 daripada alumni, warga dan sahabat UKM dalam tempoh sebulan setengah dan mendapat sambutan baik daripada mereka semua. Terdapat juga para alumni yang menyumbang peralatan yang dihantar secara terus dan berperingkat ke UKM. Jumlah yang diterima oleh HCTM yang direkodkan oleh kami adalah melebihi daripada 80 POC dan 15 unit PAPR (Rajah 2). Setiap POC berharga RM4000 dan PAPR pula berharga RM8000 bergantung kepada jenama. Selain daripada alumni dan warga UKM, sahabat UKM yang terdiri daripada individu dan NGO-NGO seperti Yayasan dan Persatuan juga turut membantu membekalkan peralatan ini. Sumbangan mereka juga besar dalam kejayaan projek ini. Diharap peralatan-peralatan ini akan memberi manfaat kepada para pesakit COVID-19 dan pada masa yang sama membantu barisan hadapan negara. Selain daripada penerimaan sumbangan ini, projek ini juga turut merapatkan hubungan alumni UKM yang telah lama terputus hubungan dengan universiti.

Rajah 2: HCTM menerima 80 unit POC dan 15 Unit PAPR sumbangan dari alumni, warga dan sahabat UKM

Makmal Pengajaran Industri

Keterlibatan pihak industri dalam institusi pengajian tinggi penting dalam membentuk graduan yang kalis mada depan serta relevan dengan keperluan industri. Sesetengah negara eropah seperti Jerman khususnya telah berjaya membentuk ekosistem universiti-industri dengan menyediakan pelbagai bantuan termsuklah geran penyelidikan bersaiz besar untuk universti bagi kesinambunganj penyelidikan yang secara langsung memberi manfaat kepada universiti. Di Malaysia pula, pihak industri juga aktif dengan pelbagai bentuk bantuan seperti khidmat nasihat pembangunan struktur kurikulum, seminar perkongsian, geran penyelidikan, penempatan latihan industri banyak lagi. Kolaborasi bersifat simbiotik ini mampu meningkatkan kompetensi tenaga pakar negara dan pada masa yang sama meningkatkan penarafan bagi sesebuah universiti.

Makmal Pengajaran Industri merupakan satu lagi bukti kolaborasi hebat dan utuh antara universiti dan industri, yang membawa masuk kepakaran, peralatan, kemudahan dan lain-lain dari industri ke universiti. Secara tidak langsung memberi manfaat kepada semua khususnya dalam membentuk graduan yang holistik, kompeten dan memenuhi kehendak pihak industri. Kolaborasi ini juga merupakan simbol kepercayan pihak industri terhadap pengurusan akademik Universiti Kebangsaan Malaysia dalam melahirkan graduan yang kompeten dan kompetitif mengikut acuan industri. FKAB mensasarkan sekurang-kurangnya mempunyai 10 Makmal Pengajaran Industri dalam tempoh beberapa tahun ini dimana rundingan demi rundingan telah berlangsung untuk merealisasikannya. Sehingga kini FKAB mempunyai 9 makmal pengajaran industri yang merupakan sumbangan daripada syarikat tempatan dan luar negara. Rajah 3 menunjukkan beberapa makmal pengajarn industri yangh dibina di Fakulti Kejuruteraan dan Alam Bina dengan kos sebuh antar RM300K hingga RM500K yang dibiayai sepenuhnya oleh pihak industri.

Rajah 3: Makmal Pengajaran Industri

MODEL PENTADBIRAN MEMACU PENJANAAN
Faculty Centric Approach (FCA)

FKAB mencadangkan pendekatan Faculty Centric Approach (FCA) sebagai model pentadbiran yang meletakkan kemajuan, kecemerlangan dan kelestarian fakulti sebagai teras utama pengurusan. FCA berasaskan prinsip bahawa fakulti yang kukuh, berautonomi dan mempunyai keupayaan menjana sumber sendiri akan menghasilkan PTJ yang lebih berdaya tahan. Apabila setiap fakulti mempunyai kapasiti yang mencukupi dari aspek kewangan, prasarana, tenaga kerja, kepakaran, struktur pentadbiran dan program berimpak tinggi, fakulti bukan sahaja mampu memenuhi keperluan warganya, malah dapat memberikan sumbangan yang lebih besar kepada universiti.

Falsafah FCA
"Fakulti Kuat → PTJ Kuat → UKM Kuat"
Pendekatan ini memerlukan anjakan paradigma daripada model yang terlalu berpusat kepada universiti kepada model yang memberikan ruang, tanggungjawab dan akauntabiliti yang lebih besar kepada fakulti. FCA bukan bermaksud fakulti bergerak secara terasing daripada universiti. Sebaliknya, fakulti diberikan keupayaan untuk berdikari dalam mengurus, menjana dan membangunkan kekuatan masing-masing, selari dengan visi, misi dan KPI universiti.

Jangkaan hasil
Pelaksanaan FCA akan melahirkan fakulti yang kuat, berdaya saing, berautonomi dan mampu berdiri atas kaki sendiri dari perspektif kelestarian.
Fakulti yang mempunyai sumber dan persekitaran kerja yang kondusif akan lebih berupaya:

- meningkatkan kualiti akademik dan penyelidikan;
- memperkukuh jaringan industri dan masyarakat;
- menjana pendapatan secara berterusan;
- menarik bakat dan pelajar berkualiti;
- meningkatkan ranking bidang;
- meningkatkan kesejahteraan warga;
- mengurangkan kebergantungan kepada peruntukan pusat; dan
- memberikan sumbangan yang lebih besar kepada universiti.

Akhirnya, FCA bukan sekadar model pentadbiran fakulti. Ia merupakan model pengukuhan universiti melalui pengukuhan setiap fakulti.

KESIMPULAN

Kita tidak membina UKM dengan menjadikan fakulti bergantung kepada universiti; kita membina UKM dengan menjadikan setiap fakulti cukup kuat untuk menyumbang kepada universiti.

PENGHARGAAN

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Academic–Industry–Community Synergy in Higher Education: Comparative Insights from Malaysian Research Universities

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ABSTRACT

This paper examines the evolving role of Malaysian research universities in fostering academic–industry–community synergy. Drawing on the Triple Helix model, it highlights how institutions such as Universiti Sains Malaysia (USM), Universiti Malaya (UM), Universiti Teknologi Malaysia (UTM), Universiti Kebangsaan Malaysia (UKM), and Universiti Putra Malaysia (UPM) integrate research, industry collaboration, and community engagement. Case studies illustrate diverse approaches, from sustainability-driven initiatives at USM to commercialization hubs at UM, engineering partnerships at UTM, community living labs at UKM, and agri-innovation at UPM. The paper further explores the establishment of academic ventures and the role of industry funding in enabling community participation, proposing a synergy model that positions universities as engines of both economic prosperity and social justice.

Keywords: Synergy, Collaboration, Academic, Industri, Community.

INTRODUCTION

Higher education institutions are evolving into innovation ecosystems that connect academia, industry, and communities. This synergy is essential for sustainable development, knowledge transfer, and preparing graduates for real-world challenges. Similarly, Malaysia is undergoing transformation, with research universities expected to act as connectors of knowledge, industry, and society. The Triple Helix framework (Etzkowitz & Leydesdorff, 2000) provides a lens to understand how academia, industry, and community co-create innovation ecosystems.

METHODOLOGY AND CONCEPTUAL FRAMEWORK

This study adopts a qualitative comparative case study approach, focusing on Malaysia's five research universities. Data is drawn from institutional reports, symposium proceedings, and government-linked initiatives.

Conceptual Framework: The Academic–Industry–Community Synergy Model (Figure 1) is adapted from the Triple Helix theory but contextualized for Malaysia. It positions the *Academic Venture Hub* at the center of interactions between universities, industries, and communities.

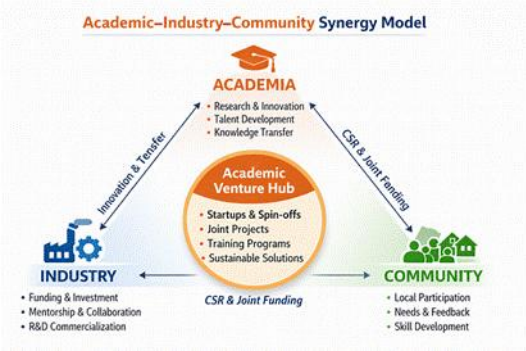

Figure 1 Academic–Industry–Community Synergy Model with an Academic Venture Hub at the center: Sources https://copilot.microsoft.com/th/id/BCO.24c426bc-8bda-4168-beef-2bf9a07bc70c.png

Arrows in the diagram show the flows of synergy:

- Academia → Hub: *Innovation & Tech Transfer*
- Industry → Hub: *CSR & Joint Funding*
- Community → Hub: *Engagement & Co-ownership*

As shown in Figure 1 Academic–Industry–Community Synergy Model. To elaborate further, its framework illustrates the triangular relationship between academia, industry, and community, converging at the *Academic Venture Hub* where innovation, funding, and participation intersect. The model demonstrates how universities act as catalysts for inclusive innovation by linking research and talent development (academia), investment and commercialization (industry), and local engagement and capacity building (community). Arrows indicate reciprocal flows of knowledge, resources, and feedback that sustain the venture ecosystem. The *Triple Helix* model (Etzkowitz & Leydesdorff, 2000) visually showing how universities, industries, and communities interact in a venture-funding innovation and its ecosystems.

CASE STUDIES: MALAYSIAN RESEARCH UNIVERSITIES

- USM: ICAP 2025, COMPASSION projects, startup ecosystem.
- UM: UMCIC commercialization hub, medical/engineering partnerships.
- UTM: Symbiosis Program, multinational engineering collaborations.
- UKM: Living Lab initiatives, indigenous knowledge integration.
- UPM: Agri-Innovation hubs, rural development programs.

Five local public Malaysian research universities are selected for Case studies. Scholars argue that universities must evolve from "knowledge producers" into "knowledge brokers" that actively engage with external stakeholders. Each research university is examined through three dimensions as follows:

1. Academic contribution (research, talent, policy). Provides research, innovation, and talent development.
2. Industry collaboration (funding, commercialization, mentorship): Contributes funding, mentorship, and commercialization pathways.
3. Community engagement (participation, feedback, co-ownership). Offers participation, feedback, and skill development.

Academic Contribution Provides research, innovation, and talent development. Universities as stakeholders contribute by:

- Knowledge Creation (Research): Generating fundamental and applied research.
- Talent Pipeline: Equipping students with critical skills for diverse careers.
- Policy Guidance: Providing evidence-based insights for government and community decision-making.

Industry Collaboration: Contributes funding, mentorship, and commercialization pathways. Industry partnerships as stakeholders enhance higher education by:

- Applied Research & Innovation: Industry partnerships accelerate commercialization of academic discoveries.
- Internships & Workforce Development: Students gain practical exposure, while companies access fresh talent.
- Digital Transformation: Symbiosis theory highlights how enterprises benefit from collaborative innovation under digital shifts.

Community Engagement: Offers participation, feedback, and skill development. Community as stakeholders ensure synergizing:

- Social Responsibility: Universities address local challenges through sustainability, healthcare, and education projects.

- Inclusive Growth: Community-based projects ensure innovation benefits society broadly. growth via programs targeting marginalized groups.
  - Lifelong Learning: Institutions provide continuing education opportunities for citizens, strengthening civic capacity. Community engagement strengthens trust and ensures that higher education remains socially relevant
  - Academic Venture Hub (center): The convergence point where startups, joint projects, training programs, and sustainable solutions emerge. They are the main results outcomes from this collaboration

USM'S DETAILS CASE STUDY APPROACH TO SYNERGY

Universiti Sains Malaysia (USM) has made academic–industry–community synergy a central mission, embedding sustainability, talent development, and inclusive innovation into its programs. Through initiatives like ICAP 2025 and IPPT's Industry Symposium, USM demonstrates how higher education can align research, industry needs, and community impact.

USM's initiatives provide real-world examples of the academic–industry–community synergy discussed in your article:

- Academic contribution: Research translated into industry-ready solutions (e.g., MedTech innovation).
- Industry collaboration: Direct involvement in curriculum design and talent development.
- Community engagement: Programs like COMPASSION and startup support ensure inclusivity and sustainability.

1. Community & Industry Engagement

- Sustainability focus: USM integrates community and industry partnerships to advance the UN Sustainable Development Goals (SDGs).
- Startup support: Grants up to RM25,000 per project and financial aid for local enterprises.
- Skill clusters: Programs in food & beverage, electronics, agriculture, retail, and e-commerce.
- Collaborations: Partnerships with Yayasan Petronas, MARA, ECER, and Yayasan Peneraju to provide training and mentorship.

2. Industry–Community Advisory Panel (ICAP 2025)

- Strategic platform: Over 70 panel members from industry and community sectors.
- Curriculum alignment: Industry input directly shapes teaching and learning.
- High-impact projects: 42 community programs under COMPASSION, benefiting 1,500+ recipients.
- Funding: Secured RM7 million from TERAJU for socio-economic transformation projects.

3. IPPT USM–Industry Symposium 2025

- Theme: "Bridging Minds, Building Futures."
- Focus: Career readiness, graduate employability, and research translation.
- Cross-sector collaboration: Healthcare, medical technology, and electronics industries engaged.
- SDG alignment: Supports SDG 4 (Quality Education), SDG 8 (Economic Growth), SDG 9 (Innovation & Infrastructure), and SDG 17 (Partnerships).

Universiti Sains Malaysia (USM) USM has positioned itself as a leader in sustainability-driven innovation. USM demonstrates sustainability-driven innovation through ICAP 2025, the university integrates industry and community voices into curriculum design and research priorities. Its COMPASSION projects demonstrate how academic expertise can be mobilized to deliver tangible social benefits, while its startup ecosystem provides seed funding

and mentorship to young entrepreneurs. These efforts illustrate USM's role as a catalyst for inclusive growth, aligning with national development agendas. instead of lifting phrases directly.

Universiti Malaya (UM) UM emphasizes the commercialization of research outputs through its Centre of Innovation and Commercialization (UMCIC). UM's commercialization center facilitates intellectual property transfer and startup creation. UM bridges the gap between laboratory discoveries and market applications. Its partnerships in medical and engineering fields highlight how research universities can directly contribute to industry competitiveness and healthcare innovation.

Universiti Teknologi Malaysia (UTM) UTM has cultivated strong ties with multinational corporations, particularly in engineering and technology sectors. Programs such as the UTM-MTDC Symbiosis initiative foster entrepreneurship among graduates and researchers, equipping them with the skills to translate technical expertise into viable business ventures. This approach underscores UTM's role in preparing a workforce capable of thriving in Malaysia's innovation economy.

Universiti Kebangsaan Malaysia (UKM) UKM integrates community engagement into its research and teaching through Living Lab initiatives. These projects emphasize sustainability and indigenous knowledge, positioning UKM as a university deeply embedded in local contexts. By involving communities directly in research design and implementation, UKM demonstrates how higher education can serve as a platform for co-created solutions to societal challenges.

Universiti Putra Malaysia (UPM) UPM's strength lies in agriculture and food security. Its Agri-Innovation hubs connect research outputs to farmers and SMEs, ensuring that academic discoveries are translated into practical tools for rural development. By focusing on food systems and agricultural productivity, UPM contributes to national priorities while empowering communities to adopt innovative practices.

ACADEMIC VENTURES AND INDUSTRY-FUNDED COMMUNITY PARTICIPATION

A new frontier in Malaysian higher education is the setup of academic ventures — innovation hubs and incubators within universities that transform research outputs into startups and spin-offs. These ventures thrive when supported by industry funding, which ensures financial sustainability and relevance. When mentioning funding amounts (e.g., RM7 million from TERAJU), cite the official report.

Academic Ventures: Provide co-working spaces, mentorship, and commercialization pathways for faculty and student innovations.

Industry Funding: Corporations contribute seed grants, CSR investments, and joint research funds.

Community Participation: Local SMEs, cooperatives, and rural communities act as testbeds, co-owners, and beneficiaries of innovations.

Malaysian examples directly to each vertex:

- Academia (USM, UM, UTM, UKM, UPM) → Research and innovation centers.
- Industry (Petronas, MARA, ECER) → Funding and mentorship programs.
- Community (rural cooperatives, SMEs) → Participation and feedback mechanisms.

This triangulation ensures that profits and knowledge are reinvested into communities, creating a cycle of inclusive innovation.

COMPARATIVE ANALYSIS

University	Strength	Industry Link	Community Impact
USM	Sustainability-driven innovation	ICAP 2025, startup ecosystem	COMPASSION projects, inclusive growth
UM	Commercialization & patents	UMCIC, medical/engineering partnerships	Healthcare solutions
UTM	Engineering & technology	Symbiosis Program, multinational collaborations	Graduate entrepreneurship

UKM	Community-based research	Living Lab partnerships	Indigenous knowledge, sustainability
UPM	Agriculture & food security	Agri-Innovation hubs	Rural development, SME support

Malaysia's research universities collectively demonstrate the transformative potential of synergy. USM leads with sustainability-driven initiatives, UM excels in commercialization, UTM in engineering partnerships, UKM in community living labs, and UPM in agriculture. Together, they form a national ecosystem of innovation. This reflects Malaysia's broader policy emphasis on innovation-driven growth. The scaling of these models across all universities is essential for Malaysia to bridge regional education disparities, foster inclusive innovation, and strengthen global competitiveness.

CONCLUSION

Academic–industry–community synergy is not optional; it is the defining mission of Malaysian higher education. Institutions that embrace this role will thrive as engines of prosperity and social justice.

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"Present, Past, and Future Framework": Adapting a Corporate Communication Strategy to Enhance ESL Self-introductions

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ABSTRACT

Self-introduction activities are commonly implemented as a practical tool to build rapport, foster student engagement and create an inclusive, collaborative classroom environment. This study introduces Wojnicki's (2022) corporate communication strategy as a pedagogical scaffold to help students develop more purposeful self-introductions. Data were collected using questionnaires and video analysis from 35 ESL students. Findings showed that learners were responsive to the strategy for both academic and future professional situations. By adopting a corporate strategy in the classroom, learners are equipped with an analogue tool in developing effective self-introduction and personal branding skills that are increasingly valued in professional contexts.

Keywords: Self-introduction; Pedagogical scaffolding; ESL learners; Self-presentation skills; Personal branding.

INTRODUCTION

Language educators frequently utilize self-introduction activities at the beginning of a semester as a pedagogical tool to build peer rapport and establish a supportive environment for collaborative learning. This is vital due to the nature of fluid classroom composition of higher education environments. By breaking down initial social barriers, activities that 'break the ice' allow students to feel more integrated into the academic community from the outset. Chlup and Collins (2010) believe that in order for these activities to be effective, they require purpose and intentional design.

Readings of past literature shows that activities promoting student-student collaboration yield significant benefits for learners, especially those with lower language proficiency. For instance, Alfian, Kaimuddin, and Azis (2023) found that activities that support confidence building can enhance students' classroom participation and contribute to a more supportive learning environment. Similarly, a study conducted in a local university by Razawi and Mohamad (2024) found that activities encouraging peer support and emotional regulation helped students feel more confident and motivated to speak. These findings reveal that simple interactive tasks, like introducing themselves, do make a substantial difference for low-proficiency learners.

It is worth noting that although an activity of introducing themselves is within the scope of their personal life, students often resort to basic biographical information such as where they are from and their current living residence. In other words, their self-introductions are limited to surface-level facts with little engaging description.

Informal classroom observations accumulated over several years of teaching indicated that instructional scaffolding is necessary to help learners advance beyond basic self-introduction and engage in more meaningful communication.

Broad and unstructured prompts like ‘introduce yourself to the class’ or ‘talk about your hobby’ may place excessive cognitive demands on learners, particularly during impromptu speaking tasks such as self-introduction activities. This is often linked to concerns of self-image leading to speaking anxiety for ESL learners (Sauffi, Alias, and Senom, 2025). Thus, they often fall back on minimal biographical facts of themselves. Additionally, it does little to guide them in developing their academic and professional profile.

In addressing this gap, a corporate strategy “Present, Past, Future Self-Introduction Framework (PPF)”, originally developed by Wojniki (2022) was adopted in the classroom ice-breaking session.

The strategy provided a structured self-introduction framework to guide students develop an academic and professional identity of themselves. Students build information of themselves based on the format in the self-introduction framework.

The framework also fosters language awareness by focusing on markers of past, present and future within the framework. This structured approach provides students with conscious attention to content and linguistic output. It also motivates students to recognise and accurately apply correct grammatical tenses.

For low proficiency ESL learners, critical thinking skills are essential to the language learning process, to interpret meaning, evaluate information and construct arguments.

PPF self-introduction method is an analogue tool that encourages higher order thinking skills and student authenticity especially with low-proficiency students. It is also an instant tool that students can rely on, during situations where technology is not accessible, particularly during spontaneous in person communication.

The PPF framework provides a structured approach to content organization, allowing students to allocate their limited linguistic resources to accurate language production. As a result, students demonstrate greater confidence and produce higher-quality self-introductions. Consistent with scaffolding theory, such support enables learners with lower proficiency levels to perform tasks beyond what they could achieve without assistance (Wood et al., 1976).

Research Objective

The objective of this research is to explore students' perception of applying Present-Past-Future (PPF) Framework in self-introduction.

Research Methodology

Participants of this small-scale action research were 35 undergraduate students of one English language class at a local university. PPF self-introduction method was introduced and model by the teacher before the students applied it.

RESULTS AND DISCUSSION

Data for this small-scale classroom research was triangulated using questionnaires and also an analysis of recorded videos of students’ self-introductions applying the PPF Framework.

Data for this study were collected from two sources: (a) questionnaires administered to the students at the end of the activity, and (b) teacher observations of students’ self-introduction.

Findings appear to suggest that Wojniki’s framework when adopted to fit a classroom environment was beneficial to students of low-proficiency due to the structured nature of its format.

PPF self-introduction method provides a clear organizational structure to a simple task of introducing oneself. The framework gave the students the much-needed bullet points of how to begin their introduction, follow up content and conclusion to a future expectation of themselves. The framework gave students the independence of generating their own clear boundaries for a simple open-ended speaking activity.

This is also corroborated by findings from the questionnaire. Students responded positively (54% strongly agreed) stating that the method helped them to organise the content of their self-introduction.

The findings of this research suggest PPF self-introduction, a corporate communication strategy that when adopted to the classroom can be beneficial to students when introducing themselves.

Previous studies have highlighted anxiety as a major challenge for low proficiency students in oral presentations.

The application of this framework has provided students with clear scaffolding of both language and content for their self-introduction to alleviate this issue. 51% of the respondents agreed and 31% strongly agreed that the framework gave them the confidence to introduce themselves. Zero responded disagreed with the statement “

Students also stated that PPF method gave them more self-confidence in self-introduction activities.

It can be concluded here that by providing a scaffolding of the introduction framework students elevates students’ confidence without additional difficulty in the activity.

Results from the questionnaire discovered students’ receptiveness to apply the framework beyond the classroom environment. When questioned if they would use it in real-life situations such as meetings and job interviews, 54% of the respondents strongly agree to this with 43% agreeing.

This result suggests that students do not see it merely as a classroom activity but as a practical

strategy that extends to future professional context.

CONCLUSION

Self-Introduction activities are often relied on as a pedagogical practice to set peer familiarity and a conducive atmosphere for collaborative learning. When conducted with strategies and purposeful format they can become a meaningful life-long learning experience.

The Present, Past, Future (PPF) framework guides students in selecting specific areas of themselves to include in the introduction. Linguistically, it also guides the grammatical structure for each area of their description. Additionally, students acquire a life-long professional skill that can be applied in the work environment such as interviews or any similar professional settings.

As a small classroom action research, this study was limited to one classroom of 35 students. Future studies should involve larger sample sizes and look beyond low-proficiency learners.

The PPF Self-Introduction Framework by Wojniki (2022), a corporate communication strategy, when adopted as a classroom activity, provides the much-needed handrail in content and linguistic structure especially for low-proficiency learners.

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Pengalaman Pelajar SmSn Citra dalam Pemerkasaan dan Pembangunan Komuniti: Perbandingan Merentas Empat Kes *Work-Based Learning* (WBL)

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ABSTRAK

Program Sarjana Muda Sains Citra (SmSn Citra) di UKM mewajibkan penempatan *work-based learning* (WBL) selama 12 bulan di industri yang bersesuaian bidang penumpuan pelajar. Artikel ini membincangkan pengalaman dan refleksi daripada empat orang pelajar yang menjalani WBL di empat organisasi berbeza, namun mempunyai persamaan dari segi perkaitan dengan pemerkasaan dan pembangunan komuniti. Empat organisasi penempatan WBL pelajar adalah Lembaga Zakat Negeri Kedah (LZNK), Pusat Pemerkasaan Remaja (PERKASA) UKM, Pandai Education Sdn. Bhd., dan Bank Islam Malaysia Berhad melalui kerjasama strategik dengan Waqaf An-Nur. Sepanjang tempoh WBL, pelajar-pelajar berpeluang meneroka bagaimana organisasi menterjemahkan mandat sosial masing-masing terhadap kumpulan sasaran yang berkenaan, iaitu asnaf luar bandar, remaja B40, usahawan mikro, dan komuniti Orang Asli. Dapatan perbandingan menunjukkan tema sepunya berupa jurang antara dasar sedia ada dengan pelaksanaan di peringkat akar umbi, khususnya dari aspek pengukuran impak dan penyeragaman amalan. Analisis refleksi bersama pensyarah pula menemukan lima tema penting dalam pengalaman pelajar bekerja dan memahami komuniti. Tema tersebut adalah (i) pembinaan hubungan dan komunikasi kontekstual; (ii) pemahaman realiti kehidupan dan pembentukan empati; (iii) peranan pelajar sebagai penghubung antara komuniti dengan organisasi; (iv) pembelajaran melalui pelaksanaan program bersama komuniti; dan (v) penilaian kritis terhadap kesesuaian dan kelestarian intervensi. Dapatan menunjukkan bahawa pengalaman komuniti memperluas pembelajaran WBL daripada penguasaan kemahiran kerja kepada pembentukan kepekaan sosial, pertimbangan etika dan keupayaan menterjemahkan keperluan masyarakat kepada tindakan organisasi.

Kata Kunci: pembangunan komuniti, pemerkasaan asnaf, pendidikan inklusif, tanggungjawab sosial, *work-based learning*

PENGENALAN

Penempatan *work-based learning* (WBL) dalam Program Sarjana Muda Sains Citra (SmSn Citra), Universiti Kebangsaan Malaysia (UKM), ialah komponen kurikulum wajib selama 12 bulan yang menempatkan pelajar dalam organisasi industri, agensi kerajaan dan badan bukan kerajaan yang bersesuaian dengan bidang penumpuan mereka. Pelajar juga diwajibkan menjalankan penyelidikan projek *capstone* bagi menghubungkan teori yang dipelajari dari universiti dengan penyelesaian permasalahan sebenar dalam organisasi hos WBL mereka.

Artikel ini membentangkan refleksi pelajar bersama pensyarah pembimbing mengenai hasil pembelajaran dari penempatan WBL empat orang pelajar SmSn Citra di empat organisasi berbeza sepanjang tempoh latihan industri. Pelajar pertama (P1) ditempatkan di Lembaga Zakat Negeri Kedah (LZNK) untuk mengkaji model pembangunan masyarakat asnaf di Daerah Sik; pelajar kedua (P2) ditempatkan di Pusat Pemerkasaan Remaja (PERKASA) UKM untuk membangunkan garis panduan penilaian inklusif bagi remaja Orang Kelainan Upaya (OKU) di bawah program PERMATA Remaja; pelajar ketiga (P3) ditempatkan di Pandai Education Sdn. Bhd. untuk membangunkan rangka laporan akhir projek yang standard; manakala pelajar keempat (P4) mengkaji kerjasama strategik antara Bank Islam Malaysia Berhad dan Waqaf An-Nur dalam pemerkasaan komuniti di Pasir Gudang, Johor.

Selain mendedahkan pelajar kepada persekitaran kerja sebenar, penempatan empat orang pelajar ini membentuk kefahaman terhadap tanggungjawab sosial institusi serta cabaran governans komuniti yang dihadapi organisasi hos. Pengalaman kerja yang bermakna untuk pelajar bukan sekadar penyertaan dalam rutin organisasi, tetapi penglibatan yang disertai bimbingan dan refleksi berstruktur (Jackson, 2015) dari bimbingan pensyarah dan penyelia industri.

Tujuan artikel ini adalah untuk (i) menghuraikan skop kerja keempat-empat pelajar yang melibatkan komuniti sasaran; (ii) membandingkan model penglibatan komuniti yang diamalkan oleh organisasi hos; dan (iii) merumuskan refleksi pelajar hasil pengalaman bekerja bersama komuniti.

HASIL DAN PERBINCANGAN

Kajian kes empat projek *capstone*

Kesemua projek *capstone* melibatkan penyelidikan berskala kecil menggunakan reka bentuk kualitatif atau gabungan kualitatif-kuantitatif, merangkumi temu bual, analisis dokumen dan soal selidik. Jadual 1 merumuskan organisasi WBL, komuniti sasaran dan skop kerja keempat-empat pelajar.

Jadual 1. Rumusan organisasi WBL, komuniti sasaran dan skop kerja berkaitan komuniti bagi setiap pelajar

Pelajar	Organisasi WBL	Komuniti sasaran	Skop kerja berkaitan komuniti
P1	Lembaga Zakat Negeri Kedah	Asnaf luar bandar dan pemimpin setempat	Mengumpul data profil keluarga asnaf, temu bual asnaf dan pemimpin komuniti, serta mencadangkan model pembangunan asnaf berasaskan pendidikan dan kemahiran.
P2	Bank Islam Malaysia Berhad dengan Waqaf An-Nur	Usahawan mikro dan asnaf bandar	Menyertai lawatan dan temu bual peserta iTEKAD Maju serta Waqaf Tani Komuniti, dan menyediakan cadangan pembiayaan program pemerkasaan komuniti.
P3	Pusat Pemerkasaan Remaja (PERKASA) UKM	Remaja berisiko dan remaja berkeperluan khas di kawasan perumahan awam	Mengendalikan kem, kelas kemahiran dan aktiviti keusahawanan Program PERMATA Remaja, serta membangunkan garis panduan penilaian inklusif.
P4	Pandai Education Sdn. Bhd.	Murid sekolah kurang akses digital	Melaksanakan program jangkauan aplikasi pendidikan dan dokumentasi projek, serta membangunkan templat laporan akhir projek yang seragam.

Perbandingan keempat-empat kes menemukan satu tema sepunya, iaitu jurang antara dasar sedia ada dengan pelaksanaan serta pengukuran impak di peringkat operasi. Di LZNK, walaupun agihan bantuan kewangan dan pendidikan dilaksanakan secara konsisten, kajian P1 mendapati 86.9% responden asnaf masih menuntut program pembangunan komuniti yang lebih kukuh dan latihan kemahiran yang lebih meluas. Ini selari dengan rumusan Solahuddin Abdul Hamid et al. (2023) bahawa bantuan zakat sedia ada belum memutuskan kitaran kemiskinan secara menyeluruh. Bagi kes Bank Islam dan Waqaf An-Nur, hasil kajian P2 menunjukkan bahawa gabungan pembiayaan mikro (iTEKAD Maju), pembangunan pertanian (Waqaf Tani Komuniti) dan perkhidmatan kesihatan menyokong pemerkasaan komuniti secara bersepadu, selari dengan model kolaborasi Mahmud dan Noordin (2024) serta Mohd Ali et al. (2023). Di PERKASA UKM, ketiadaan rubrik pemarkahan yang berbeza bagi remaja berkeperluan khas mencerminkan dapatan Nieminen et al. (2024) tentang kegagalan sistem penilaian konvensional mengambil kira kepelbagaian keupayaan peserta. Di Pandai Education Sdn. Bhd., ketiadaan rangka laporan berstruktur menyokong dapatan Sepúlveda-Rivillas et al. (2022) bahawa organisasi tanpa sokongan pengurusan pengetahuan yang mantap cenderung mengalami ketidakcekapan operasi; templat laporan seragam yang dibangunkan P4 berjaya mengurangkan masa penyediaan laporan sebanyak 45%.

Keempat-empat kes turut memperlihatkan peralihan institusi daripada bantuan ad hoc kepada model pembangunan kapasiti yang lebih berstruktur, seperti Skim Bantuan Jaya Diri dan latihan TVET di LZNK, garis panduan penilaian berasaskan petunjuk prestasi di PERKASA UKM, dan templat laporan seragam di Pandai Education.

Refleksi pengalaman bekerja dengan komuniti

Sumber kedua data adalah dari sesi perbincangan kumpulan berfokus (FGD) bersama keempat-empat pelajar dan pensyarah selepas tempoh penempatan. Analisis tema dilaksanakan secara deduktif dengan merujuk prosedur Braun dan Clarke (2006) serta prinsip pengekodan berasaskan kerangka oleh Fereday dan Muir-Cochrane (2006). Lima tema berikut muncul hasil FGD bersama keempat-empat orang pelajar.

Tema 1: Membina hubungan dan memahami konteks sasaran komunikasi

Tema pertama menunjukkan bahawa komunikasi dengan komuniti menuntut lebih daripada keupayaan bertanya soalan; pelajar perlu menyesuaikan bahasa, adab, masa dan cara pendekatan. P1 tidak terus memasuki sesi dengan

senarai soalan, sebaliknya menghubungi individu terlebih dahulu dan menjelaskan tujuan pertemuan sebelum maklumat sensitif dibincangkan. P3 pula membina kepercayaan melalui kehadiran berulang dalam kem dan kelas hujung minggu bersama remaja; apabila kepercayaan terbina, sebahagian remaja mula berkongsi masalah peribadi, sehingga sesetengahnya meminta bantuan peribadi atau wang. P4 perlu menyesuaikan penerangan aplikasi pendidikan mengikut umur dan tahap kefahaman murid. Justeru, kemahiran bekerja dengan komuniti merangkumi keupayaan mengekalkan empati tanpa mengabaikan batas dan tanggungjawab profesional.

"Saya mula *join camp* supaya budak-budak kenal muka saya… bersembang dengan mereka, cuba ambil hati, barulah kita dapat tahu *background story* mereka." (P3)

Tema 2: Pemahaman realiti kehidupan komuniti dan pembentukan empati

Interaksi langsung membolehkan pelajar melihat keadaan yang sebelum ini hanya difahami secara umum. P2 mengikuti lawatan program pembiayaan mikro dan melihat seorang ibu bekerja di kantin pada waktu pagi sebelum meneruskan latihan di ladang kelulut pada sebelah petang, lalu menyedari usaha dan ketidakpastian yang dihadapi peserta dalam membina sumber pendapatan. Bagi P3, pengetahuan tentang latar kehidupan remaja di kawasan perumahan awam seperti cerita keluarga, pengalaman kehilangan dan tekanan persekitaran telah mengubah cara beliau mentafsir tingkah laku mereka, dan menunjukkan bahawa tingkah laku tidak boleh dinilai daripada pertemuan pertama sahaja. Perubahan ini selari dengan kajian yang menunjukkan bahawa pengalaman komuniti yang disertai refleksi membantu pelajar menilai semula sikap terhadap golongan miskin dan rentan (Jarrell et al., 2014).

"Kita nampak kerja keras yang mereka buat… lepas habis latihan, mereka kena fikir macam mana hendak *survive*." (P2)

Tema 3: Pelajar sebagai penghubung antara komuniti dengan organisasi

Pelajar bukan sekadar melaksanakan aktiviti, tetapi turut menjadi penghubung maklumat antara komuniti dengan organisasi. P1 mengumpulkan data tentang keluarga asnaf, pekerjaan, pendidikan dan potensi kawasan bagi membantu pengurusan merancang intervensi. Pergerakan P1 antara lapangan dengan pejabat membolehkannya memahami hubungan antara data komuniti, justifikasi dasar dan keputusan program. P2 menyertai temu bual peserta pembiayaan mikro dan mempelajari penyediaan cadangan pembiayaan program, manakala P4 menggunakan gambar, data dan infografik untuk menerangkan pelaksanaan projek kepada klien yang tidak turun ke lapangan. Laporan, infografik dan cadangan dengan itu berfungsi sebagai alat membawa pengalaman komuniti merentasi sempadan organisasi, selari dengan konsep rentas sempadan yang menekankan penyelarasan, refleksi dan penterjemahan antara amalan yang berbeza (Akkerman & Bakker, 2011). Identiti profesional pelajar berkembang bukan sahaja sebagai pekerja, tetapi sebagai individu yang mampu menghubungkan suara lapangan dengan tindakan organisasi.

"Kita letak gambar supaya mereka boleh *visualise* program itu dijalankan macam mana, sebab mereka bukan selalu turun padang." (P4)

Tema 4: Pembelajaran melalui pelaksanaan program bersama komuniti

Pelaksanaan program menjadi ruang pembelajaran melalui tindakan. P3 bekerja bersama staf dan remaja dalam pengeluaran biskut untuk jualan sempena hari raya. P3 terlibat daripada penyediaan bahan sehingga pembungkusan pesanan, yang turut membolehkan remaja mempelajari sukatan dan bahan.

"Kami buat *production* daripada pagi sampai petang. *Teamwork* sangat diperlukan; kalau tidak, tak siap order *cookies* tu." (P3)

P4 pula terlibat dalam pengajaran penggunaan aplikasi pendidikan, pengagihan kod akses dan dokumentasi program. Aktiviti tersebut menuntut pembahagian peranan, penyelarasan masa dan tindakan segera apabila sumber terhad. Pengalaman ini menunjukkan bahawa kemahiran komunikasi, kerja berpasukan dan penyelesaian masalah berkembang dalam hubungan dengan tugas serta individu sebenar, bukannya melalui latihan yang terpisah daripada konteks (Jackson, 2015).

Namun, pelaksanaan bersama komuniti menambah satu dimensi penting: pelajar perlu menyesuaikan kaedah dengan tahap pengetahuan, kemudahan dan kesediaan peserta, kerana keupayaan melengkapkan aktiviti sahaja tidak mencukupi jika peserta tidak dapat menggunakan sumber yang diberikan. Hal ini jelas dibangkitkan oleh P4 apabila menceritakan pengalaman mengajar aplikasi digital kepada murid-murid sekolah Orang Asli di kawasan pedalaman yang mempunyai kemudahan yang amat terhad.

"… ketika mengajar mereka menggunakan aplikasi, mereka lebih selesa guna bahasa Orang Asli mereka sendiri. Walaupun ada yang dah di tingkatan 5, tahap pendedahan kepada komputer dan aplikasi, tahap pengetahuan mereka terhad. Mereka juga kurang faham bahasa Malaysia atau English… Jadi, kami tunjuk langkah secara guna aplikasi secara langsung atau guna isyarat tangan." (P4)

Tema 5: Persoalan kesesuaian dan kelestarian intervensi untuk komuniti

Pengalaman bersama komuniti membangkitkan persoalan tentang kesesuaian dan kelangsungan intervensi yang diberikan kepada komuniti. Mereka mempersoalkan sama ada intervensi yang diberikan benar-benar memenuhi

keperluan peserta. Misalnya, P4 mendapati bahawa pemberian komputer atau akses aplikasi tidak semestinya berkesan apabila kemahiran digital, kemudahan dan keperluan asas komuniti masih belum ditangani. Beliau mengaitkan hal ini dengan pengalaman bersama komuniti Orang Asli di pedalaman yang terhad akses internet dan masih kurang mahir berbahasa Malaysia atau Inggeris. P4 turut membezakan antara program yang benar-benar menjaga kebajikan peserta berbanding program tanggungjawab sosial korporat (CSR) yang lebih menumpukan petunjuk prestasi dan pengiktirafan organisasi. Keberkesanan intervensi dengan itu tidak seharusnya dinilai berdasarkan sumber yang disalurkan semata-mata, tetapi berdasarkan hasil yang dirasai oleh komuniti sebagai penerima manfaat (Ismail et al., 2015).

"Kita bagi duit dan buat report cantik-cantik, tetapi yang itu beneficial, dia dapat guna atau tidak, kita tidak tahu lagi." (P4)

P2 pula memikirkan kelangsungan pendapatan peserta selepas latihan kelulut tamat, manakala P1 menekankan keperluan data bagi merancang skim yang dapat bertahan. Perspektif ini menunjukkan peralihan daripada melihat kejayaan sebagai penyempurnaan aktiviti kepada penilaian terhadap kesesuaian dan kesinambungan manfaat untuk komuniti sasaran. Ini selari dengan penekanan literatur pembelajaran khidmat bahawa hubungan komuniti perlu menghasilkan manfaat bersama dan bukan sekadar memenuhi keperluan institusi (Geller et al., 2016).

KESIMPULAN

Penempatan WBL telah mendedahkan empat orang pelajar SmSn Citra kepada spektrum model penglibatan komuniti yang meluas, merangkumi pengurusan zakat, pemerkasaan remaja, tadbir urus korporat dan kewangan sosial Islam. Walaupun berbeza dari segi sektor dan kumpulan sasaran, setiap pelajar mendapat pengalaman pembelajaran yang bermanfaat melangkau waktu WBL. Selain itu, pelajar-pelajar turut memberikan sumbangan kecil masing-masing hasil dari projek *capstone* yang dijalankan. Sumbangan dalam bentuk cadangan dasar, garis panduan penilaian, templat laporan atau analisis persepsi komuniti telah memberikan nilai tambah praktikal kepada organisasi hos WBL masing-masing.

Dari sudut pembelajaran pula, komuniti terbukti merupakan ruang pendidikan yang penting. Melalui interaksi dengan asnaf, usahawan mikro, remaja berisiko dan peserta program sosial, pelajar mempelajari cara membina hubungan, menyesuaikan komunikasi serta memahami keadaan masyarakat yang tidak dapat dipelajari melalui kuliah semata-mata. Pembelajaran yang paling bermakna bukan sekadar kebolehan melaksanakan program, tetapi perubahan cara pelajar menilai keperluan dan manfaat sesuatu intervensi. Ini merupakan satu petunjuk perkembangan kepekaan sosial serta pertimbangan etika.

Dapatan artikel ini terbatas kepada empat peserta dan satu sesi FGD sahaja dan tidak mewakili keseluruhan pengalaman pelajar WBL. Kajian seterusnya boleh menggabungkan refleksi bertulis pelajar, pandangan penyelia industri dan suara ahli komuniti bagi menilai pengalaman secara lebih seimbang. Dari sudut pelaksanaan WBL pula, penambahbaikan boleh dilakukan dengan mengadakan perkongsian silang kes dalam kalangan pelajar yang ditempatkan di organisasi dengan orientasi yang serupa. Selain itu, refleksi berstruktur sebelum, semasa dan selepas penempatan WBL baik dilaksanakan supaya pelajar bukan sahaja bersedia untuk bekerja, tetapi juga mampu memahami masyarakat dan bertindak secara bertanggungjawab.

PENGHARGAAN

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Mulanya Tidak Pasti, Akhirnya Jadi Solusi: Pembangunan Kemahiran Personal dan Penyelesaian Masalah semasa Work-Based Learning (WBL)

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ABSTRAK

Work-Based Learning (WBL) menyediakan konteks autentik untuk pelajar membina kemahiran kendiri dan membuat keputusan dalam situasi kerja yang sebenar. Artikel ini meneroka pengalaman empat orang pelajar Sarjana Muda Sains Citra (SmSn Citra) yang menjalani WBL di industri berbeza, dengan memfokuskan kepada naratif mengenai pembangunan kemahiran personal dan penyelesaian masalah. Kaedah refleksi bersama antara pelajar dan pensyarah digunakan dalam mengumpul data. Refleksi dipandu oleh soalan temu bual yang diadaptasi dari kaedah *behavioural-event interview* (BEI) untuk membantu pelajar membina semula konteks, tindakan, pertimbangan dan hasil peristiwa kerja semasa WBL. Transkrip temu bual dianalisis secara tematik dengan pendekatan hibrid deduktif–induktif. Dua tema utama diperhalusi iaitu (1) kemahiran personal, dan (2) kemahiran penyelesaian masalah. Hasil analisis menunjukkan kemahiran personal berkembang melalui (a) penyesuaian dan mengambil inisiatif, (b) penerokaan pengetahuan serta literasi baharu, dan (c) penggunaan maklum balas serta hubungan sosial di tempat kerja. Kemahiran penyelesaian masalah pula berkembang melalui (a) mengenalpasti dan mentakrif masalah, (b) pertimbangan situasional dan pemilihan tindakan, dan (c) pelaksanaan penyelesaian pragmatik. Perbincangan artikel ini menunjukkan bagaimana refleksi bersama pelajar-pensyarah membantu menzahirkan pembelajaran yang sebelumnya tersirat dan menghubungkan pengalaman industri dengan pembangunan kompetensi pelajar.

Kata kunci: *Work-Based Learning* (WBL), kemahiran personal, kemahiran penyelesaian masalah, refleksi bersama, kaedah *behavioural-event interview* (BEI)

PENGENALAN

Work-Based Learning (WBL) adalah komponen wajib bagi program Sarjana Muda Sains Citra (SmSn Citra) yang dijalankan dengan mod 2u2i (2 atau 3 tahun di universiti dan 2 atau 1 tahun di industri). Penempatan WBL SmSn Citra mensyaratkan tempoh selama 12 bulan di industri bagi membantu pelajar mengaplikasi pengetahuan teori di universiti kepada realiti sebenar di tempat kerja (Rozita Ibrahim et al, 2023). Konteks kerja sebenar mendedahkan pelajar kepada perubahan budaya belajar kepada budaya bekerja, pengetahuan dan kaedah baharu, serta tuntutan majikan dan pelanggan yang pelbagai. Keadaan ini memerlukan pelajar bukan sahaja menggunakan pengetahuan universiti, tetapi mengenal pasti perkara yang perlu dipelajari, mengurus respons diri dan memilih tindakan yang sesuai. Oleh itu, WBL menjadi ruang penting untuk membina kemahiran personal, penyelesaian masalah dan kemahiran lain yang berkaitan kebolehpasaran graduan (Jackson, 2015).

Artikel ini memfokuskan kepada pembinaan kemahiran personal dan kemahiran penyelesaian masalah semasa WBL menurut pengalaman empat orang pelajar SmSn Citra. Kedua-dua kemahiran ini dipilih kerana ianya saling berkaitan dan juga menjadi antara kemahiran yang disenaraikan oleh Malaysian Qualifications Framework (MQF) 2nd Edition. Kemahiran penyelesaian masalah berada di bawah kluster kemahiran kognitif. Kemahiran kognitif melibatkan keupayaan intelektual dan berfikir serta kebolehan mengaplikasi pengetahuan dan kemahiran. Proses penyelesaian masalah melibatkan beberapa langkah iaitu pengenalpastian, analisis, aplikasi, sintesis dan penilaian, dan akhirnya pembuatan keputusan. Peringkat akhir iaitu pembuatan keputusan didefinisikan sebagai "proses pemikiran dalam membuat pilihan antara beberapa alternatif yang ada" (JPT, 2021). Kemahiran personal pula dikategorikan di bawah kluster kemahiran personal dan keusahawanan. Kemahiran personal merujuk kepada keupayaan untuk pembelajaran kendiri dan pembangunan intelektual serta keupayaan menunjukkan keyakinan diri, kemahiran sosial dan komitmen terhadap profesionalisme di tempat kerja. Selain itu kemahiran personal juga melibatkan sikap seperti pengurusan masa, kejujuran,

menepati *deadline* dan lain-lain yang berkaitan suasana kerja (JPT, 2021).

Perbincangan di dalam artikel ini adalah hasil naratif pelajar yang dibina dari refleksi bersama pensyarah dengan menggunakan kaedah temu bual yang diadaptasi dari kaedah *behavioural-event interview* (BEI). Refleksi adalah komponen penting dalam WBL kerana pengalaman WBL semata-mata tidak secara automatik menjadi pembelajaran yang disedari. Refleksi yang dibimbing membantu pelajar bergerak daripada menceritakan kejadian kepada meneliti tindakan, alasan, hasil dan kemungkinan tindakan lain (Ryan, 2013). Pendekatan ini memposisikan refleksi sebagai *co-creation* terhad antara pelajar dengan pensyarah (Dollinger & Lodge, 2020): pelajar mempunyai autoriti terhadap pengalaman mereka, manakala pensyarah menyediakan soalan dan membantu memperincikan bukti tingkah laku. Pendekatan temubual diadaptasi dari *behavioural-event interview* (BEI) untuk mengurangkan jawapan umum dengan meminta pelajar mengingati dan menceritakan semula peristiwa kerja yang khusus (McClelland, 1998). Artikel ini bertujuan menganalisis bagaimana pengalaman WBL membina kemahiran personal dan penyelesaian masalah, serta bagaimana dialog reflektif antara pensyarah dan pelajar WBL menzahirkan pembelajaran yang sebelumnya tersirat.

HASIL DAN PERBINCANGAN

Jadual 1 memberi penerangan ringkas mengenai latar belakang empat orang pelajar yang terlibat.

Jadual 1. Profil pelajar WBL

Peserta	Industri WBL	Skop kerja utama
P1	Syarikat hartanah dan pembangunan perniagaan; dan syarikat pemula dalam platform teknologi hiburan kanak-kanak	Pembangunan perniagaan, pemasaran digital, kolaborasi, khidmat pelanggan dan laman web
P2	Syarikat pemula dalam platform teknologi hiburan kanak-kanak	Pengurusan UGC serta pembangunan *dashboard* bagi pencipta, pentadbir dan penilai
P3	Syarikat penerbangan komersial, dan syarikat pakaian sukan dan operasi runcit	Pengambilan pekerja, penjenamaan majikan, analisis data, HR *partnering* dan operasi runcit
P4	Syarikat kejuruteraan dan pembinaan	Dokumentasi keselamatan dan alam sekitar, pemeriksaan tapak serta pengurusan dokumen subkontraktor.

Sesi refleksi bersama pelajar-pensyarah melalui temu bual telah dirakam dan kemudiannya disediakan transkrip secara verbatim. Analisis tema hibrid deduktif–induktif digunakan (Fereday & Muir-Cochrane, 2006). Pengekodan deduktif bermula dengan dua tema, iaitu kemahiran personal dan penyelesaian masalah, manakala pembacaan induktif memperincikan sub-tema yang muncul daripada dua tema utama tersebut. Petikan disunting secara minimum untuk kebolehbacaan, tetapi percampuran Bahasa Melayu dan Bahasa Inggeris dikekalkan. Analisis terhad kepada penjelasan proses pembentukan kemahiran dan tidak memberikan skor tahap kompetensi.

Tema 1: Kemahiran Personal

Kemahiran personal dalam konteks artikel ini merujuk kepada keupayaan peserta mengenal pasti keperluan pembelajaran kendiri, mengarahkan usaha dan mengubah cara bekerja. Ia tidak bermaksud belajar bersendirian, sebaliknya menunjukkan agensi untuk memilih serta menggunakan sumber yang relevan dengan situasi kerja.

Sub-tema 1.1: Penyesuaian dan mengambil inisiatif

Keempat-empat pelajar menyedari akan perubahan budaya sebagai pekerja di industri berbanding kehidupan sebagai pelajar di universiti. Perubahan peranan dan suasana serta rentak kerja menjadikan jurang keupayaan buat mereka, lantas menuntut keupayaan menyesuaikan diri. Keempat-empat pelajar menunjukkan bahawa penyesuaian bukanlah penerimaan pasif, sebaliknya ia melibatkan kesedaran tentang kekurangan diri, inisiatif untuk bertindak dan pertimbangan terhadap rentak, kapasiti serta sempadan profesional. Misalnya P1 berhadapan penstrukturan semula organisasi. Ini menyebabkan beliau menjadi keliru, "… dah tiga kali kena tukar *supervisor*… and *my job scope* pun berubah-ubah *every time*". Pengalaman itu menuntut penyesuaian, tetapi turut mengajarnya memahami *job scope* yang berbeza-beza. P4 pula mengakui ketiadaan latar teknikal menjadi kesukaran buat beliau yang ditempatkan di industri berkaitan kejuruteraan dan pembinaan. Namun P4 memilih untuk bertanya rakan sekerja dan pegawai bertanggungjawab untuk membantunya beradaptasi: "asalkan memang *willing* nak belajar… tanya-tanya je."

P2 dan P3 berkongsi bagaimana menyesuaikan diri dengan dunia pekerjaan yang memerlukan inisiatif dan tindakan pantas. P2 menceritakan bagaimana beliau memilih untuk beralih daripada menunggu arahan kepada mencari tugasan setelah menyedari beliau kurang melakukan kerja di peringkat awal WBL: "Bila *I start being proactive… I started learning. Even if I fail, I still learn something.*" Kesediaan berubah ini memberikan kepuasan kerja buat beliau meskipun ada kalanya beliau merasakan pendekatan barunya itu membawa kepada beban tugas yang tinggi. P3

berkongsi pengalaman ditegur oleh pengurus untuk membiasakan diri dengan rentak kerja yang pantas. Teguran supaya "*try to adapt with our pacing*" mendorong P3 beradaptasi. Misalnya beliau mula memberi respon awal kepada e-mel meskipun jawapan lengkap belum tersedia. Tujuannya supaya pengurus tahu yang beliau sedang dalam proses menyelesaikan tugasan tersebut.

Sub-tema 1.2: Penerokaan dan penguasaan literasi baharu

Naratif pelajar juga menceritakan bagaimana mereka meneroka dan menguasai ilmu baharu di tempat kerja. P1 belajar mengenai AI dan *coding* ketika menerima tugasan laman web: *"I actually had a fun time learning, playing my way around with AI."* P2 pula membangunkan aplikasi tanpa pengalaman pengekodan melalui "*reverse learning* daripada AI" dan mempelajari pangkalan data, pengesahan pengguna serta UI/UX secara berperingkat. P4 meneroka sumber digital untuk mempelajari tugasan teknikal yang baharu. YouTube menjadi antara sumber pembelajaran utama beliau, seperti yang dinyatakan, "saya boleh menyelesaikan semua ni dengan YouTube." Setelah menguasai fungsi tertentu, beliau bukan sahaja dapat melaksanakan tugasan tersebut sendiri, malah turut menjadi rujukan kepada rakan sekerja. Hal yang sama dikongsikan oleh P2 yang turut dipanggil untuk berkongsi pengetahuan membangunkan aplikasi kepada jabatan-jabatan lain.

Pengalaman berbeza bagi P3 di mana beliau menerima tugasan penulisan korporat, analisis data dan visual yang sebelum ini belum pernah dibuatnya. Namun P3 mengambil pendirian, *"I don't know how, but I can try"*, kemudian mencari contoh dan memperbaiki hasil sehingga menjadi mahir dan yakin dengan kerjanya hingga mendapat pujian dari penyelia dan rakan sekerja. Contoh-contoh di atas menunjukkan bagaimana pelajar menjadikan keperluan kerja sebagai dorongan untuk pembelajaran kendiri dan akhirnya mencapai hasil yang membanggakan.

Sub-tema 1.3: Pembelajaran melalui maklum balas dan hubungan sosial

Naratif pelajar juga menunjukkan bahawa kemahiran personal dibina melalui maklum balas dan hubungan sosial di tempat kerja. Hal ini berlaku dalam hubungan jurulatih-pelajar yang memberi sokongan dan dorongan untuk pembelajaran. Misalnya, P3 menyatakan bahawa perbincangan bersama jurulatihnya selalu membawa kepada soalan reflektif seperti "apa yang *you* dapat?" dan "dekat mana kita kena *improve*?". Pendekatan begini membantunya membuat penilaian terhadap pengalaman pembelajaran yang dilaluinya. P4 juga berkongsi pengalaman hampir sama. P4 menerima "*green light*" daripada pegawai untuk bertanya, termasuk soalan yang dianggap asas. Melalui maklum balas dan perkongsian daripada pegawai, beliau dapat memahami proses kerja di tapak atau di lapangan yang tidak semestinya diperoleh melalui dokumen.

P1 pula menceritakan pengalamannya yang terpaksa membuat keputusan sukar untuk menolak tawaran fungsi khidmat pelanggan yang dicadangkan oleh majikan. P1 mengambil masa dan "*consult with the previous staff…* banyak minta nasihat" sebelum membuat keputusan menolak fungsi tersebut yang berada di luar skop asal tawaran WBL beliau. P2 pula berkongsi pengalaman melakukan kesilapan di mana beliau pernah terlepas permintaan penerbitan video. Namun bantuan dan nasihat dari penyelianya membantu beliau mengambil tindakan pemulihan melalui komunikasi dan permohonan maaf. P2 menyatakan penghargaan terhadap penyelianya yang memberi kata semangat, "*at least you learn something… next time anything just* cakap dengan dia". Dapatan ini menjelaskan bahawa pembelajaran kendiri bukanlah bermaksud tiada bantuan, sebaliknya penyelia dan rakan berfungsi sebagai sumber rujukan. Peranan pelajar pula adalah untuk mencari, menilai, membuat keputusan dan mengambil tindakan setelah membuat pertimbangan sewajarnya.

Tema 2: Penyelesaian masalah

Penyelesaian masalah merujuk kepada proses menukar pemerhatian terhadap kekangan dan jurang kerja kepada pilihan tindakan. Proses ini merangkumi pendefinisian masalah, penilaian pilihan berdasarkan konteks dan pelaksanaan keputusan yang sesuai dengan keperluan dan aliran kerja organisasi.

Sub-tema 2.1: Mengenalpasti dan mentakrif masalah

Pelajar-pelajar berkongsi pengalaman masing-masing dalam mengenalpasti dan mentakrif masalah. Ini adalah langkah pertama dalam proses penyelesaian masalah. P1 yang menjalankan tugas pemasaran di syarikat hartanah mengenalpasti isu kekurangan bahan promosi dalam bentuk video yang menyumbang kepada kesukaran mendapat pelanggan, "*... we don't have that much material… what if I do live instead*." P1 memberi cadangan untuk penyelesaian masalah yang dikenalpasti itu. P2 pula mempersoalkan proses kerja yang kurang teratur dan berpecah-pecah, "I kena pegang *around 20 different sheets… why don't we have one all-in-one system?"*. Beliau memberi cadangan penyelesaian sedemikian kerana berpandangan masalah yang timbul adalah melibatkan soal aliran kerja hujung ke hujung. P3 mendapati pekerja runcit "tak ada akses" kepada bahan *onboarding*, lalu menyebabkan pertanyaan berulang dan salah faham tentang perkara asas. P4 pula perlu mencari semula e-mel apabila ditanya status penghantaran dokumen bulanan daripada sub-kontraktor, "... kita tidak ada satu tempat yang khusus untuk semak siapa yang sudah hantar."

Keempat-empat pelajar bergerak daripada simptom yang kelihatan—kekurangan kandungan, helaian bertaburan, pertanyaan berulang dan carian e-mel—kepada masalah asas berkaitan saluran, penyatuan data dan akses maklumat. Kejelasan masalah membantu pelajar mengecilkan pilihan kaedah penyelesaian yang boleh digunakan. Ini memudahkan mereka membuat pilihan bentuk tindakan yang diperlukan.

Sub-tema 2.2: Pertimbangan situasi dan pemilihan tindakan

Naratif pelajar menunjukkan mereka membuat pertimbangan dan pemilihan tindakan berdasarkan situasi sedia ada. Mereka menilai pilihan berdasarkan bajet, masa, pengguna, kapasiti pasukan dan autoriti. Cadangan P1 untuk membuat promosi secara fizikal tidak diteruskan apabila organisasi menyatakan "tak ada bajet" dan tiada staf yang mencukupi. Maka P1 memilih *TikTok Live* yang dikira lebih realistik dalam situasi organisasinya. P2 yang berhasrat membangunkan sistem hujung ke hujung untuk menyelesaikan isu kerjanya terkekang oleh kekurangan pasukan teknologi untuk membantu unit kecil beliau. Maka, P2 membuat pilihan membangunkan sendiri aplikasi mikro berasaskan AI dan belajar sendiri secara dalam talian untuk membangunkan aplikasi tersebut. Beliau merancang untuk "dua minggu *prototype*, satu minggu *beta test*" sebelum pelancaran. P3 yang berhadapan isu salah faham dan soalan berulang dari pekerja runcit akibat ketiadaan akses maklumat *onboarding* telah memilih kaedah penyediaan fail ringkas yang dihantar melalui e-mel supaya pekerja runcit "*just refer* kat situ". Beliau tidak perlu membangunkan suatu proses yang baharu, sebaliknya memastikan aliran komunikasi yang lebih mudah untuk menyelesaikan isu akses dan salah faham.

P4 berkongsi pengalaman berhadapan ketidakcekapan sub-kontraktor yang sering memberi alasan e-mel penuh lantas menjejaskan penghantaran dokumen kepada beliau. P4 yang awalnya membantu menyediakan dokumen tersebut telah menukar pendekatan dengan menegaskan, "jangan kita bagi *solution*, dia pun kena fikir *solution*". Hasilnya, sub-kontraktor berkenaan mencadangkan untuk menggunakan e-mel rasmi di bawah syarikat sendiri bagi penghantaran dokumen, berbanding menggunakan e-mel peribadi yang terhad kapasitinya. P4 menegaskan beliau mengambil tindakan tersebut kerana mempertimbangkan tanggungjawab yang sepatutnya dilakukan sebagai sub-kontraktor.

Sub-tema 2.3: Pelaksanaan keputusan pragmatik

Keputusan menjadi bermakna apabila diterjemahkan kepada amalan atau alat kerja. P1 melaksanakan *TikTok Live* dan melaporkan bahawa "*quite a few of them* jadi klien kita orang". Kaedah promosi ini ternyata berjaya dan kemudiannya diteruskan staf lain selepas P1 berpindah ke penempatan WBL di industri lain. P3 yang juga menjalani WBL di dua industri berkongsi pengalaman serupa apabila templat visual yang dibangunkannya terus digunakan walaupun beliau tiada di situ lagi. Beliau meneruskan usaha memudahkan urusan kerja dengan membangunkan *starter pack* yang menyatukan maklumat gaji, akses dan pegawai rujukan untuk pekerja runcit baharu. P2 melancarkan *dashboard* selepas prototaip dan ujian beta sehingga "*admin, LPD and creators… have their own dashboard*". Ini menyelesaikan masalah mengendalikan kepingan excel yang berbelas-belas keping awalnya. P4 pula telah menghasilkan *Tracker Excel* dalam sistem ACC bahagian beliau bagi merekod dan memantau status penghantaran dokumen SHE secara bulanan daripada sub-kontraktor. Langkah ini merupakan penyelesaian pragmatik yang memudahkan semakan status dokumen kerana apabila pengurus bertanya, beliau "boleh bagi *list* terus", sekali gus mengurangkan masa yang diperlukan untuk mencari semula e-mel.

KESIMPULAN

Pengalaman empat peserta kajian menunjukkan bahawa WBL menyediakan konteks autentik untuk pembelajaran dan pembangunan kemahiran personal dan penyelesaian masalah. Kaedah dialog reflektif pelajar–pensyarah dan temu bual berasaskan BEI membantu pelajar mengemukakan peristiwa dan bukti tingkah laku untuk menghubungkan tindakan dengan makna pembelajaran. Pendekatan ini berpotensi menyokong pemantauan WBL dan bimbingan projek *capstone* pelajar-pelajar SmSn Citra. Walau bagaimanapun, dapatan artikel ini hanya terhad kepada naratif empat orang peserta sahaja dan belum mendapat pengesahan oleh jurulatih industri atau dibandingkan dengan audit hasil kerja. Kajian seterusnya boleh melibatkan lebih ramai pelajar sebagai peserta dan melibatkan jurulatih industri serta pensyarah dan pakar bidang dalam proses semakan tema bagi memperkukuh kesahan tafsiran.

PENGHARGAAN

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Sinergi Tiga Projek Capstone Pembelajaran Berasaskan Kerja (WBL) dalam Menyokong Inisiatif Digital Bank Islam Malaysia Berhad

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ABSTRAK

Program Sarjana Muda Sains Citra (SmSn Citra) melaksanakan pembelajaran berasaskan kerja (WBL) selama 12 bulan yang diakhiri dengan projek *capstone* berasaskan keperluan organisasi. Artikel ini mensintesis tiga projek *capstone* pelajar di Bank Islam Malaysia Berhad (BIMB) bagi meneliti bagaimana gabungan bidang penumpuan diterjemahkan kepada penyelesaian tempat kerja dan bagaimana projek-projek tersebut saling melengkapi untuk tujuan pembangunan staf. Tiga projek berkenaan ialah modul program pengekalan pekerja baharu, podcast *Product Refresher*, dan papan pemuka analitik pembelajaran. Sintesis menunjukkan satu rantaian konseptual yang merangkumi orientasi pekerja baharu, penyegaran kandungan pembelajaran dan pemantauan latihan. Keseluruhan projek memperlihatkan potensi *capstone* WBL untuk menghubungkan pengetahuan multidisiplin dengan keperluan organisasi, di samping menyokong aspirasi pendigitalan BIMB melalui pembelajaran digital dan penggunaan data. Artikel ini seterusnya mencadangkan langkah validasi, tadbir urus dan kerjasama UKM-BIMB bagi memperkukuh pembangunan produk pada peringkat seterusnya.

Kata Kunci: pembelajaran berasaskan kerja, projek capstone, pembelajaran digital, analitik pembelajaran, kerjasama universiti-industri

PENGENALAN

Pembelajaran berasaskan kerja (WBL) menghubungkan pengalaman di universiti dengan penyertaan dalam amalan sebenar organisasi. Nilai pendidikannya tidak terhasil secara automatik melalui penempatan pelajar, sebaliknya bergantung pada integrasi yang disengajakan antara pengalaman kerja, bimbingan, refleksi dan tugasan akademik (Billett, 2009; Lester & Costley, 2010). Dalam kurikulum WBL yang berkualiti, keaslian tugas, sokongan universiti dan tempat kerja, akses kepada penyelia serta penjajaran hasil pembelajaran merupakan dimensi penting (Smith, 2012). Projek *capstone* menjadi salah satu titik integrasi kerana pelajar perlu mengenal pasti keperluan atau masalah organisasi, mengaplikasikan pengetahuan bidang penumpuan dan menghasilkan penyelesaian yang boleh dinilai dalam konteks sebenar.

Dalam program SmSn Citra, pelajar menggabungkan dua bidang penumpuan, sekali gus membolehkan sesuatu masalah organisasi diteliti daripada lebih daripada satu perspektif disiplin. Perpindahan pengetahuan antara universiti dan tempat kerja boleh difahami melalui konsep pembelajaran merentas sempadan. Akkerman dan Bakker (2011) menjelaskan bahawa sempadan antara amalan boleh mencetuskan proses pengenalpastian, penyelarasan, refleksi dan transformasi. Dalam artikel ini, produk projek *capstone* dilihat sebagai objek penghubung yang mempertemukan pengetahuan akademik, keperluan operasi BIMB dan kompetensi pelajar dalam bentuk artefak yang boleh dibincangkan serta ditambah baik bersama.

Konteks BIMB menjadikan hubungan tersebut semakin relevan. Laporan bersepadu BIMB bagi tahun kewangan 2024 meletakkan pendigitalan sebagai salah satu fokus strategik, termasuk strategi *cloud-first*, penggunaan data

untuk analitik dan kecerdasan buatan, serta pengembangan keupayaan digital pekerja. BIMB turut melaporkan pelaksanaan Digital Academy dan penggunaan platform Coursera bagi memperluas akses kepada pembelajaran kendiri dan pembangunan kemahiran digital (Bank Islam Malaysia Berhad, 2025). Hal ini menunjukkan bahawa transformasi digital bukan sahaja berkaitan saluran pelanggan, tetapi turut melibatkan proses dalaman, pengurusan pengetahuan dan pembangunan tenaga kerja. Secara lebih luas, transformasi digital memerlukan perubahan teknologi, struktur, proses dan kompetensi organisasi secara serentak (Vial, 2019).

Berdasarkan konteks tersebut, artikel ini bertujuan menghuraikan sinergi antara tiga projek *capstone* pelajar SmSn Citra yang menjalani WBL di BIMB. Perbincangan memberi tumpuan kepada: (i) bagaimana gabungan penumpuan setiap pelajar membentuk reka bentuk projek; (ii) bagaimana ketiga-tiga projek saling berkait dalam kitaran pembangunan bakat; dan (iii) cadangan langkah ke hadapan untuk menguji, mentadbir dan mengembangkan produk melalui kerjasama UKM-BIMB.

HASIL DAN PERBINCANGAN

Gabungan Penumpuan dalam Tiga Projek Capstone

Tiga projek *capstone* dibangunkan oleh pelajar yang mempunyai gabungan bidang penumpuan berbeza, namun semuanya berfokus pada konteks latihan dan pembangunan staf di BIMB. Secara keseluruhan, projek-projek tersebut merangkumi tiga fungsi yang saling melengkapi: orientasi dan pembangunan pekerja baharu, penyegaran kandungan pembelajaran, serta pemantauan latihan. Jadual 1 merumuskan projek, gabungan penumpuan dan sumbangan utama setiap projek.

Jadual 1. Ringkasan tiga projek *capstone* WBL SmSn Citra di BIMB

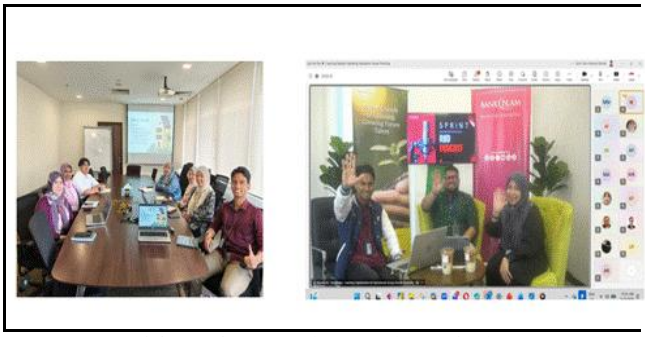
No.	Projek capstone dan gabungan penumpuan	Sumbangan utama kepada pembangunan staf
1	Modul Program Pengekalan Pekerja Baharu (Pengurusan Perniagaan + Keusahawanan)	Menstrukturkan orientasi, latihan, bimbingan dan pemantauan pekerja baharu.
2	*Podcast Learning Product Refresher* (Syariah + Pembangunan Kemahiran Personal)	Menyediakan kandungan penyegaran produk pembiayaan dalam format digital untuk pembelajaran kendiri.
3	Papan Pemuka Analitik Pembelajaran V1.0 (Sains Data + Pengurusan Perniagaan)	Menggabungkan dan memvisualisasikan data latihan bagi menyokong pemantauan jam latihan dan KPI.

Projek pertama mengintegrasikan pengetahuan Pengurusan Perniagaan dan Keusahawanan melalui pembangunan Modul Program Pengekalan Pekerja Baharu bagi menyokong program orientasi dan pengekalan di Jabatan Pengedaran Perbankan Runcit, BIMB (Rajah 1). Elemen pengurusan diterapkan melalui analisis keperluan latihan, pembangunan kandungan, penyelarasan aktiviti pembelajaran dan pemantauan prestasi pegawai jualan baharu sepanjang tempoh percubaan. Penumpuan Keusahawanan pula menyumbang kepada reka bentuk modul yang fleksibel, praktikal dan berorientasikan penyelesaian masalah. Pendekatan ini selari dengan Bauer et al. (2007), yang menekankan peranan sosialisasi organisasi, kejelasan peranan dan sokongan berterusan dalam membantu penyesuaian pekerja baharu.

Rajah 1. Modul Program Pengekalan Pekerja Baharu

Projek kedua pula menggabungkan penumpuan Syariah dan Pembangunan Kemahiran Personal dalam pembangunan podcast *Product Refresher* (Rajah 2). Penumpuan Syariah menyokong ketepatan orientasi kandungan produk pembiayaan patuh Syariah, manakala Pembangunan Kemahiran Personal digunakan untuk mereka bentuk pengalaman pembelajaran kendiri yang ringkas, mudah dicapai dan berfokus. Dapatan pilihan staf dalam projek ini menyokong penggunaan format digital dan segmen berdurasi 15-20 minit. Literatur mengenai pembelajaran mikro menunjukkan bahawa kandungan pendek boleh disepadukan dengan aliran kerja, namun keberkesanannya

tetap bergantung pada reka bentuk, kandungan dan konteks penggunaan (Dolasinski & Reynolds, 2020). Oleh itu, penerimaan terhadap format tersebut tidak boleh dianggap sebagai bukti peningkatan pengetahuan atau prestasi sehingga penilaian hasil pembelajaran dilaksanakan.



Rajah 2. Rakaman *podcast Product Refresher*

Akhirnya, projek ketiga menggabungkan Sains Data dan Pengurusan Perniagaan melalui pembangunan papan pemuka analitik pembelajaran (Rajah 3). Sains Data menyumbang kepada pembersihan, penyusunan, integrasi dan visualisasi data, manakala Pengurusan Perniagaan membantu dalam pemilihan petunjuk prestasi utama (KPI) yang relevan bagi latihan, pematuhan, kos dan jurang kemahiran. Analitik pembelajaran berpotensi menyokong pemahaman tentang aktiviti pembelajaran profesional, tetapi penggunaannya memerlukan asas teori, data yang sesuai dan penilaian dalam persekitaran kerja sebenar (Ruiz-Calleja et al., 2021). Oleh itu, papan pemuka Excel versi 1.0 dalam projek ini wajar dilihat sebagai prototaip sokongan keputusan, bukannya sistem perusahaan atau bukti peningkatan keputusan sumber manusia.

Rajah 3. Paparan papan pemuka analitik pembelajaran versi 1.0

Sinergi Tiga Projek: Orientasi, Penyegaran dan Pemantauan Latihan

Walaupun menghasilkan produk yang berbeza, ketiga-tiga projek saling berkait melalui fungsi masing-masing dalam menyokong pembelajaran organisasi. Modul pekerja baharu memberi struktur kepada fasa orientasi; podcast Product Refresher menyokong penyegaran kandungan selepas staf berada dalam peranan; manakala papan pemuka menyediakan asas untuk memantau penyertaan, jam latihan dan jenis latihan. Secara konseptual, hubungan ini membentuk aliran *Onboard-Refresh-Monitor* seperti yang ditunjukkan dalam Rajah 4.

Rajah 4. Model sinergi konseptual tiga projek *capstone*

Model dalam Rajah 4 merupakan sintesis interpretatif dan bukan aliran sistem yang telah dilaksanakan secara bersepadu oleh BIMB. Pada masa ini, setiap produk dibangunkan dalam skop *capstone* masing-masing. Potensi sinergi boleh diwujudkan sekiranya data orientasi dan penggunaan bahan penyegaran, tertakluk pada kelulusan tadbir urus, dapat membekalkan indikator agregat kepada papan pemuka. Dapatan daripada papan pemuka pula boleh membantu pemilik latihan mengenal pasti kandungan yang perlu dikemas kini. Kitaran ini selari dengan hala tuju BIMB yang menggunakan teknologi digital, data dan pembelajaran dalam talian untuk menyokong pembangunan tenaga kerja (Bank Islam Malaysia Berhad, 2025).

Dari perspektif WBL, ketiga-tiga projek juga boleh ditafsirkan sebagai contoh pembelajaran merentas sempadan. Pelajar perlu menghubungkan konsep akademik dengan keperluan kerja, menyelaraskan jangkaan antara penyelia akademik, mentor industri dan pengguna, serta menghasilkan artefak bersama dalam bentuk modul, podcast dan papan pemuka. Proses ini konsisten dengan mekanisme *boundary crossing* yang dihuraikan oleh Akkerman dan Bakker (2011). Walau bagaimanapun, tafsiran tersebut perlu diperkukuh melalui data refleksi dan maklum balas mentor yang dikumpulkan secara sistematik.

Cadangan Langkah ke Hadapan

Pertama, setiap produk perlu melalui validasi berfasa mengikut fungsinya. Modul pekerja baharu boleh dinilai dari segi kejelasan, kebolehgunaan, penyertaan dan pencapaian kompetensi; podcast boleh dinilai melalui ujian pengetahuan pra-pasca, kadar penyelesaian, masa penggunaan dan pemindahan pembelajaran; manakala papan pemuka perlu diuji dari segi ketepatan data, masa pemprosesan, kebolehgunaan dan nilai sokongan keputusan.

Kedua, sebarang usaha menghubungkan kandungan, data dan kompetensi perlu disertai dengan tadbir urus yang jelas. Pemetaan medan data, ID latihan, definisi KPI dan tahap akses hendaklah dipersetujui terlebih dahulu, manakala perlindungan data, keselamatan siber dan kerahsiaan pekerja perlu menjadi sebahagian daripada reka bentuk. Bagi kandungan pembiayaan dan Syariah, semakan pemilik produk, pihak pematuhan dan pihak berautoriti Syariah serta kawalan versi perlu dilaksanakan apabila produk atau prosedur berubah.

Ketiga, kerjasama UKM-BIMB boleh distrukturkan sebagai portfolio *capstone* bersama supaya masalah organisasi dapat dipadankan lebih awal dengan gabungan penumpuan pelajar, mentor industri dan hasil yang boleh diuji. Pendekatan ini berpotensi mengurangkan pertindihan projek, mewujudkan kesinambungan antara kohort dan mengekalkan keaslian WBL. Penilaian lanjutan boleh menggunakan reka bentuk kaedah campuran dengan menggabungkan data penggunaan dan prestasi bersama temu bual staf, penyelia dan pelajar bagi membezakan penerimaan awal, penggunaan sebenar, pemindahan pembelajaran dan impak organisasi.

Refleksi Pelajar terhadap WBL dan Projek Capstone

Refleksi pelajar pertama menunjukkan bahawa projek modul membolehkannya menterjemahkan pengetahuan Pengurusan Perniagaan dan Keusahawanan kepada analisis keperluan organisasi, reka bentuk program orientasi serta pengurusan pihak berkepentingan. Pengalaman tersebut turut memperkukuh kemahiran komunikasi strategik, pengurusan projek dan penyelesaian masalah dalam konteks operasi sebenar.

Refleksi pelajar kedua menunjukkan gabungan Syariah dan Pembangunan Kemahiran Personal diterjemahkan melalui reka bentuk podcast Product Refresher. Proses membangunkan kandungan pembiayaan dalam format audio-visual membantunya menghubungkan prinsip pematuhan Syariah dengan teknik penyampaian yang lebih mudah difahami, di samping memperkukuh pemikiran kritis, reka bentuk digital, komunikasi dan keyakinan mengurus projek pembelajaran korporat.

Pengalaman pelajar ketiga pula memperlihatkan bagaimana pengetahuan Sains Data dan Pengurusan Perniagaan diterjemahkan kepada pembangunan papan pemuka analitik pembelajaran. Pelajar sedar tentang kerahsiaan organisasi perbankan di mana beliau tidak boleh menggunakan aplikasi luar untuk membangunkan papan pemuka. Sebaliknya beliau membuat keputusan untuk menggunakan Excel setelah memahami batasan yang dihadapinya. Proses pembersihan, pemprosesan dan visualisasi data mengukuhkan kemahiran teknikalnya, manakala keperluan membentangkan metrik kepada pihak pengurusan memperkukuh keupayaan komunikasi data dan pemahaman tentang penggunaan maklumat untuk menyokong keputusan organisasi.

KESIMPULAN

Tiga projek *capstone* ini menunjukkan bagaimana WBL SmSn Citra boleh menghasilkan penyelesaian tempat kerja yang berbeza tetapi saling melengkapi. Secara bersama, modul pekerja baharu, podcast Product Refresher dan papan pemuka analitik pembelajaran mewakili tiga dimensi utama pembangunan staf, iaitu manusia dan bakat, kandungan pembelajaran serta data. Sinergi ini mempunyai kaitan dengan aspirasi pendigitalan BIMB, namun produk yang dibangunkan masih berada pada tahap prototaip dan belum boleh dianggap telah menghasilkan perubahan prestasi organisasi. Nilai utama projek terletak pada keupayaannya menterjemahkan gabungan penumpuan pelajar kepada artefak yang relevan dengan keperluan organisasi. Langkah seterusnya melibatkan validasi berfasa, tadbir urus kandungan dan data, serta penilaian susulan melalui kerjasama UKM-BIMB.

PENGHARGAAN

Pengarang ingin merakamkan penghargaan kepada Bank Islam Malaysia Berhad, mentor industri, penyelia akademik, dan para responden atas sokongan padu dalam menjayakan program WBL serta projek capstone ini. Projek ini turut disokong melalui dana penyelidikan Geran Universiti Penyelidikan, GUP-2023-052.

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Penterjemahan Penumpuan Pendidikan Khas dalam WBL di Jabatan Sumber Manusia: Kajian Perbandingan Projek Capstone di Dua Industri Berbeza

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ABSTRAK

Ilmu dalam bidang Pendidikan Khas menyediakan asas teori untuk memahami kepelbagaian keupayaan, aksesibiliti, keperluan sokongan dan penyertaan bermakna, namun penterjemahannya dalam pengurusan sumber manusia bergantung kepada konteks organisasi. Artikel ini membandingkan pengalaman sebenar dua orang pelajar Sarjana Muda Sains Citra (SmSn Citra) yang menjalani *Work-Based Learning* (WBL) selama 12 bulan di Bank Islam Malaysia Berhad (BIMB) dan Durioo Sdn. Bhd. Kedua-dua pelajar menggunakan penumpuan Pendidikan Khas untuk meneliti pengurusan pekerja Orang Kurang Upaya (OKU), tetapi menggabungkannya dengan penumpuan kedua yang berbeza. Di BIMB, gabungan Pendidikan Khas dan Pembangunan Manusia menghasilkan projek tentang kesediaan, padanan pekerjaan, aksesibiliti dan cadangan SOP pengambilan pekerja OKU untuk jabatan sumber manusia. Di Durioo, gabungan Pendidikan Khas dan Pengurusan Tingkah Laku menumpukan komunikasi, autonomi, persekitaran sensori dan pembangunan buku panduan inklusif untuk pekerja OKU. Perbandingan menunjukkan bahawa struktur organisasi membentuk jenis masalah dan bentuk penyelesaian bagi projek *capstone*. Refleksi pelajar yang dibincangkan bersama pensyarah turut memperlihatkan perkembangan kefahaman teori, kemahiran profesional dan identiti kerjaya. WBL dengan itu berfungsi sebagai ruang penterjemahan ilmu kepada keputusan dan *output* yang relevan dengan industri.

Kata Kunci: pendidikan khas, *work-based learning*, projek *capstone*, sumber manusia inklusif, pekerja OKU

PENGENALAN

Bidang Pendidikan Khas lazimnya dikaitkan dengan pendidikan murid berkeperluan khas, tetapi prinsip terasnya juga relevan untuk memahami keperluan dan pengurusan individu OKU dalam alam pekerjaan. Pengiktirafan terhadap perbezaan fungsi, penilaian keperluan individu, komunikasi yang sesuai, autonomi dan penyesuaian persekitaran perlu diterjemahkan sepanjang kitaran pekerjaan, daripada pengambilan dan penempatan hingga latihan, pembangunan kerjaya dan pengekalan pekerja (Schloemer-Jarvis et al., 2022). Perspektif ini mengalihkan tumpuan daripada "kekurangan" individu kepada halangan yang boleh diwujudkan atau ditangani oleh prosedur, ruang fizikal, komunikasi dan amalan kerja. Cara organisasi membentuk pekerjaan, norma dan respons terhadap kepelbagaian turut mempengaruhi pengalaman pekerja OKU (Harlan & Robert, 1998).

Walaupun tema keterangkuman adalah sama, bentuk amalannya tidak seragam antara organisasi. Organisasi besar lazimnya memiliki struktur HR yang khusus dan polisi formal, manakala organisasi pemula bergantung pada hubungan kerja yang lebih dekat dan keputusan yang pantas (Bacon & Hoque, 2022). Maka, artikel ini bertujuan membandingkan penterjemahan penumpuan Pendidikan Khas dalam dua projek *capstone* berkaitan HR untuk dua orang pelajar SmSn Citra yang menjalani WBL di dua organisasi berbeza iaitu di Bank Islam Malaysia Bhd. (BIMB) dan di Durioo Sdn. Bhd. Perbandingan ini akan menjelaskan bagaimana konteks BIMB sebagai sebuah organisasi perbankan bersaiz besar dan Durioo sebagai sebuah syarikat pemula memberikan konteks berbeza dalam reka bentuk dan output projek *capstone* pelajar. Selain itu, artikel ini juga meneliti bagaimana WBL menyokong pembelajaran teori serta Pembangunan identiti professional pelajar. Konteks perbincangan adalah kes program SmSn Citra yang merupakan program akademik bersifat rentas disiplin yang mewajibkan penempatan 12 bulan di industri

secara WBL. Pada tahun akhir, pelajar menjalani WBL selama 12 bulan dan menghasilkan projek capstone berasaskan masalah sebenar organisasi, iaitu ruang integrasi antara teori, pengalaman kerja dan refleksi.

HASIL DAN PERBINCANGAN

Pendidikan Khas sebagai lensa bersama

Kedua-dua projek bermula daripada persoalan yang sama iaitu apakah halangan yang mengurangkan penyertaan bermakna pekerja OKU, dan apakah yang boleh dilakukan oleh unit atau jabatan HR? Pendidikan Khas memberi lensa untuk melihat akses, komunikasi, sokongan, autonomi dan maruah pekerja. Namun, penumpuan kedua mengubah sudut analisis. Pembangunan Manusia membawa projek BIMB kepada aras sistem, iaitu kesediaan warga kerja, padanan individu dengan tugas, pembangunan kerjaya dan keupayaan organisasi menyediakan sokongan. Pengurusan Tingkah Laku pula membawa projek Durioo lebih dekat kepada interaksi harian, termasuk pengurusan emosi, rangsangan sensori, komunikasi dan respons rakan sekerja.

Kes BIMB: Daripada penerimaan sosial kepada kesediaan sistem HR

Pelajar pertama menjalani WBL di *Human Resource Talent Sourcing Unit* bertempat di ibu pejabat BIMB. Beliau terlibat dalam proses pencarian bakat atau pekerja baharu, penapisan *resume*, penyelarasan temu duga, dokumentasi pelantikan serta urusan berkaitan calon dan panel. Penglibatan ini membolehkannya melihat proses pengambilan pekerja bukan sebagai prosedur abstrak, tetapi sebagai rangkaian keputusan yang konsisten, perlu direkod dan sesuai keperluan organisasi. Pemerhatian ini mencetuskan projek *capstone* bertujuan menilai tahap kesediaan pengambilan pekerja OKU di bahagian HR.

Kajian projek *capstone* pelajar melibatkan semakan dokumen HR dan temubual bersama dua staf OKU serta empat staf HR. Dapatan menunjukkan penerimaan sosial yang positif, namun organisasi belum mempunyai polisi khusus yang memadai untuk saringan, padanan pekerjaan dan pengurusan sokongan, walaupun dokumen Polisi HR Korporat BIMB melarang keras diskriminasi. Dari segi infrastruktur, kemudahan makro seperti lif dan tempat letak kereta OKU dibina dengan baik, tetapi terdapat lompang pada fasiliti mikro seperti tandas mesra OKU yang hanya tersedia di lobi aras bawah. Ini menjadi masalah kepada staf OKU di aras operasi lain.

Memandangkan pelajar berada dalam sebuah organisasi besar, *output* projek *capstone* pelajar adalah berbentuk cadangan proses yang merangkumi SOP, kriteria padanan pekerjaan, aksesibiliti, faedah sokongan yang fleksibel dan latihan kesedaran. Ini kerana mekanisme HR di BIMB perlu melalui proses panjang dan tidak bergantung semata-mata pada budi bicara individu. Cadangan dari projek capstone perlu diterjemahkan kepada aliran kerja, dokumentasi, tanggungjawab dan kemudahan yang konsisten. Hal ini selari dengan konsep kesediaan organisasi yang membezakan komitmen terhadap perubahan daripada keupayaan sebenar untuk melaksanakannya (Weiner, 2009).

Kes Durioo: Inklusiviti dalam amalan dan hubungan kerja harian

Di Durioo, skala organisasi yang lebih kecil memberi pelajar pendedahan langsung kepada operasi pejabat dan fungsi HR yang pelbagai. Selain saringan *resume* dan koordinasi temu duga, pelajar mengurus *candidate pipeline* melalui Google Workspace, membantu *onboarding*, menyokong operasi pejabat, mengendalikan program dalaman dan bertindak sebagai pengacara majlis bagi sesi *townhall* serta perkongsian ilmu. Pengalaman ini meletakkan pelajar dekat dengan interaksi harian antara staf, termasuk pekerja OKU, dan menjadikan isu komunikasi serta kesejahteraan lebih mudah diperhatikan.

Maka, projek *capstone* pelajar direka untuk mengenal pasti keperluan garis panduan yang mudah digunakan bagi pengambilan dan pengurusan pekerja OKU. Isu yang muncul meliputi laluan dan susun atur ruang, bunyi dan cahaya, keperluan ruang tenang, pengurusan tekanan, penggunaan bahasa serta menangani rasa kekok rakan sekerja ketika menawarkan bantuan. Pelajar mempelajari bahawa membantu tanpa bertanya boleh menjejaskan autonomi OKU. Prinsip “Tanya Dahulu” menjadi contoh bagaimana konsep Pendidikan Khas diterjemahkan kepada amalan HR yang ringkas tetapi penting. Output projek ialah Buku Panduan Inklusif yang menggunakan grafik, contoh komunikasi, senarai “Do’s and Don’ts” dan cadangan akomodasi yang sesuai dengan situasi Durioo sebagai sebuah syarikat pemula.

Perbandingan antara kes: Konteks membentuk penyelesaian

Jadual 1: Perbandingan antara dua projek capstone penumpuan Pendidikan Khas di BIMB dan Durioo

Aspek	BIMB (Bank)	Durioo (Syarikat Pemula)
Bidang Penumpuan Pelajar	Pendidikan Khas + Pembangunan Manusia	Pendidikan Khas + Pengurusan Tingkah Laku
Struktur organisasi	Besar, formal, berhierarki	Kecil, hubungan kerja langsung
Fokus masalah	Kesediaan HR, polisi, saringan dan padanan kerja	Pengurusan harian, komunikasi, persekitaran kerja
Output capstone	Cadangan SOP dan proses HR inklusif	Buku panduan praktikal dan rujukan pantas

Jadual 1 di atas meringkaskan perbandingan antara dua kes yang dibincangkan. Perbezaan utama projek *capstone* bukanlah pada matlamat keterangkuman, tetapi pada aras tindakan. BIMB memerlukan penyelesaian yang dapat distandardkan merentas sistem HR; maka projek menumpukan polisi, saringan, padanan pekerjaan, aksesibiliti dan SOP. Durioo memerlukan rujukan yang boleh digunakan segera dalam hubungan kerja yang rapat; maka projek menumpukan komunikasi, persekitaran sensori, autonomi dan panduan praktikal. Organisasi besar mempunyai kelebihan dari segi sumber dan struktur, tetapi perubahan memerlukan penyelarasan pelbagai peringkat. Organisasi pemula pula boleh bertindak pantas, tetapi amalan berisiko terlalu bergantung pada individu jika tidak didokumentasikan. Oleh itu, *capstone* yang baik bukan menghasilkan penyelesaian seragam, sebaliknya menyelaraskan teori dengan bentuk tadbir urus, sumber dan budaya tempat kerja.

Refleksi bersama pensyarah: daripada pengalaman kepada pertimbangan professional

Refleksi bersama pensyarah membantu kedua-dua pelajar bergerak daripada menceritakan tugasan kepada memahami makna pembelajaran. Refleksi yang terarah membantu pelajar menilai semula andaian, nilai dan peranan profesional yang terbentuk melalui pengalaman praktikal (Siebert, 2013; Bubnys, 2019). Model Inklusi Shore et al. (2011), yang menekankan keseimbangan antara rasa kepunyaan (*belongingness*) dan pengiktirafan keunikan (*uniqueness*), digunakan sebagai salah satu lensa untuk membaca semula pengalaman. Dalam kes BIMB, pelajar melihat rasa kepunyaan sosial kerana pekerja OKU diterima tanpa stigma yang ketara. Namun, pengiktirafan terhadap keunikan fungsian masih memerlukan sokongan lebih sistematik melalui SOP, akses fizikal dan padanan pekerjaan. Refleksi ini mengubah kefahamannya daripada "organisasi yang menerima" kepada "organisasi yang mempunyai sistem untuk menyokong penyertaan".

Pengalaman harian di Talent Sourcing turut membentuk kompetensi profesional pelajar di BIMB. Berurusan dengan calon dan panel temu duga meningkatkan komunikasi formal dan keyakinan; pengurusan jadual serta dokumentasi melatih ketelitian dan pengurusan masa; manakala pendedahan kepada kos pengambilan dan dana latihan memperluas kefahaman tentang pengurusan modal insan. Pelajar juga semakin peka bahawa imej profesional, etika komunikasi dan rekod kerja yang merupakan sebahagian daripada tanggungjawab dalam organisasi korporat. Dalam refleksinya, pengurusan sumber manusia tidak lagi dilihat sekadar mengisi kekosongan jawatan, tetapi sebagai usaha membina ekosistem kerja yang adil.

Bagi pelajar di Durioo, refleksi menonjolkan cara Pendidikan Khas bergerak keluar daripada bilik darjah kepada pengurusan manusia. Pengalaman menjadi pendengar kepada staf yang tertekan menguatkan kemahiran *active listening*, empati dan *rapport*. Tugasan mengurus calon memperlihatkan pentingnya komunikasi yang jelas sejak pertemuan pertama lagi. Selain itu, peranan sebagai pengacara *townhall* membantu pelajar membina keberanian berucap di khalayak dan belajar untuk mengurus jangkaan pihak berkepentingan. Dalam konteks syarikat kreatif, konsep *belongingness* dan *uniqueness* juga membantu pelajar memahami bahawa pekerja OKU dan tipikal perlu sama-sama berasa diterima sebagai sebahagian daripada pasukan tanpa kehilangan identiti, gaya kerja atau keperluan sokongan yang berbeza.

Perbandingan refleksi menunjukkan perkembangan identiti profesional yang berbeza tetapi saling melengkapi. Pelajar BIMB belajar berfikir secara sistemik, menggunakan bukti dan menavigasi struktur formal; manakala pelajar Durioo belajar mendengar pengalaman individu, bertindak tangkas dan menyesuaikan komunikasi mengikut keadaan. Kedua-duanya belajar bahawa inklusiviti bukan hanya sikap positif. Ia memerlukan keputusan harian yang menghormati autonomi serta struktur organisasi. Proses menghubungkan pengalaman, teori dan tindakan inilah yang mengukuhkan pembentukan identiti profesional melalui WBL (Trede et al., 2012).

Implikasi terhadap reka bentuk WBL dan projek capstone

Perbandingan dua kes di atas memberi tiga implikasi kepada reka bentuk WBL SmSn Citra. Pertama, projek *capstone* perlu bermula daripada masalah yang benar-benar wujud dalam aliran kerja organisasi, bukan daripada keinginan memaksakan teori tertentu. Dalam kedua-dua kes, isu keterangkuman hanya menjadi bermakna apabila pelajar berada cukup lama di tempat kerja untuk memahami proses pengambilan, hubungan antara unit, pengalaman pekerja dan batas pelaksanaan. Tempoh WBL yang panjang memberi ruang untuk masalah berkembang daripada pemerhatian awal kepada persoalan yang lebih spesifik dan boleh diambil tindakan.

Kedua, bentuk *output* perlu fleksibel. Organisasi besar seperti BIMB memerlukan cadangan yang boleh diterjemahkan kepada struktur, prosedur dan akauntabiliti, manakala syarikat pemula seperti Durioo mendapat manfaat daripada panduan ringkas yang boleh digunakan segera. Menilai kedua-dua *capstone* dengan ukuran produk yang sama akan mengabaikan kepentingan konteks yang menjadi asas bagi WBL.

Ketiga, refleksi bersama pensyarah perlu dirancang sebagai sebahagian daripada proses pembelajaran, bukan aktiviti penutup. Soalan reflektif yang menghubungkan "apa yang berlaku", "teori apa yang membantu memahami situasi", "apakah andaian awal yang berubah" dan "apakah tindakan profesional seterusnya" membantu pelajar membezakan antara pengalaman dengan pembelajaran. Refleksi seperti ini juga memberi ruang kepada pensyarah dan penyelia industri mencabar generalisasi yang terlalu cepat, misalnya menganggap penerimaan sosial sebagai bukti bahawa keseluruhan sistem sudah inklusif atau menganggap panduan praktikal sebagai bukti perubahan budaya organisasi.

Bagi pensyarah, pengalaman refleksi bersama pelajar juga menunjukkan bahawa penilaian *capstone* perlu memberi perhatian kepada rasional di sebalik keputusan pelajar. Nilai akademik bukan hanya pada ketebalan laporan atau kecanggihan produk, tetapi pada keupayaan menjelaskan mengapa sesuatu permasalahan dipilih, mengapa bukti tertentu dianggap relevan, bagaimana pihak berkepentingan dilibatkan dan mengapa bentuk penyelesaian yang sesuai dengan konteks. Dengan cara ini, refleksi bersama pensyarah menjadi mekanisme yang mengekalkan hubungan antara pengalaman industri dengan hasil pembelajaran program.

Batasan dan langkah seterusnya

Artikel ini hanya berasaskan dua projek *capstone* dalam organisasi yang berbeza dan menggunakan bilangan informan yang kecil. Perbandingan adalah bertujuan untuk memahami proses penterjemahan ilmu, bukan menentukan organisasi mana yang lebih inklusif. Cadangan SOP BIMB dan Buku Panduan Inklusif Durioo juga merupakan *output* pada peringkat awal. Penilaian seterusnya perlu meneliti bagaimana dokumen tersebut digunakan oleh HR, sama ada ia mudah difahami oleh pengurus dan pekerja, serta sama ada cadangan benar-benar mengurangkan halangan dalam pengambilan dan pengalaman kerja. Maklum balas pekerja OKU perlu terus menjadi rujukan utama supaya penambahbaikan tidak hanya berasaskan andaian pihak organisasi. Kajian susulan juga boleh meneliti perubahan kefahaman dan identiti profesional pelajar sepanjang 12 bulan WBL secara longitudinal.

KESIMPULAN

Dua projek *capstone* yang dijadikan kes perbincangan menunjukkan bahawa penumpuan Pendidikan Khas boleh diterjemahkan secara bermakna dalam fungsi sumber manusia, tetapi bentuk penterjemahan berubah mengikut konteks organisasi dan penumpuan kedua pelajar. Di BIMB, gabungan Pendidikan Khas dan Pembangunan Manusia membawa kepada penilaian kesediaan organisasi serta cadangan SOP yang lebih formal. Di Durioo, gabungan Pendidikan Khas dan Pengurusan Tingkah Laku menghasilkan panduan praktikal yang memberi perhatian kepada komunikasi, sensori, autonomi dan hubungan kerja harian. Nilai WBL bukan hanya pada *output* akhir, tetapi pada keupayaan pelajar mengenal pasti masalah sebenar, menyesuaikan teori, berunding dengan pihak berkepentingan dan membuat refleksi terhadap keputusan profesional. Pengalaman sebenar yang dibincangkan bersama pensyarah memperlihatkan peralihan daripada kefahaman akademik kepada pertimbangan profesional yang lebih kontekstual. Penilaian susulan terhadap penggunaan SOP dan buku panduan yang dihasilkan oleh kedua-dua pelajar adalah diperlukan untuk menentukan sejauh mana cadangan projek *capstone* diterima dan menyumbang kepada perubahan amalan organisasi.

PENGHARGAAN

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Keperluan Pengajaran Kemahiran Sosioemosi bagi Transisi Kerjaya Remaja Autisme dalam Dunia VUCA dan BANI

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ABSTRAK

Dunia VUCA dan BANI menuntut remaja autisme memiliki keupayaan menyesuaikan diri dengan perubahan, mengurus keresahan dan memahami tuntutan sosial yang semakin kompleks. Kajian ini bertujuan mengenal pasti isu, cabaran dan keperluan pengajaran kemahiran sosioemosi bagi transisi kerjaya remaja autisme. Reka bentuk analisis keperluan kualitatif digunakan dengan melibatkan lima orang guru pendidikan khas sekolah menengah dan lima orang ibu bapa kepada remaja autisme berumur 17 hingga 19 tahun di Selangor. Data dikumpul melalui temu bual separa berstruktur dan dianalisis menggunakan analisis tematik. Dapatan menghasilkan sepuluh tema utama, iaitu regulasi emosi, sensitiviti emosi dan pencetus meltdown, kesediaan adaptif, keselamatan tempat kerja, kesedaran kendiri, kesedaran sosial, norma tempat kerja, kemahiran hubungan, pembuatan keputusan berpandu orang dewasa dan keperluan modul sosioemosi berstruktur. Regulasi emosi dikenal pasti sebagai isu paling dominan yang mempengaruhi kesediaan kerjaya. Kajian ini menyediakan asas empirikal bagi pembangunan modul transisi kerjaya yang eksplisit, visual, berstruktur, kontekstual dan disokong melalui kolaborasi sekolah-rumah.

Kata Kunci: Autisme, kemahiran sosioemosi, transisi kerjaya, VUCA dan BANI, pendidikan khas

PENGENALAN

Transisi daripada alam persekolahan ke alam pekerjaan merupakan fasa kritikal bagi remaja autisme kerana mereka perlu bergerak daripada rutin sekolah kepada tuntutan kehidupan dewasa, latihan, pekerjaan dan penyertaan komuniti. Dalam konteks pendidikan masa hadapan, cabaran ini semakin jelas apabila landskap pekerjaan digambarkan sebagai VUCA, iaitu tidak stabil, tidak pasti, kompleks dan kabur (Bennett & Lemoine, 2014), serta BANI, iaitu rapuh, mencetuskan keresahan, tidak linear dan sukar difahami (Cascio, 2020). Oleh itu, persediaan kerjaya remaja autisme tidak memadai dengan latihan vokasional semata-mata, sebaliknya perlu melibatkan kemahiran sosioemosi yang membolehkan mereka mengurus emosi, menyesuaikan diri, memahami norma sosial dan membuat keputusan dalam situasi sebenar.

Literatur menunjukkan bahawa kejayaan transisi kerjaya individu autisme dipengaruhi oleh faktor sosial, tingkah laku, adaptif dan sokongan persekitaran, bukan hanya kemahiran teknikal (Scott et al., 2019; Whittenburg et al., 2020; Wen et al., 2024). Remaja autisme juga berisiko menghadapi cabaran kesediaan kerja, komunikasi interpersonal, toleransi sensori, kesihatan mental dan sokongan perkhidmatan (Cheng et al., 2024; Radey et al., 2025). Oleh itu, pengajaran kemahiran sosioemosi perlu diberi perhatian sebagai asas kepada transisi kerjaya yang lebih inklusif, realistik dan mampan.

Kajian ini merupakan fasa pertama pembangunan modul, iaitu analisis keperluan. Objektif kajian adalah untuk mengenal pasti isu dan cabaran sosioemosi yang dihadapi remaja autisme berumur 17 hingga 19 tahun dalam persediaan transisi kerjaya serta mengenal pasti komponen penting bagi pembangunan modul pengajaran kemahiran sosioemosi. Kajian menggunakan reka bentuk kualitatif melalui temu bual separa berstruktur terhadap lima orang guru pendidikan khas sekolah menengah dan lima orang ibu bapa di Selangor. Data dianalisis secara tematik berpandukan Braun dan Clarke (2006).

HASIL DAN PERBINCANGAN

Analisis tematik menghasilkan sepuluh tema utama, iaitu regulasi emosi, sensitiviti emosi dan pencetus meltdown,

kesediaan adaptif, cabaran dan keselamatan tempat kerja, kesedaran kendiri, kesedaran sosial, norma tempat kerja, kemahiran hubungan, pembuatan keputusan berpandu orang dewasa serta keperluan modul transisi kerjaya sosioemosi berstruktur. Dapatan ini menunjukkan bahawa kemahiran teknikal masih penting, namun keberkesanannya bergantung pada keupayaan remaja autisme mengurus emosi, memahami orang lain, berkomunikasi, menyesuaikan diri dengan rutin kerja dan membuat keputusan berkaitan masa hadapan.

Berdasarkan kerangka VUCA dan BANI, dapatan ini dapat dipetakan kepada empat keperluan utama. Pertama, volatility dan uncertainty menuntut pengajaran regulasi emosi, strategi bertenang, fleksibiliti rutin dan kemahiran meminta penjelasan. Kedua, complexity dan ambiguity memerlukan pengajaran kesedaran sosial, komunikasi fungsional di tempat kerja, penerimaan teguran dan kemahiran bertanya soalan. Ketiga, sifat brittle dan anxious menuntut daya tahan emosi, keselamatan diri, advokasi kendiri serta sokongan majikan dan keluarga. Keempat, non-linear dan incomprehensible menunjukkan keperluan pembuatan keputusan berpandu, aktiviti pilihan-kesan-tindakan serta pelan kerjaya berasaskan kekuatan individu.

Dapatan paling menonjol ialah regulasi emosi sebagai penghalang utama transisi kerjaya. Guru dan ibu bapa melaporkan bahawa remaja autisme boleh mempelajari tugasan vokasional, namun ketidakstabilan emosi, stres, bunyi bising, arahan berulang, perubahan rutin dan situasi baharu boleh mencetuskan reaksi seperti menangis, mendiamkan diri, marah atau meltdown. Dalam dunia BANI yang bersifat anxious dan brittle, isu ini menjadi lebih kritikal kerana remaja perlu berupaya menenangkan diri, meminta bantuan dan pulih daripada tekanan tanpa kebergantungan penuh kepada orang dewasa.

Tema kesediaan adaptif pula merangkumi kematangan emosi, pengurusan diri, ketepatan masa, pematuhan arahan, toleransi terhadap persekitaran bising dan keupayaan menyiapkan tugasan. Ibu bapa turut menekankan aspek keselamatan seperti risiko buli, manipulasi dan eksploitasi, manakala guru menegaskan keperluan majikan memahami autisme serta menyediakan arahan yang jelas dan beban kerja yang sesuai. Hal ini selari dengan ciri VUCA yang kompleks dan kabur kerana tempat kerja sebenar melibatkan peraturan tersirat, arahan berubah-ubah serta interaksi dengan majikan, rakan sekerja atau pelanggan.

Dapatan juga menunjukkan keperluan mengajar kesedaran kendiri, kesedaran sosial, komunikasi fungsional dan pembuatan keputusan secara eksplisit. Remaja autisme sering memerlukan bimbingan untuk mengenal pasti kekuatan, kelemahan, minat kerjaya, pencetus emosi dan keperluan sokongan. Mereka juga menghadapi kesukaran memahami bahasa badan, nada suara, sindiran, emosi halus, cara meminta bantuan, menerima teguran dan memulakan perbualan. Dalam konteks BANI yang tidak linear dan sukar difahami, pelan kerjaya perlu fleksibel, berasaskan kekuatan individu serta disokong oleh aktiviti pilihan-kesan-tindakan yang konkrit.

Secara keseluruhan, guru dan ibu bapa menyokong pembangunan modul khusus yang bersifat visual, berstruktur, kontekstual, praktikal dan fleksibel. Modul dicadangkan menggunakan sokongan visual, social stories, video modelling, role play, simulasi tempat kerja, maklum balas berstruktur, strategi menenangkan diri, aktiviti pendek di rumah dan kolaborasi sekolah-rumah. Pendekatan ini penting kerana kemahiran sosioemosi tidak semestinya dipindahkan secara automatik daripada sekolah ke rumah, komuniti dan tempat kerja tanpa latihan berulang dalam konteks sebenar.

KESIMPULAN

Kajian ini menegaskan bahawa transisi kerjaya remaja autisme dalam dunia VUCA dan BANI memerlukan persediaan yang melangkaui kemahiran teknikal. Regulasi emosi, kesedaran kendiri, kesedaran sosial, komunikasi, keselamatan, adaptasi dan pembuatan keputusan merupakan komponen penting yang perlu diajar secara eksplisit dan berstruktur. Dapatan ini menyediakan asas empirikal untuk pembangunan modul pengajaran kemahiran sosioemosi transisi kerjaya bagi remaja autisme. Penyelidikan seterusnya wajar menumpukan pengesahan kandungan modul bersama pakar pendidikan khas, psikologi, kaunseling, vokasional dan transisi kerjaya sebelum penilaian keberkesanan dijalankan.

PENGHARGAAN

Pengarang merakamkan penghargaan kepada guru pendidikan khas, ibu bapa dan semua pihak yang memberikan kerjasama dalam kajian ini.

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