



UTM
UNIVERSITI TEKNOLOGI MALAYSIA



VOLUME 1

Issue 1 (July, 2026)

EDUCATEUR

VOICES OF SCHOLARSHIP, INNOVATION AND EDUCATION

EDUCATION IN ACTION:

**HUMAN VALUES,
DIGITAL FUTURES AND
GLOBAL CONNECTIONS**

AI-AUGMENTED READING:

**STRENGTHENING
METACOGNITION AND
LEARNER AUTONOMY
IN ESL**

- DR. YAP SOON LI

STEM BEYOND THE CLASSROOM:

**FEST BRINGS OUTDOOR
FUN LEARNING TO
PERKEP FAMILIES**

- DR. SITI NAJIHAH BINTI JAMAL
DR. WIMBI APRIWANDA NURSIWAN

UTM-UNSRI COLLABORATION

**STRENGTHENS DIGITAL
PEDAGOGY AND ICT-BASED
LEARNING AMONG TEACHERS**

- ASSOC. PROF. TS. DR.
NOOR DAYANA ABD HALIM



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FACULTY OF EDUCATIONAL SCIENCES
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DEAN'S *Foreword*

FE ST



PROF. DR. NORAFFANDY BIN YAHAYA
Dean
Faculty of Educational Sciences and Technology

Celebrating Scholarship, Innovation and Educational Impact

It is with great pleasure that I welcome readers to the inaugural issue of **Educateur**, the academic magazine of the Faculty of Educational Sciences and Technology. This publication marks an important milestone in our continuing effort to strengthen scholarly communication, celebrate academic excellence and broaden the impact of the faculty's work within and beyond the university.

Educateur provides a shared platform for our academic community to exchange ideas, showcase innovative practices, and highlight contributions that advance education, research and societal development. Through its diverse content pillars—ATVET, ESBS, ALT, ISME, as well as Collaboration and Achievement—this magazine reflects the breadth of expertise, creativity and commitment found across the faculty.

In a rapidly changing educational landscape, universities must remain responsive, forward-looking and connected to the needs of learners, communities, industries and global partners. The articles featured in this issue demonstrate how our academics continue to explore new possibilities in teaching and learning, strengthen research and innovation, cultivate meaningful partnerships and contribute solutions to contemporary educational challenges.

The publication of this first issue would not have been possible without the dedication of the Editors-in-Chief, editorial board, pillar coordinators, writers, reviewers, creative team and all contributors. I extend my sincere appreciation to everyone who has worked collaboratively to bring **Educateur** to life.

I hope that this magazine will grow into a respected platform for intellectual engagement, professional reflection and institutional visibility. May it inspire continued dialogue, encourage cross-disciplinary collaboration and amplify the faculty's contributions at national and international levels.

Congratulations on the successful publication of **Educateur**, Volume 1, Issue 1. I look forward to seeing it evolve as a meaningful record of our collective scholarship, innovation and educational impact.



ACADEMIC HORIZONS

Assoc. Prof. Dr. Megat Aman Zahiri bin Megat Zakaria
Deputy Dean (Academic and Student Affairs)

ADVANCING TEACHING EXCELLENCE AND STUDENT DEVELOPMENT

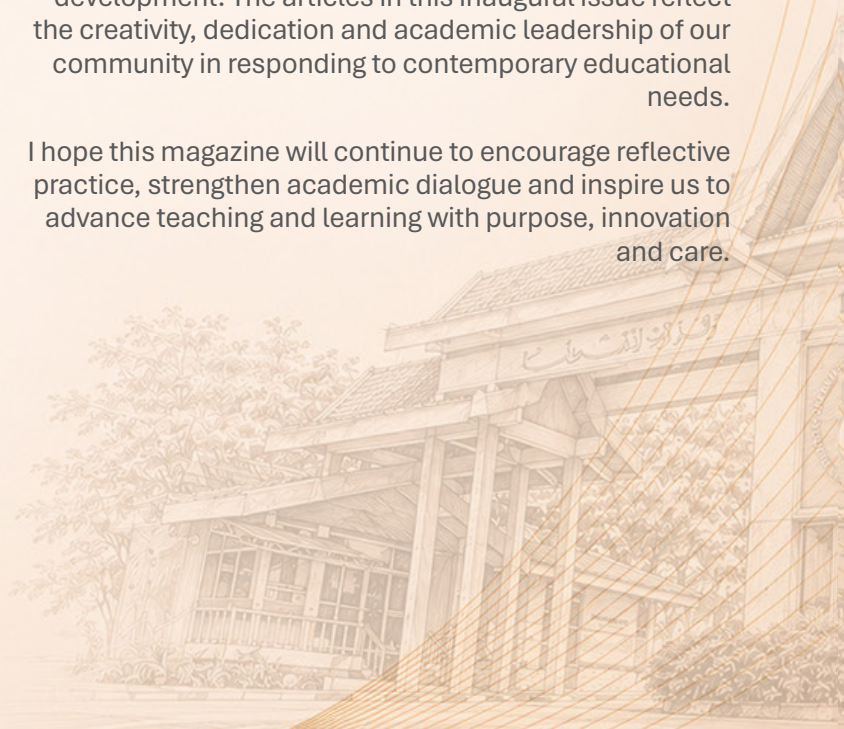
Teaching and learning remain at the heart of every meaningful educational institution. At the Faculty of Educational Sciences and Technology, we recognise that academic excellence is not measured only by curriculum delivery, but also by the quality of learning experiences we create for our students.

In a rapidly changing educational landscape, our responsibility is to prepare students who are knowledgeable, adaptable, ethical and future-ready. This requires continuous commitment to innovative pedagogy, meaningful assessment, digital learning integration and student-centred academic practices. Excellence in teaching must go beyond content mastery; it should inspire curiosity, strengthen critical thinking and nurture the confidence students need to contribute meaningfully to society.

Student development is equally important. Every student enters the university with potential, aspiration and diverse learning needs. As educators, we play an important role in guiding them academically, professionally and personally. Through supportive learning environments, constructive engagement and holistic academic experiences, we can help students grow into competent graduates with strong values and a clear sense of purpose.

Educateur provides an important platform to showcase the faculty's commitment to teaching excellence and student development. The articles in this inaugural issue reflect the creativity, dedication and academic leadership of our community in responding to contemporary educational needs.

I hope this magazine will continue to encourage reflective practice, strengthen academic dialogue and inspire us to advance teaching and learning with purpose, innovation and care.



RESEARCH FRONTIERS

Assoc. Prof. Dr. Aede Hatib bin Musta'amal

Deputy Dean (Research, Innovation and Development)

DRIVING INNOVATION, DISCOVERY AND SCHOLARLY IMPACT

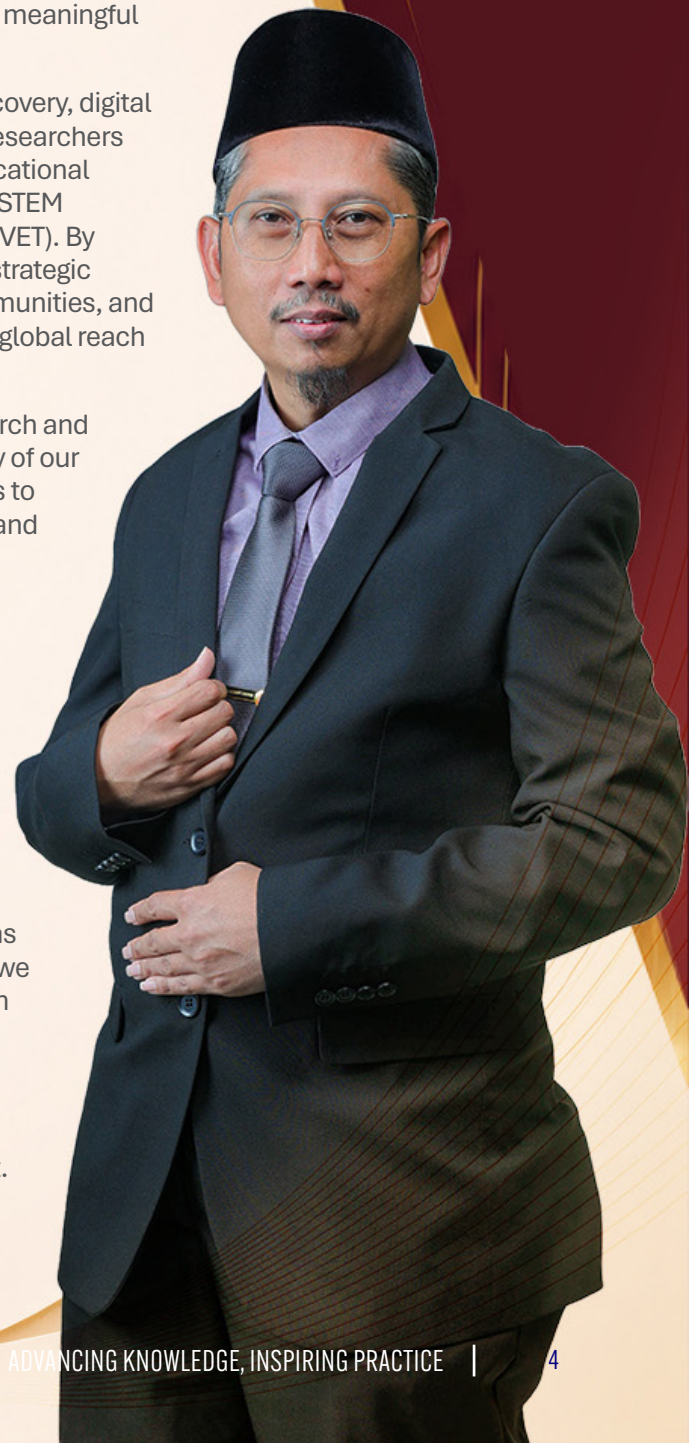
Research is more than the pursuit of new knowledge. It is about asking meaningful questions, discovering new possibilities, and translating ideas into solutions that improve education and benefit society. At the Faculty of Educational Sciences and Technology, we are committed to fostering a research culture that values curiosity, collaboration, and academic excellence. As education continues to evolve in response to global challenges and technological advances, our responsibility extends beyond producing research outputs to generating knowledge that informs policy, strengthens professional practice, and creates meaningful impact.

Today's research landscape calls for interdisciplinary thinking, discovery, digital innovation, and stronger global collaboration. Across our faculty, researchers are exploring emerging areas and pursuing new discoveries of educational innovation, technology-enhanced learning, behavioural sciences, STEM education, and Technical and Vocational Education and Training (TVET). By bringing together expertise from different disciplines and building strategic partnerships with academia, industry, government agencies, communities, and international institutions, we enhance the relevance, visibility, and global reach of our research.

Research excellence is sustained by investing in both quality research and the people who drive it. This commitment is reflected in the quality of our publications, the integrity of our research practices, our willingness to collaborate, and our ability to translate knowledge into innovation and societal benefit. Equally important is nurturing the next generation of researchers through mentorship, collaboration, and academic leadership.

For us, innovation is not defined solely by technological advancement. It is equally reflected in how we rethink educational practice, solve complex problems, and respond to the evolving needs of society. Research creates its greatest value when knowledge is shared, translated into practice, and applied in ways that make a lasting difference to education and communities.

Through **Educateur**, we celebrate the scholarly work, creative ideas and collaborative efforts that define our faculty. More importantly, we hope this magazine will inspire fresh ideas, foster stronger research networks, and encourage meaningful collaborations that advance knowledge, foster innovation and create lasting impact. Together, we aspire to strengthen a research culture that not only expands the frontiers of knowledge but also enriches education, empowers communities, and contributes to national and global development.



ABOUT

EDUCATEUR



A P L A T F O R M F O R

Ideas, Scholarship and Educational Impact

By Dr. Yap Soon Li and Dr. Mohd Izyan Zuhaili bin Zainudin
Editors-in-Chief

Education is shaped not only by what happens in classrooms, laboratories and lecture halls, but also by the ideas, experiences and collaborations that connect people across disciplines, institutions and communities. **Educateur** was established to bring these diverse voices together.

As the academic magazine of the Faculty of Educational Sciences and Technology, **Educateur** provides an accessible platform for academics, researchers, students and partners to share educational perspectives, innovative practices, research-informed ideas and stories of meaningful impact. Its name reflects the enduring role of the educator—not merely as a transmitter of knowledge, but also as a scholar, mentor, innovator and catalyst for positive change.

Unlike a conventional academic journal, **Educateur** communicates scholarly and professional ideas through a more engaging magazine

format. It aims to make knowledge accessible without compromising intellectual depth. Through reflective articles, research features, academic commentaries and reports on faculty initiatives, the magazine connects theory with practice and institutional expertise with wider educational concerns.

To reflect the multilingual identity of our academic community and reach a broader readership, **Educateur** publishes articles in both *Bahasa Melayu* and English. *Bahasa Melayu* enables contributors to communicate educational ideas meaningfully within the national context, while English extends the magazine's visibility and accessibility to regional and international audiences. This bilingual approach supports both local relevance and global engagement.

The magazine is organised around five principal pillars. The four academic pillars—ATVET, ESBS, ALT and ISME—showcase scholarship in technical and vocational education, educational studies and behavioural sciences, advanced learning technologies, and science

and mathematics education. The GUCI pillar highlights the faculty's partnerships and achievements involving government, universities, communities, industry and international networks.

This inaugural issue captures education in action. Its articles explore human values, empathy and well-being, language confidence, artificial intelligence, immersive learning, STEM engagement, digital pedagogy and international collaboration. Together, they demonstrate that education is both deeply human and increasingly connected to technological and global developments.

We envision **Educateur** as more than a record of faculty activities. It is a space for intellectual exchange, professional reflection and institutional visibility. As Editors-in-Chief, we extend our sincere appreciation to the faculty leadership, editorial committee, pillar coordinators, contributors and creative team who made this first issue possible.

“

Educateur brings
together the
people, ideas
and partnerships
shaping the future
of education.

”



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BEYOND TECHNICAL SKILLS:

The Readiness of TVET to Integrate Values-Based Education

In today's educational landscape, there is increasing emphasis on producing graduates who are not only technically competent but also ethical, empathetic and socially responsible. Values-Based Education (VBE) responds to this need by placing character, professional attitudes and human values alongside knowledge and skills as intended learning outcomes. Education is therefore not merely preparation for employment, but also a broader effort to develop individuals who can make sound judgements in professional settings and society.

In Malaysia, this idea is not new. The National Education Philosophy has long emphasised the holistic and integrated development of individuals—intellectually, spiritually, emotionally and physically. Values, ethics and social responsibility have always been central to the formation of balanced and responsible citizens. VBE can therefore be understood as a renewed effort to translate these aspirations into contemporary educational practice amid globalisation, technological change, sustainability concerns and evolving workplace cultures.

Recent policy developments have strengthened this direction. Following the revision of the Malaysian Qualifications Framework Second Edition in 2024 and the introduction of the Guidelines on Values-Based Education, VBE has become more than a general aspiration. Institutions are expected to integrate values through infusion, embedding or integration, with implementation evaluated as part of quality assurance processes from 1 August 2026.

For Technical and Vocational Education and Training (TVET), however, the challenge is especially complex. TVET has traditionally focused on psychomotor skills, clearly defined competency standards and performance-based assessment. Success is commonly measured through employability and the ability to perform tasks efficiently according to industry expectations.

The key question is whether TVET educators are ready to move beyond the dominance of the psychomotor domain and engage meaningfully with the affective domain. This is not simply about adding values to existing structures. It requires a reconsideration of what counts as competence and quality in skills-based education.

Culinary education offers a useful example. Students are typically assessed on cutting precision, consistency of outcomes, adherence to recipes, workstation cleanliness and time management. Yet professional kitchens also depend on discipline, teamwork, respect, integrity in handling ingredients, empathy towards customers and responsibility in reducing waste. These qualities are equally important, but they are rarely captured through conventional assessment checklists. If values are essential, they cannot be treated as incidental outcomes that will develop automatically through exposure.

The assessment challenge is therefore significant. Technical skills can often be evaluated within a single practical session, whereas values develop gradually across situations and over time. Their integration also changes the professional identity of TVET educators. Educators are no longer only instructors of skills and assessors of competency; they must also become facilitators of values and models of professional conduct.

The issue is no longer whether VBE matters, but whether TVET curricula, assessment practices and educator readiness are aligned to support it. VBE should not be viewed merely as a compliance requirement. It offers a meaningful pedagogical opportunity to redefine competence by recognising that technical excellence and human values are inseparable in preparing responsible, adaptable and industry-ready graduates in contemporary workplaces and wider society in the future.



“

Technical excellence and human values are inseparable in preparing responsible, adaptable and industry-ready graduates.

”

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...KATA BIAK
...PEMBINAAN
...Jana sandiwanya
...
...dalam team
...
...dalam team
...
...dalam team



Meniti LALUAN TVET

Catatan 90 Hari Pertama di
CIAST

“
Digital tidak hadir
untuk membunuh
tradisi TVET,
sebaliknya ia
bertindak sebagai
pelengkap atomik
yang memperkuat
proses pembelajaran
konvensional menjadi
lebih pintar dan
tangkas.

”

Melangkah masuk ke Centre for Instructor and Advanced Skill Training (CIAST) pada hari pertama membuka lembaran baharu yang merombak terus perspektif saya terhadap dunia pendidikan. Di sebalik tersergamnya bangunan yang tenang, tersimpan ekosistem dinamik yang sarat dengan latihan, pembangunan kemahiran, dan inovasi. Fasa tiga bulan pertama Latihan Ikhtisas ini mula merungkai persoalan falsafah dalam diri: “Apakah sebenarnya jiwa seorang pengajar TVET hari ini?”

Hari-hari awal mengajar saya merendah diri untuk memerhati. Di CIAST, pengajaran bukan sekadar pemindahan ilmu (knowledge transfer) sehala, melainkan proses tersusun yang berpandukan standard industri dan berorientasikan hasil (outcome-based). Walaupun berstruktur, pendekatannya tetap fleksibel dan praktikal. Kesedaran mula terbina dalam sanubari: TVET bukan sekadar pendidikan “buat kerja tangan” atau pilihan kelas kedua, tetapi sistem strategik berimpak tinggi yang menuntut ketajaman kognitif setara dengan kemahiran psikomotor.

Memasuki bulan kedua, roda peranan berputar daripada pemerhati kepada penggerak di lapangan aksi. Saya mula terlibat secara langsung menyediakan bahan PdP, mengendalikan latihan, serta membedah kaedah pembentukan kompetensi. Di sinilah realiti pendidik TVET terserlah. Pengajar tidak boleh sekadar menguasai isi kandungan (content knowledge), tetapi wajib tahu bagaimana membimbing pelatih pelbagai latar belakang, menilai kefahaman yang tidak terukur di atas kertas, serta memastikan keselamatan

pengendalian teknologi. Mengajar dalam acuan TVET bukan sekadar seni, tetapi sains yang menuntut ketepatan metodologi.

“Digital tidak hadir untuk membunuh tradisi TVET, sebaliknya ia bertindak sebagai pelengkap atomik yang memperkukuh proses pembelajaran konvensional menjadi lebih pintar dan tangkas.” Bulan ketiga menjelma sebagai anjakan paradigma menerusi pendedahan modul latihan digital. Blended learning dan kandungan interaktif kini menjadi rutin. Digital tidak hadir untuk mengebumikan tradisi bengkel fizikal, sebaliknya bertindak sebagai pelengkap yang memperkukuh pembelajaran konvensional agar lebih pintar dan tangkas. Cabaran sebenar adalah merapatkan jurang digital dalam kalangan pelatih sambil mengekalkan elemen sentuhan praktikal (hands-on touch). Di sinilah letaknya fungsi pendidik sebagai jambatan hibrid yang menghubungkan teknologi masa hadapan dengan kearifan tradisi.

Menoleh kembali, 90 hari yang berlalu pantas ini merupakan pengembaraan minda yang sarat makna. Langkah yang bermula sebagai pemerhati kini menjiwai watak Pembimbing, Pemudah Cara (Facilitator), dan Pemacu Kompetensi. TVET terbukti secara mutlak sebagai tulang belakang masa depan tenaga kerja negara.

Fasa ini bukanlah garisan penamat untuk mendabik dada, melainkan sebuah peluncur permulaan (launchpad) untuk terus learn, unlearn, dan relearn. CIAST bukan sekadar tempat mengutip sijil, tetapi wadah yang menempa karakter pendidik TVET yang beradaptasi tinggi. Kembara yang sebenar baru sahaja bermula.

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Starting Earlier

than the **INTERVIEW
ROOM**

“

The aim is not perfect English, but graduates willing to speak when opportunity appears.

”

Every year, a familiar worry resurfaces. Employers report that fresh graduates can read and write in English but struggle to use it confidently when it matters, and universities are asked to fix the problem. Yet by the final year, the habits shaping how students speak and write are established. If the goal is graduates who can hold their own in an interview or meeting, the question is not what the last semester can do, but what the previous twelve or fifteen years of schooling should have done.

Malaysia is not short of English ability in the abstract. In the 2025 EF English Proficiency Index, the country placed 24th out of 123 and ranked highest in Asia, rising fifteen points from the previous year.

Graduate unemployment stood at a low 3.2 per cent. The harder reality is that roughly a third of degree and diploma holders work in jobs below their qualifications. When employers explain why, they often point not to grammar, but to confidence, clarity and willingness to speak. These qualities develop gradually and cannot be left to the final stage of education.

At primary school, the task is straightforward: protect the instinct to speak. Young children will use a new language readily when mistakes are treated as part of learning rather than corrected immediately. A classroom that rewards an imperfect answer builds something a worksheet cannot—the belief that it is safe to try. Once that confidence is lost, later remedial efforts struggle to restore it.

At secondary school, examination pressure can take over. Drilling may produce students who can identify correct answers but cannot sustain a conversation. The solution is not less rigour, but a broader definition of it. Group discussions, short presentations, debates, projects and drama give students reasons to use English. Speaking should become ordinary, not exceptional.

Universities then inherit what arrives

and must bridge everyday English with professional communication. Mock interviews, workplace emails, reports, timed summaries and presentations followed by challenging questions reflect what employers expect. These practices work best when integrated throughout a degree rather than confined to one communication course.

No stage can succeed alone. A confident child may lose ground after years of silent grammar drills, while a capable school leaver may enter an interview unprepared without workplace practice. Each level must build on the previous one.

There is also a cultural dimension. Students speak English more readily where they are not mocked for trying or shamed for making mistakes. Teachers and lecturers set that tone by using English for genuine exchange rather than performance.

The answer requires a change of emphasis more than a change of system: more speaking, less over-correction, more authentic tasks and stronger continuity across educational stages. The aim is not perfect English, but graduates willing to speak when opportunity appears. That confidence is built one ordinary classroom at a time, long before anyone sits outside an interview room.

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Bila

EMPATI

Menjadi BUDAYA

Saban masa kita dikejutkan dengan pelbagai isu tekanan mental dalam kalangan masyarakat. Perkara yang paling membimbangkan ialah apabila kasih sayang dan keamatan institusi kekeluargaan bertukar menjadi amarah, putus hubungan, malah sehingga berlaku kes keganasan dalam kalangan ahli keluarga sendiri serta masyarakat.

Statistik semasa menunjukkan bahawa isu tekanan mental semakin meruncing. Tinjauan Kebangsaan Kesihatan dan Morbiditi (2023) melaporkan sebanyak 4.6% atau kira-kira satu juta rakyat Malaysia berumur 16 tahun ke atas mengalami kemurungan di mana ia meningkat hampir dua kali ganda berbanding tahun 2019.

Kesejahteraan mental merupakan elemen penting dalam memastikan keharmonian keluarga dan kestabilan sosial. Namun, satu aspek yang sering dipandang ringan ialah empati. Empati bukan sekadar memahami, tetapi merupakan keupayaan untuk mendengar, memahami, dan melihat sesuatu daripada perspektif individu lain dengan penuh rasa hormat dan keprihatinan.

“

Elakkan respons terlalu cepat yang meremehkan seperti “Alahai, perkara kecil sahaja.”

”



Bersama meningkatkan kesedaran dalam kesihatan mental



Tangani masalah mental dari peringkat awal

Tangani Masalah Mental dari Peringkat Awal

Sebagai anggota masyarakat, kita harus peka terhadap orang di sekeliling kita. Malangnya, terdapat individu yang memilih memendam perasaan kerana menganggap meluahkan masalah sebagai tanda kelemahan. Penggunaan ungkapan yang terlalu umum seperti “*Aku stres*” atau “*Biasa saja*” juga sering menyukarkan orang lain memahami emosi sebenar mereka.

Hakikatnya, kita perlu belajar mengenal pasti emosi dengan tepat seperti sedih, kecewa, terhimpit, atau terkilan. Dalam perspektif menolong, komunikasi yang empati dan reflektif amat membantu. Contohnya: “*Berdasarkan apa yang saya dengar tadi, anda benar-benar berasa kecewa terhadap sikapnya.*”

Elakkan respons terlalu cepat yang meremehkan seperti “*Alahai, perkara kecil sahaja.*” Sebaliknya, fahami makna tersirat di sebalik ungkapan seperti “*Hidup ini terasa berat*” dengan mendengar penuh perhatian dan bertanya secara sopan tanpa tergesa-gesa menghakimi.

Peranan Pelbagai Pihak dalam Menangani Masalah Mental

Budaya empati memerlukan komitmen semua lapisan masyarakat untuk subur:

- **Ibu Bapa:** Menjadi pendengar yang baik serta mendidik anak-anak mengenali dan meluahkan emosi dengan jelas sejak awal agar mereka tidak membesar dengan perasaan yang kabur dan terpendam.

- **Pensyarah:** Di universiti, pensyarah boleh menggunakan komunikasi santun semasa proses pengajaran, contohnya: “*Saya perasan awak kelihatan kurang aktif hari ini. Adakah sesuatu yang ingin dikongsikan?*” Pendekatan sebegini membuka ruang emosi bagi pelajar.
- **Pelajar:** Membina hubungan positif sesama rakan melalui sikap saling mendengar dan menghormati perbezaan demi menyokong kesejahteraan bersama.
- **Pengguna Media Sosial:** Bertanggungjawab berkomunikasi secara berhemah di alam maya dan menghentikan sindiran serta cemuhan digital yang boleh meningkatkan tekanan sosial.

Marilah kita bersama-sama memperkukuh budaya empati dalam komunikasi harian tanpa mengira peranan kita sebagai ahli keluarga, rakan, mahupun pekerja. Kesediaan untuk mendengar dan menghargai perasaan orang lain mampu membina hubungan yang lebih harmoni. Apabila empati menjadi budaya dalam kehidupan seharian, kita bukan sahaja memperkukuh hubungan sosial, malah turut menyumbang kepada kesejahteraan masyarakat secara menyeluruh.

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GERAK, FIKIR, CIPTA!

Memahami Kreativiti Motor Kanak-kanak



Pernakah kita melihat dua orang kanak-kanak diberi objek yang sama, tetapi menggunakannya dengan cara yang berbeza? Seorang mungkin menendang bola terus ke hadapan, manakala seorang lagi membalik, menyambut dan mencipta pergerakan seolah-olah bola itu sebahagian daripada dunia imajinasinya. Tiada siapa yang mengajar cara kedua itu. Ia lahir secara spontan daripada minda yang bebas dan tubuh yang berani mencuba.

Dalam bidang perkembangan kanak-kanak, keupayaan ini dikenali sebagai kreativiti motor. Kreativiti motor bukan sekadar tentang seberapa pantas seorang kanak-kanak bergerak atau seberapa kuat dia melompat. Sebaliknya, ia merujuk kepada keupayaan menghasilkan idea pergerakan yang pelbagai, asli dan berbeza daripada kebiasaan. Apabila diberi tugas fizikal, kanak-kanak bukan hanya mengulang pergerakan biasa, tetapi berpeluang mencipta cara baharu untuk bergerak.

Konsep ini mempunyai asas dalam penyelidikan perkembangan kanak-kanak. Paul Torrance, tokoh psikologi pendidikan, memperkenalkan instrumen (TCAM) untuk menilai kreativiti melalui tindakan dan pergerakan. Berbeza daripada ujian kecergasan biasa yang menilai kelajuan, kekuatan atau ketahanan, TCAM memberi perhatian kepada cara kanak-kanak menggunakan tubuh untuk menjana idea, menyelesaikan masalah dan mengekspresikan diri.

Selama ini, perkembangan fizikal kanak-kanak sering dilihat secara sempit. Kita cenderung menilai sama ada mereka boleh berlari lebih laju, melompat lebih tinggi atau menendang lebih kuat. Namun, tubuh kanak-kanak bukan sekadar alat untuk bergerak; ia juga medium untuk berfikir, mencuba, merasa dan berkomunikasi. Cara mereka bergerak boleh menggambarkan bagaimana mereka memahami dunia dan menyesuaikan diri dengan situasi baharu.



“

Apabila dunia memberi ruang, mereka bebas bergerak, berfikir dan mencipta.

”

Persekitaran memainkan peranan penting. Kanak-kanak yang diberi ruang bermain, bereksperimen dan bergerak tanpa arahan terlalu ketat lebih mudah meneroka pelbagai kemungkinan pergerakan. Sebaliknya, persekitaran yang terlalu dikawal boleh mengehadkan keberanian mereka untuk mencuba. Oleh itu, ibu bapa dan pendidik perlu melihat masa bermain sebagai sebahagian daripada pembelajaran, bukan aktiviti sampingan.

Kreativiti motor mengingatkan kita bahawa potensi kanak-kanak tidak hanya tersimpan dalam buku teks atau keputusan peperiksaan. Ia juga hadir dalam cara mereka berlari, melompat, mengimbang badan dan bergerak apabila dunia memberi ruang untuk mereka mencuba. Di situlah kreativiti, keyakinan dan kecerdasan mereka berkembang secara semula jadi.



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Keeping HUMAN THINKING at the Centre of AI-AUGMENTED Reading

 AI Glossary
understand
new words

 Text-to-Speech
improve
fluency

 Adjust Difficulty
right level,
better
challenge

Vocabulary
Main Ideas
Inference
Critical Thinking

 I slowed down
here. Why?

 Did the tool
help me?

 What strategy
will I try next?

Reading appeared simple: a learner, a text and the effort to make meaning. Today, AI-powered platforms can define unfamiliar words, read passages aloud, adjust text difficulty, track reading behaviour and recommend what learners should read next. For students learning English as a second language, these features can reduce barriers that make reading slow and frustrating. Yet the most important question is not whether AI can make reading easier, but whether it can help learners become better thinkers.

A tool that instantly translates every sentence, produces a ready-made summary or supplies the “correct” interpretation may help a learner finish quickly. However, it may also remove the mental work through which genuine comprehension develops. The distinction is crucial: automation completes the task for the learner, while

augmentation strengthens the learner’s capacity to complete it.

AI can function as a cognitive partner when it reduces unnecessary mental strain without replacing effort. A well-designed glossary can support a learner facing a dense paragraph, while text-to-speech can model pronunciation and phrasing. A timed prompt can encourage the learner to pause and ask whether the text has been understood. The danger begins when assistance becomes automatic and constant. If every unfamiliar word is translated immediately or every passage is summarised by the system, learners lose opportunities to infer meaning, identify key ideas and develop vocabulary.

Strong readers do more than recognise words. They plan, monitor and evaluate their understanding.



The goal is not to replace thinking,
but to strengthen it.

“

The best AI does not do
the most for learners; it
helps learners do more for
themselves.

”

This awareness of one’s own thinking is known as metacognition. AI can support it by making reading processes more visible. A learning dashboard may show where a learner slowed down, when assistance was activated or which questions caused difficulty. However, data alone does not produce reflection. It becomes useful when learners ask why they struggled, whether a tool helped and what strategy they should try next. Learning analytics should therefore act as metacognitive mirrors, not merely scoreboards.

A human-centred approach connects AI support, cognitive processing, metacognitive regulation and learner autonomy. AI may offer adaptive texts, vocabulary assistance, audio narration, prompts and analytics, but learners must still identify ideas, make inferences and evaluate arguments. Over time, they should become more independent in deciding when, why and how to use AI. The goal is not permanent assistance, but gradual independence. Teachers remain essential. They help learners interpret feedback, question automated recommendations and connect digital assistance with reading goals. They must

also protect productive struggle, because some difficulty is part of meaningful learning.

AI-supported reading also raises questions about privacy, fairness, cultural representation and access. Learners should know what data is collected and how it is used. Systems should not privilege narrow language norms or widen digital inequalities.

The future of reading is ultimately human. AI should not replace our voice, but prompt us to pause, question, connect ideas and understand more deeply. The best AI does not do the most for learners; it helps learners do more for themselves.

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Universiti Masa Depan:

XR dan AI

UNTUK PEMBELAJARAN LEBIH IMERSIF



Pembelajaran Adaptif

- ✓ Gaya Pembelajaran
- ✓ Kemajuan
- ✓ Cadangan Topik
- ✓ Sumber Disyorkan

Fokus anda semakin baik.
Teruskan penerokaan!

Gabungan XR & AI dapat memberikan impak pembelajaran masa kini.

Pendidikan tinggi sedang berubah dengan pantas. Dahulu, kuliah banyak bergantung pada papan putih, slaid, komputer dan buku rujukan. Kini, terdapat teknologi yang dikenali sebagai *Extended Reality* atau XR yang dapat menjadikan pembelajaran lebih hidup, dekat dengan dunia sebenar, dan membantu pemahaman konsep yang kompleks serta abstrak. XR merangkumi realiti maya (VR), realiti buatan (AR) dan realiti campuran (MR). Melalui teknologi ini, pelajar boleh melihat, meneroka dan berinteraksi dengan bahan pembelajaran dalam bentuk digital yang kelihatan nyata.

Dalam kehidupan pelajar universiti, XR boleh menjadikan pembelajaran lebih praktikal. Pelajar perubatan boleh berlatih dalam bilik pembedahan maya, manakala pelajar kejuruteraan boleh melihat struktur mesin dalam bentuk tiga dimensi. Pelajar seni bina pula boleh menilai reka bentuk bangunan sebelum ia benar-benar dibina, dan pelajar sejarah mampu “melawat” lokasi bersejarah secara maya. Pengalaman seperti ini menjadikan pelajar bukan sekadar mendengar penerangan pensyarah, tetapi turut mengalami sendiri situasi pembelajaran tersebut.

XR menjadi lebih menarik apabila digabungkan dengan kecerdasan buatan atau AI. Jika XR menyediakan ruang pembelajaran yang imersif, AI pula bertindak sebagai pembantu pintar. Sebagai contoh, dalam makmal maya, AI boleh memerhatikan langkah yang dibuat oleh pelajar, memberi maklum balas segera, dan mencadangkan pembetulan. Dalam kuliah maya, avatar AI boleh menjawab soalan asas, menerangkan semula isi pelajaran dalam bahasa yang mudah, dan menyediakan latihan mengikut tahap kefahaman pelajar. Gabungan ini menjadikan pembelajaran lebih peribadi kerana

setiap pelajar dibantu berdasarkan keperluan masing-masing.

Perancangan Lebih Penting daripada Peralatan

Walau bagaimanapun, penggunaan XR dan AI tidak boleh dibuat secara tergesa-gesa. Universiti perlu bertanya soalan asas terlebih dahulu: Apakah tujuan pembelajaran yang ingin dicapai? Adakah teknologi ini benar-benar membantu pelajar memahami sesuatu topik? Siapakah yang akan melatih pensyarah dan bagaimanakah data pelajar akan dilindungi? Tanpa perancangan yang jelas, XR mungkin hanya menjadi alat pameran yang kelihatan canggih tetapi kurang memberi kesan kepada impak pembelajaran.

Aspek etika juga sangat penting. Peranti XR dan sistem AI melibatkan pengumpulan data seperti suara, gerakan badan, cara belajar, dan pilihan pembelajaran pelajar. Oleh itu, universiti perlu mempunyai dasar yang jelas tentang keselamatan data dan perlindungan privasi. Pada masa yang sama, universiti perlu memastikan teknologi ini tidak mewujudkan jurang baharu antara pelajar yang mampu mengakses peranti dengan pelajar yang kurang berkemampuan.

Pendekatan terbaik ialah bermula secara kecil tetapi tersusun. Universiti boleh memilih satu kursus atau satu makmal rintis terlebih dahulu sebelum diperluas kepada program lain berdasarkan maklum balas nyata. Kesimpulannya, XR dan AI bukan untuk menggantikan pensyarah, tetapi membantu mereka menjadikan pembelajaran lebih bermakna, selamat, dan menyeronokkan dalam mendepani pendigitalan dunia masa hadapan.

XR dan AI bukan sekadar teknologi baharu di universiti. Kedua-duanya perlu dilihat sebagai jambatan untuk menjadikan pembelajaran lebih hidup, lebih dekat dengan realiti, dan lebih bermakna kepada pelajar.

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STEM



Beyond the Classroom:



fest.

Brings Outdoor Fun

Learning to

PERKEP

Family

STEM does not always begin with a textbook, a laboratory coat or a complicated formula. Sometimes, it begins with a paper helicopter spinning through the air, a homemade rocket lifting off, or a child discovering why salt helps ice cream freeze.

That spirit shaped the STEM: Outdoor Fun Learning Programme organised by the Faculty of Educational Sciences and Technology (FEST), Universiti Teknologi Malaysia, at Dewan Orkid, IPD Iskandar Puteri. More than 100 participants, including children, parents and adults, took part in a family-friendly learning experience designed to show that science, technology, engineering and mathematics are part of everyday life.

The programme moved STEM beyond explanation and into experience. Children and parents explored ideas through hot air balloons, ice-cream and cotton candy making, rocket launching, Heart Flow, reflective art, paper helicopters, boat making and the Magnificent Oleum soap-making activity. Each station transformed a scientific principle into something participants could see, touch and test for themselves.

The chemistry activities were among the most memorable. Hot air balloons introduced air density and buoyancy, while ice-cream making demonstrated freezing-point depression. Cotton candy showed how sugar changes from solid to liquid and back into fine strands. The rocket activity turned a simple reaction

“

STEM became practical, playful and social.

”





between acid and baking soda into an exciting demonstration of carbon dioxide pressure and motion.

Other activities connected STEM with health, creativity and sustainability. Heart Flow introduced the human circulatory system and oxygen transport, while Magnificent Oleum showed how used cooking oil can be converted into soap. Reflective art encouraged children to explore symmetry, and paper helicopters introduced ideas related to movement and Bernoulli's principle. A mental health screening using DASS-21 added another important dimension by reminding families that well-being is part of holistic learning.

The collaboration with Persatuan Keluarga Polis (PERKEP) gave the programme a strong community focus. The event was attended by YBhg. Puan Magdalen Lobinjang, Chairperson of PERKEP, and YBhg. Puan Raffedah Abdul Manan, Deputy Chairperson of PERKEP Iskandar Puteri District. Their presence reflected a shared commitment to bringing meaningful educational experiences closer to families.

Behind the activities was a dedicated team of FEST academics, undergraduate and postgraduate facilitators. Their guidance turned each station into a space for curiosity, conversation and discovery. The group aerobics session added to the lively atmosphere and strengthened interaction among children, parents, PERKEP members and UTM facilitators.

What made the programme significant was not only the number of activities, but the way learning was reimagined. STEM became practical, playful and social. Children were encouraged to ask questions, parents became learning partners, and scientific ideas became easier to understand because they were experienced directly.

The programme demonstrated that meaningful STEM education can happen anywhere when curiosity is supported by creativity and community. Beyond the classroom, learning becomes more than the transfer of knowledge; it becomes a shared experience that can inspire families to keep exploring long after the activity ends.



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Rethinking *Chemistry* ASSESSMENT Across Borders

Assessment in chemistry education is about more than testing whether students can recall facts or solve equations. It also involves understanding how they reason, respond, participate and apply scientific thinking in meaningful ways.

This broader perspective shaped the International Guest Lecture Series on Chemistry Education Assessment, a collaborative initiative between the Chemistry Education Programme at Universitas Negeri Lampung and the Faculty of Educational Sciences and Technology, Universiti Teknologi Malaysia.

Conducted online from 12 May to 19 June 2026, the series brought together undergraduate chemistry education students, lecturers and guest speakers for a sustained exchange of ideas on classroom

assessment. The sessions explored formative and summative assessment, attitude assessment, reasoning assessment and innovative strategies that can be applied in chemistry teaching.

Rather than relying only on one-way lectures, the programme created space for discussion, feedback and reflection. Participants examined different assessment approaches, shared classroom perspectives and considered how assessment can be used not merely to measure learning, but also to improve it.

Dr. Chuzairy bin Hanri and Dr. Wimbi Apriwanda Nursiwan from FEST, UTM, contributed as guest lecturers, offering professional insights and constructive feedback throughout the series. The programme was officially opened

“One of the strengths of the series was its emphasis on assessment as an active part of teaching.”

by Dr. Marina Setyarini, M.Si., Head of Chemistry Education Programme at Universitas Negeri Lampung, while Prof. Dr. Chansyanah Diawati, M.Si., facilitated the sessions and helped connect the discussions with participants' academic and classroom needs. One of the strengths of the series was its emphasis on assessment as an active part of teaching. By examining how students think, respond and develop over time, educators can design assessment practices that are more informative, reflective and supportive of learning.

The programme also demonstrated how international academic collaboration can enrich professional understanding. Despite being conducted online, the sessions created meaningful dialogue across institutions and strengthened connections between educators in Malaysia and Indonesia.

Beyond the exchange of knowledge, the lecture series laid foundation for continued cooperation chemistry education. It highlighted the value of bringing different perspectives together improve teaching, refine assessment practices and support thoughtful learning experiences.

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Strengthening DIGITAL PEDAGOGY Across Borders

Digital learning becomes more meaningful when teachers have opportunities not only to explore new technologies, but also to discuss how those technologies can improve classroom practice. This idea was central to a Focus Group Discussion and dissemination programme organised by the Civic Education Study Program, Faculty of Teacher Training and Education, Universitas Sriwijaya (UNSRI), in Palembang, Indonesia, on 16 May 2026.

Assoc. Prof. Ts. Dr. Noor Dayana Abd Halim from the Faculty of Educational Sciences and Technology, Universiti Teknologi Malaysia, participated as an international speaker and expert presenter. The programme brought together 30 teachers and education practitioners to explore how ICT-based learning media can strengthen digital literacy among teachers and prospective teachers.

The sessions created space for participants to exchange experiences, discuss challenges and consider practical ways of integrating

“
Creativity,
critical thinking
and active
participation
were highlighted
as essential
elements of
technology-
enhanced
education.
”





technology into teaching and learning. Key areas included ICT-based instructional design, multimedia integration, digital literacy and strategies for using educational technology in schools and higher education institutions.

Rather than focusing only on digital tools, the programme emphasised the principles behind effective digital pedagogy. Participants examined how technology-supported learning materials could be made more meaningful, engaging and learner-centred. Creativity, critical thinking and active participation were highlighted as essential elements of technology-enhanced education. Participants also worked together to develop recommendations and future action plans for strengthening digital learning within their respective institutions. The discussions encouraged educators to move beyond simply adopting technology and instead consider how it could support genuine interaction, understanding and learner development.

The programme also reflected the sustained partnership between UTM and UNSRI under the Memorandum of Agreement established between both institutions. Over the years, this collaboration has supported student mobility,

academic exchanges, professional development programmes, joint research grants and co-authored publications.

The partnership has expanded beyond educational technology to include mathematics education, physics education, sports science, and technical and vocational education and training. Lecturers, undergraduate students and postgraduate students from both universities have continued to participate in academic, research and mobility activities. What began as a programme on ICT-based learning media therefore represented something larger: a continuing commitment to international knowledge exchange and educational improvement.

By bringing educators from Malaysia and Indonesia together, the initiative strengthened professional networks while creating new possibilities for research, collaboration and innovation. It demonstrated that digital transformation in education is most effective when technology is supported by thoughtful pedagogy, shared expertise and sustained institutional partnerships.

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International COMMUNITY-BASED LEARNING *fest*.UTM

Perkukuh Hubungan Global dan Pembangunan Komuniti FELDA

Fakulti Sains Pendidikan dan Teknologi (FEST), Universiti Teknologi Malaysia terus memperkukuh agenda pengantarabangsaan dan pembangunan komuniti menerusi penganjuran program International Community-Based Learning (ICBL) dengan kerjasama FELDA yang telah berlangsung di Felda Adela, Kota Tinggi, Johor bermula 27 April hingga 11 Mei 2026.

Program berkonsepkan community service-learning ini menghimpunkan seramai 31 mahasiswa antarabangsa, melibatkan 15 orang mahasiswa dari Universitas Negeri Surabaya (UNESA) dan 16 orang mahasiswa dari Universitas Lambung Mangkurat (ULM), Indonesia. Program ini turut membuktikan komitmen berterusan FEST UTM dalam memperkukuh jaringan kerjasama strategik bersama institusi pendidikan antarabangsa, khususnya UNESA dan ULM yang sememangnya telah lama menjalin hubungan akademik serta mobiliti pelajar bersama FEST UTM.

Menurut penyelaras program, En. Shahrin Hashim, pelaksanaan program ini bukan sahaja memberi peluang kepada mahasiswa antarabangsa untuk memahami budaya dan kehidupan masyarakat Malaysia, malah turut menjadi platform pembelajaran autentik yang menggabungkan elemen akademik, kesukarelawanan dan pembangunan komuniti.

“Program seperti ini memberi pengalaman pembelajaran yang sangat bermakna kepada mahasiswa kerana mereka bukan sekadar hadir sebagai peserta mobiliti, tetapi turut menyumbang idea, tenaga dan kemahiran kepada masyarakat setempat,



Sepanjang dua minggu pelaksanaan program, para peserta terlibat dalam pelbagai aktiviti berbentuk pembangunan komuniti dan pembelajaran lapangan. Antara pengisian utama termasuk aktiviti sukan rakyat yang berjaya mengeratkan hubungan antara mahasiswa dan komuniti FELDA, selain penganjuran aktiviti e-sukan yang mendapat sambutan positif daripada golongan belia setempat. Selain itu, aktiviti gotong-royong juga dijalankan bersama penduduk.

Tidak hanya tertumpu kepada aktiviti kemasyarakatan, program ini juga menampilkan pengisian berbentuk pembangunan kemahiran seperti bengkel fotografi bagi tujuan komersialisasi produk komuniti. Melalui aktiviti ini, peserta membantu komuniti mempelajari teknik



penghasilan gambar produk yang lebih menarik dan profesional untuk tujuan pemasaran digital serta promosi perniagaan kecil.

PROGRAM BENGKEL TEKNIK FOTOGRAFI DAN KOMERSIALISASI PRODUK



Maklum balas Peserta

Seorang peserta dari UNESA menyatakan bahawa program tersebut memberikan pengalaman yang sangat berharga sepanjang berada di Malaysia.

“Saya belajar banyak perkara baharu tentang budaya masyarakat FELDA dan cara hidup komuniti di sini. Aktiviti bersama penduduk membuatkan kami rasa sangat dihargai dan diterima seperti keluarga sendiri.”

Sementara itu, peserta dari ULM turut berkongsi bahawa program tersebut membantu meningkatkan kemahiran komunikasi dan kerjasama antarabangsa.

“Aktiviti yang dijalankan sangat pelbagai dan menyeronokkan. Saya paling tertarik dengan aktiviti hidroponik dan fotografi kerana ia memberi ilmu praktikal yang boleh dimanfaatkan pada masa hadapan.”

Respon Penduduk FELDA

Penduduk Felda Adela juga memberikan maklum balas yang amat positif terhadap pelaksanaan program ini. Menurut salah seorang penduduk, kehadiran mahasiswa antarabangsa membawa suasana yang ceria dan memberi pengalaman baharu kepada komuniti setempat.

“Kami sangat gembira menerima kehadiran pelajar dari Indonesia. Mereka sangat mesra, ringan tulang dan mudah bergaul dengan masyarakat di sini. Program seperti ini wajar diteruskan kerana memberi manfaat kepada kedua-dua pihak.”

Majlis penutup program telah diadakan di FEST UTM sebagai simbolik penghargaan kepada semua peserta, urus setia serta komuniti FELDA yang terlibat sepanjang menjayakan program ini. Penganjuran International Community-Based Learning ini diharapkan dapat terus menjadi platform pengukuhan hubungan antarabangsa, pembangunan mahasiswa global serta pemerkasaan komuniti melalui pendekatan pembelajaran berasaskan khidmat masyarakat.

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Academicians as CATALYSTS for SUSTAINABLE COMMUNITIES:

*FEST's Impact
Beyond Education*

At FEST, academicians play a role that extends far beyond teaching and research. Through the Geran Komuniti Iskandar Puteri Rendah Karbon (IPRK), they are translating knowledge into action by improving community wellbeing, promoting environmental stewardship, and creating opportunities for sustainable development.

IPRK is a flagship community grant initiative spearheaded by Majlis Bandaraya Iskandar Puteri (MBIP) with strategic support from the Iskandar Regional Development Authority (IRDA), Jabatan Pendidikan Negeri Johor (JPNJ), Universiti Teknologi Malaysia (UTM), and SWM Environment. The programme enables communities, schools, and researchers to co-create innovative low-carbon solutions while benefiting from academic guidance, including that of Professor Dr. Fatin Aliah Phang, one of the programme's advisors.

“

Through IPRK, FEST academicians continue to show that universities can be powerful catalysts for social transformation, building safer, greener, more resilient, and inclusive communities for the future.

”

One of the most impactful projects under IPRK 4.0 is the SRS E-Bike Patrol initiative in Taman Sri Pulai, led by Dr. Diyana Zulaika Abdul Ghani. Supported by a RM26,000 grant, the project introduced electric-powered patrol vehicles for the Skim Rondaan Sukarela (SRS) in collaboration with the Royal Malaysia Police (PDRM) Iskandar Puteri Branch. The initiative combines community safety with environmental sustainability through emission-free patrols, solar-powered lighting, and IoT-enabled monitoring systems. Its success earned Second Place in the Sustainable Mobility Category at the Anugerah Penghargaan Amalan Perancangan Terbaik 2025 (APT25) during the Malaysia Urban Planning Awards (MUPA 2025).





Another notable project under IPRK 5.0 is the Smart Green Fashion Hub: Upcycling Waste into Wearable Innovation, led by Dr. Nurul Aini Mohd Ahyan. Supported by a RM14,000 grant, the project brought together schools, local communities, home-based tailors, and the UTM Sewing Laboratory to transform textile waste into value-added products. By giving a second life to fabric offcuts and sewing remnants, the initiative reduced waste while creating opportunities for skills development, entrepreneurship, and supplementary income.

The project engaged over 110 participants, generated more than 4,400 awareness engagements, and inspired community members to continue the initiative independently even after the grant period ended.

FEST academicians have also led a range of educational and environmental initiatives. Assoc. Prof. Dr. Nor Hasniza Ibrahim developed *Exploring Nature with Noah & Friends*, an educational comic that introduces children to issues such as endocrine-disrupting chemicals and microplastic pollution while promoting STEM learning. The resource continues to benefit students through the PETRONAS Programme for Learning and Nurturing (PLAN). Meanwhile, Assoc. Prof. Dr. Abdul Halim Abdullah introduced the Busy Book *Iskandar Puteri Kesayanganku*, an interactive learning resource that helps preschool children develop motor skills while fostering appreciation for Iskandar Puteri's local identity and landmarks.

Together with academicians including Dr. Hanifah Jambari, Dr. Nur Husna Abd. Wahid, Dr. Chuzairy Hanri, Dr. Syahrul Ridhwan Morazuki, Dr. Adjah Naqkiah Mazlan, and Dr. Nur Azmina Paslan, these initiatives demonstrate how academic expertise can be translated into meaningful community impact.

Through IPRK, FEST academicians continue to show that universities can be powerful catalysts for social transformation, building safer, greener, more resilient, and inclusive communities for the future.



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