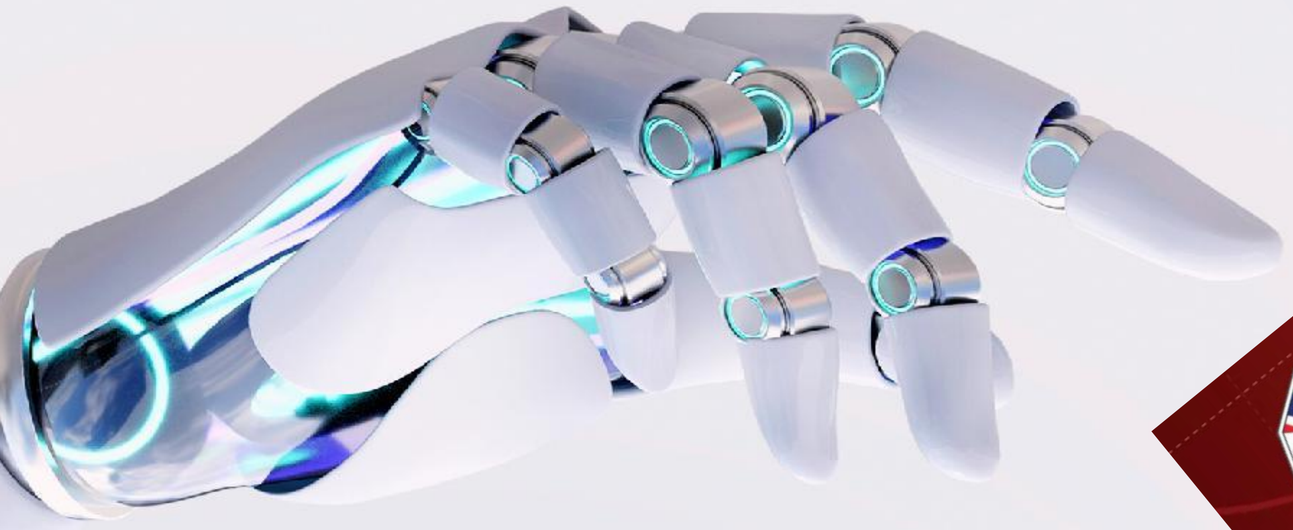






NUTP Malaysia

Teacher Workflow in the Age of AI: Examining Digital Learning Platforms and AI Utilization among Malaysian Teachers

Research Team:

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BACKGROUND & RATIONALE

Teacher Workflow in the Age of AI



Artificial intelligence (AI) is increasingly being incorporated into educational settings through digital learning platforms that support teachers' instructional and administrative tasks.

01 The Question Behind the Technology

- AI is moving from an optional tool to part of teachers' digital ecosystem.
- The key question is not simply: "Do teachers use AI?"
- The more useful question: How does meaningful AI utilization change teacher workflow?
- Malaysia provides an important context through DELIMa, the national digital learning ecosystem.

02 Why Teacher Workflow Matters

- Teachers manage lesson planning, materials, assessment, documentation and communication.
- Digital technology can streamline some tasks but can also create new digital demands.
- Workflow therefore sits between technology availability and teachers' lived professional experience.
- AI should be examined as augmentation of professional work, not automatic replacement.

03 From Platform Access to Functional Use

- Basic platform use does not necessarily mean meaningful AI integration.
- Teachers may use DELIMa regularly while engaging less with advanced AI-supported functions.
- Depth of use matters: planning support, assessment, feedback, analytics and automation require different capabilities.
- Technology creates value when teachers actively integrate functions into authentic practice.

04 The Malaysian Context: DELIMa

- DELIMa brings digital learning resources, communication, instructional materials and assessment features into one ecosystem.
- The study examines DELIMa use, AI-supported features and teacher workflow.
- Focus: whether AI utilization helps explain how platform use translates into workflow outcomes.
- Key idea: infrastructure is necessary but utilization is the mechanism.

Statement of The Problem

The Digital Transition & The Workload Challenge



Artificial intelligence (AI) has emerged as one of the most transformative technological developments in the twenty-first century, significantly reshaping practices across multiple sectors, including education.

01 **National Digital Infrastructure**

Malaysia introduced DELIMa to centralize school administration and classroom tools into one national digital learning ecosystem.

02 **The Administrative Burden**

Educators face intensive prep, routine grading, and reporting burdens that limit time for student interaction and instructional innovation.

03 **The Empirical Gap**

Prior research assessed platform adoption intentions rather than examining how AI feature usage actually reshapes teacher workflows.



Research Design

Mixed-Methods Sequential Explanatory Design

01 **Phase 1: Quantitative**

- 261 Malaysian teachers
- In-service teachers across Malaysian schools

02 **Phase 2: Quanlitative**

- 12 Malaysian teachers
- Semi-structured interviews to explain experiences and pedagogical decision-making.

03 **Analysis**

- Descriptive statistics, Pearson correlations and PROCESS Model 4 mediation.

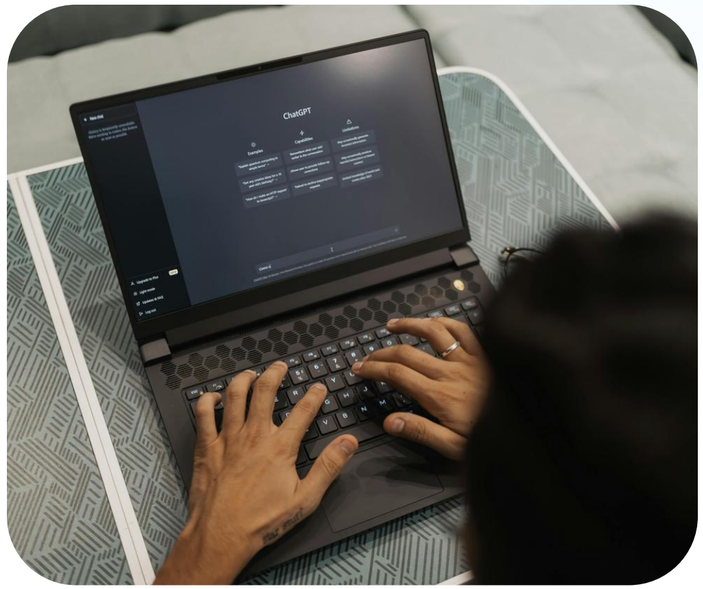
71.6%
Female Educators

72.4%
Senior Experience

56.2%
Urban Primary Schools

Where We Stand:

How Malaysian Teachers Use DELIMa and AI Today







DELIMa Use

M = 3.44 (Moderate)

AI in DELIMa

M = 2.81 (Moderate)

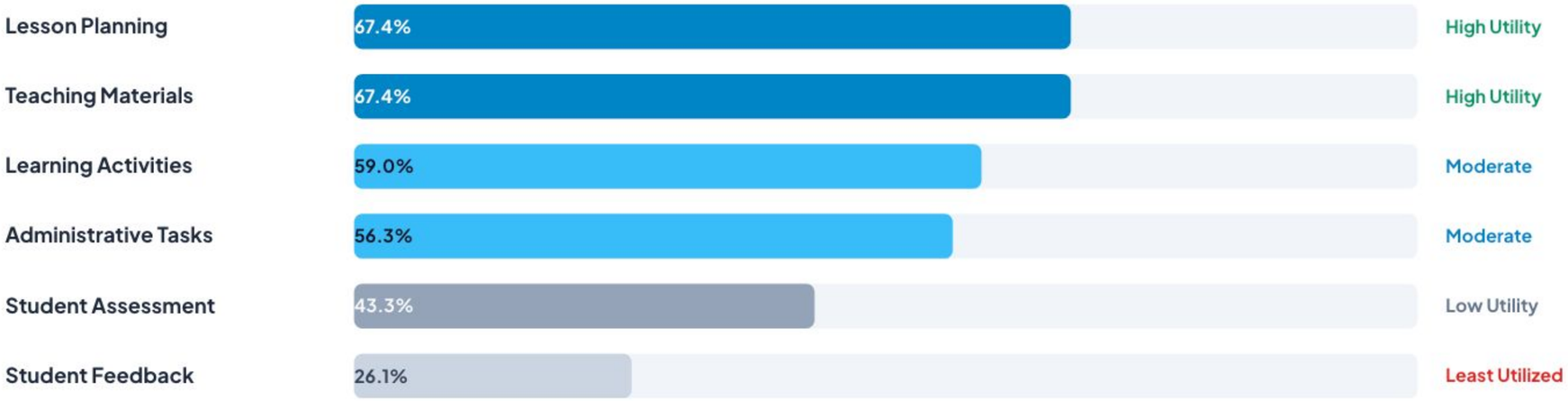
Teacher Workflow

M = 3.86 (High)

Interpretation: Teachers report relatively positive workflow, while AI-supported use remains developing.

How Malaysian Teachers Utilize DELIMa





The qualitative findings explain why teachers prioritize DELIMa for backend lesson preparation (67.4%) over direct assessment and feedback (26.1%). Teachers leverage AI to automate time-consuming drafting tasks. However, they avoid automated feedback to preserve personal rapport, human judgment, and nuanced evaluation in student relationships.

Teachers' Use of AI-Supported Features in DELIMa

High Reliance on Instructional Prep Tools vs. Emerging Adoption of Advanced Analytics

AI Feature	Selected (n)	Percentage (%)	Interpretation
Auto-suggestion for lesson plans/materials	173	66.3%	Frequently used
AI-assisted quizzes/assessment grading	137	52.5%	Moderately used
Chatbot/virtual assistant	88	33.7%	Less frequently
AI recommendations for feedback	86	33.0%	Less frequently
Dashboard analytics for student progress	52	19.9%	Rarely used
Automated reminders/notifications	41	15.7%	Rarely used



01 **Prep Tools Dominate (66.3%)**

Auto-suggestions for lesson plans and teaching materials are favored to reduce upfront drafting workload.

02 **Emerging Assessment Use (52.5%)**

Over half of teachers now utilize AI-assisted quizzes and grading, marking initial evaluative adoption.

03 **Data Analytics Gap (<20%)**

Complex dashboards (19.9%) and reminders (15.7%) are rarely engaged, highlighting training needs.

Perceived Impact of DELIMa on Workflow & Workload

High Operational Efficiency Gains vs. Limited Net Workload Alleviation

Perceived Impact Dimension	Scale	Mean (SD)	Perceived Level
Helps manage administrative tasks and documentation efficiently	1–6	4.13 (1.39)	Moderate / High
Improves efficiency in lesson preparation and classroom tasks	1–6	4.07 (1.37)	Moderate / High
Allows greater focus on instructional quality and student engagement	1–6	4.00 (1.34)	Moderate / High
Reduces perceived workload	1–5	3.25 (1.09)	Noticeably Lower

01 **Administrative Speed (4.13)**

Teachers strongly agree that centralized documentation streamlines administrative tracking and lesson planning (4.07).

02 **Instructional Focus (4.00)**

Platform usage creates capacity to prioritize teaching quality and student engagement over routine paperwork.

03 **The Workload Paradox (3.25)**

Time saved in drafting is often absorbed by new digital upkeep, verification, and monitoring duties.





RELATIONSHIP

S

Connecting the Dots:

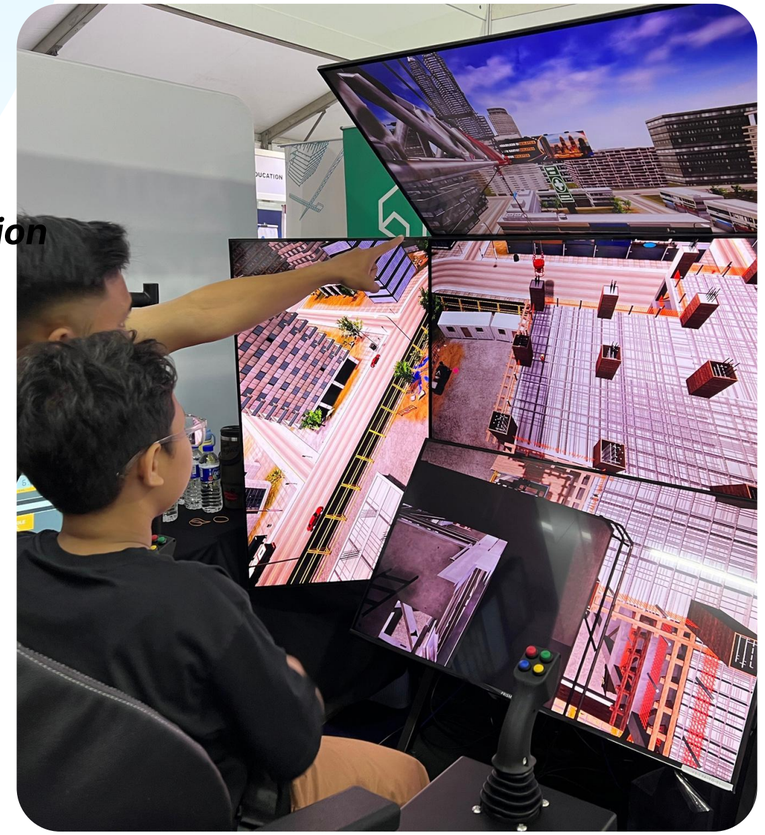
Platform, AI & Teacher Workday

Clear evidence that greater digital and AI usage goes hand-in-hand with higher workflow satisfaction

What We Compared	1. DELIMa Use	2. AI Features	3. Workflow
1. DELIMa Use Daily platform activity	1.000	.769**	.796**
2. AI in DELIMa Using smart tools & helpers	.769**	1.000	.733**
3. Teacher Workflow Productivity & prep ease	.796**	.733**	1.000

**Scores close to +1.0 mean two things strongly rise together. In our study, all numbers are above .73, indicating a very powerful real-world link.*

Strong Positive Connections (p < .001)



01 **DELIMa Leads to AI Discovery (r = .769)**

Teachers who actively use DELIMa naturally become more comfortable exploring and adopting built-in smart AI tools.

02 **Platform Use Speeds Up the Day (r = .796)**

The strongest relationship in the study. Regular platform users report much smoother daily lesson prep and administration.

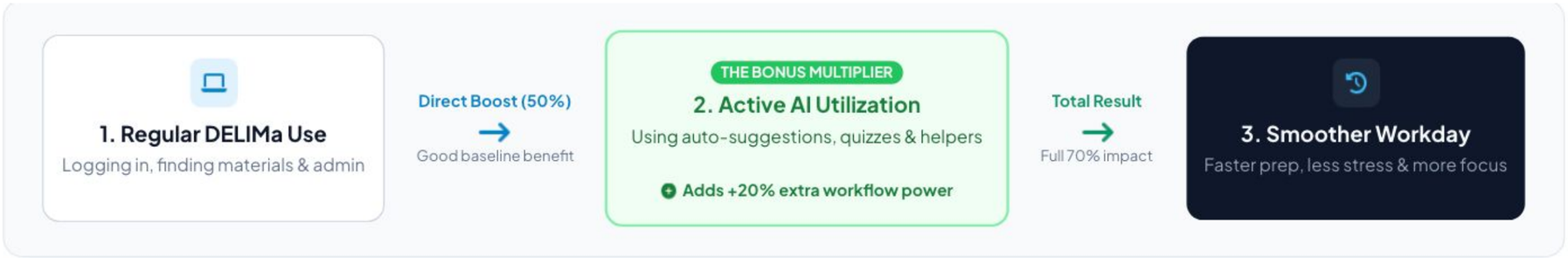
03 **AI Boosts Workday Efficiency (r = .733)**

AI features aren't just novelty items: teachers who use them report feeling notably more organized and productive.

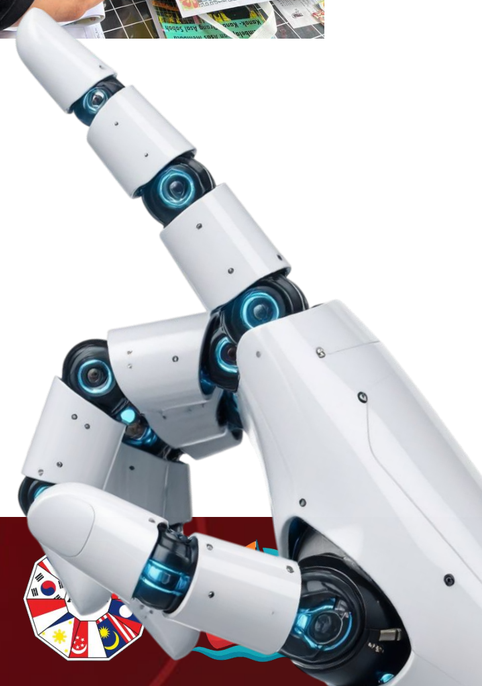
HOW IT WORKS IN PRACTICE • THE "MULTIPLIER EFFECT"

The Power of Both: How AI Supercharges Daily Workflow

DELIMa provides the foundation, but using built-in AI delivers the real breakthrough







01 The Starting Point

Simply using DELIMa gives teachers a solid 50% direct boost in everyday efficiency by keeping materials organized in one hub.

02 The "Secret Sauce"

Teachers who tap into the built-in AI tools unlock an extra 20% efficiency surge that passive platform users miss out on.

03 Two-Thirds of the Story

Together, DELIMa + AI account for 67% of workflow improvements. When teachers use both, the positive effect is undeniable.



TEACHER VOICES · DAILY EXPERIENCES

How Teachers Actually Use DELIMa Every Day

EVERYDAY FAVORITE

67% of Teachers

A Lifesaver for Lesson Preparation

Curriculum organization made simple

"The templates and Google Classroom integration really help me organize everything, so I spend much less time getting ready for class."

Teacher P1

ADOPTION GAP

66% vs 20%

Instant Ideas Over Complicated Charts

Quick question prompts beat complex dashboards

"The AI suggestions give me a great starting point for practice questions... but with dashboard analytics, I'm still not confident interpreting the data."

Teacher P2 & P6



TEACHER VOICES · REAL CLASSROOM IMPACT

Does AI Really Lighten Teacher Workload?

THE HONEST REALITY

Human Check Needed

Faster Drafting, But Careful Checking

Faster drafting means necessary fact-checking

"AI helps me prepare lessons more quickly, but it doesn't reduce my workload completely. I still need to check the content carefully."

Teacher

P9

WHAT TRULY HELPS

Real Time-Saver

Active AI Use Unlocks Genuine Relief

Active feature use creates real freedom for students.

"Whenever I use the AI tools in DELIMa to prepare teaching materials, I can finish lesson planning much faster and focus on students."

Teacher

P10

Discussion

AI Features Drive Practical Workflow Improvements

01 **Prep Over Assessment**

- Heavily used for lesson drafting
- Minimal uptake in grading and feedback.

01 **Simple Tools First**

- Teachers favor instant auto-suggestions.
- Complex analytics dashboards rarely explored

01 **The Workload Paradox**

- Saves significant preparation hours.
- Creates new verification oversight duties.

01 **Platform Access**

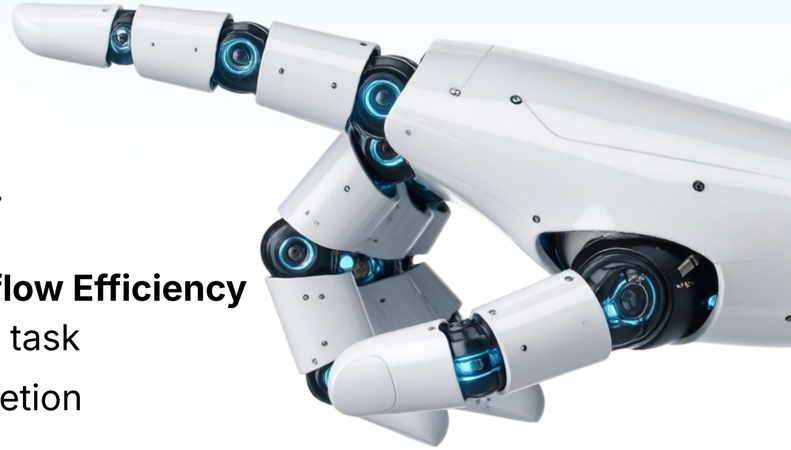
Routine DELIMa portal use

02 **AI Utilization**

The Critical Bridge

03 **Workflow Efficiency**

Faster task completion











Discussion

Turning Tech Access into Real Everyday Value



Build Practical Confidence

- Move past basic login tutorials.
- Train teachers in output verification and ethical usage.



Demystify Analytics

- Simplify dense data dashboards.
- Turn student metrics into direct classroom suggestions.



Keep It Human-Centered

- Automate routine prep burdens.
- Preserve teacher judgment for personal mentoring.



Policy & Research Roadmap

AI in Education:

Practice & Future Agenda

Synthesizing digital ecosystem support, teacher wellbeing, and future empirical priorities.

Practical Implications

Ecosystem Investment: Sustained support for DELIMa platform.

- Workflow Alignment: AI tools for prep, grading, admin.
- Teacher Wellbeing: Policy limits on digital workload.

Future Research Agenda

Influencing Factors: AI literacy and institutional backing.

- Advanced Modeling: Multi-mediator and longitudinal designs.
- System Comparisons: Cross-national policy evaluation.

40th ASEAN Council of Teachers + Korea Convention
22 – 25 October 2026, D'Marquee, Singapore



A Future-Ready Teacher Workflow

01 PLAN — AI supports ideas, structure and resources

02 CREATE — Teacher expertise shapes materials and learning experiences

03 ACESS — AI assists; teacher validates evidence and judgment

04 RESPOND — AI can suggest patterns; teacher interprets student context

05 REFLECT — Teacher decides what to retain, change or reject.

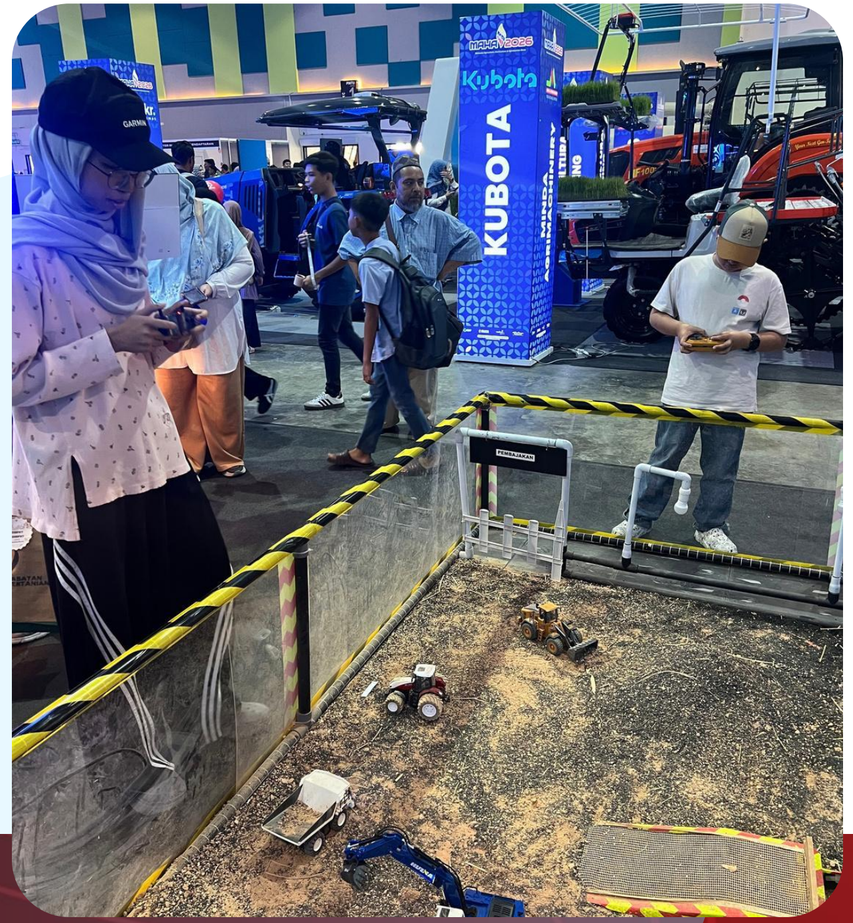
06 LEAD — Professional agency remains human.





IMPLICATION

The Human Advantage



- AI can accelerate work.
- Platforms can organize work.
- But teachers give the work meaning.
- The future-ready school is not one where AI does everything.
- It is one where technology gives teachers more capacity to do what matters most: teach, connect, judge and care.



Conclucion

DELIMa provides the platform; meaningful AI engagement transforms digital use into improved teacher workflow.

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Thank You!

Start small. Measure impact. Scale intelligently.

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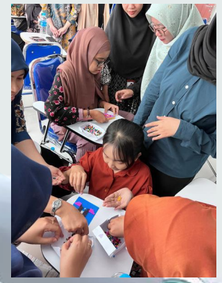
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