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TOPIC BRIEF

AI in Southeast Asia: The Role of Teachers

Insights from teachers across the region about their role and what matters to them in the age of AI

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Authors Iona Wotton
Delanie Honda
Nurhasmiza Sazalli

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Reviewers Taskeen Adam, Haani Mazari, Sangay Thinley, and Jazzlyne Gunawan

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EdTech Hub's topic briefs on AI in education in Southeast Asia

Across Southeast Asia, the demand for guidance on the use of artificial intelligence (AI) has grown rapidly. EdTech Hub has engaged with a number of partners across Southeast Asia on the use of AI in education, indicating that policymakers and teachers across the region are seeking clarity on the use of AI to support teaching and learning. This reflects a need for contextualised, reliable, high-quality, and rapid research to help education stakeholders quickly understand and adapt to emerging AI in education trends and topics.

While global evidence on AI in education is expanding quickly, stakeholders across the region have highlighted the need for tools that translate this knowledge into practical, locally relevant insights. The topic briefs respond directly to this need.

An initial desk review of the regional AI in the education landscape surfaced several priority themes and areas of interest, leading to the development of five topic briefs in this series.

This brief explores the role of teachers in navigating the rapid integration of artificial intelligence within Southeast Asian classrooms and focuses on the question:

How is AI reshaping teaching and learning across the region, and what do teachers need to prepare for and adapt to this transition?

The other briefs in this series include:

AI in Southeast Asia: Strategic Partnerships by Delanie Honda (2026). EdTech Hub. <https://doi.org/10.53832/edtechhub.1164>. Available at <https://docs.edtechhub.org/lib/NH9HAIW5>.

AI in Southeast Asia: Marginalised Learners by Iona Wotton (2026). <https://doi.org/10.53832/edtechhub.1173>. Available at <https://docs.edtechhub.org/lib/ZAIZ22IV>.

AI in Southeast Asia: Ethical Governance of AI in Education by Neema Jayasinghe. (2026) <https://doi.org/10.53832/edtechhub.1179>. Available at <https://docs.edtechhub.org/lib/2VBH4GZX>.

AI in Southeast Asia: Girls' Education by Alesia Petrovets (2026). <https://doi.org/10.53832/edtechhub.1180>. Available at <https://docs.edtechhub.org/lib/3KT6QT98>.

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Abbreviations and acronyms

ASEAN	Association of Southeast Asian Nations
ASEF	Asia-Europe Foundation
AI	Artificial Intelligence
DepEd	Department for Education, Philippines
DELIMa	Digital Educational Learning Initiative Malaysia
EEF	Equitable Education Fund
GPE	Global Partnership for Education
IAFOR	International Academic Forum
IDRC	International Development Research Centre
LLM	Large language model
LMS	Learning management system
RETRAC	Regional Training Centre
RECSAM	Regional Centre for Education in Science and Mathematics
SEAMEO	Southeast Asian Ministries of Education Organization
SEAMEO CED	Regional Centre for Community Education Development
SEAMEOLEC	Regional Open Learning Centre
SLS	Student Learning Space
SLM	Small language model
STEPCam	Strengthening Teacher Education Programmes in Cambodia
TALIS	Teaching and Learning International Survey
TPD	Teacher professional development
TTF	International Task Force on Teachers for Education
UTM	Universiti Teknologi Malaysia

1. Introduction: Why teachers' voices matter

Research consistently shows that teachers remain the single most important school-based determinant for student learning ([↑Chetty et al., 2014](#)). Teachers serve not only as knowledge deliverers but also as mentors and moral anchors, helping students build resilience, empathy, and civic responsibility ([↑TTF, 2025](#)).

Yet, in Southeast Asia, education systems are facing serious shortfalls in teacher quality and high teacher shortages. Many countries in the region are struggling to attract and retain teachers, and prepare them with the knowledge and skills they need to support effective teaching and learning ([↑Afkar et al., 2023](#)). Global and regional leaders, EdTech providers, and government officials all highlight the potential of AI, and in particular, generative AI, to address these challenges ([↑Mahzam, 2025](#); [↑SEAMEO CELL, 2024](#); [↑Tech Collective, 2024](#); [↑UNESCO, 2023](#)).

Despite increasing enthusiasm for AI in education, widespread adoption in the region is challenged by digital divides ([↑Hendrian, 2025](#); [↑UNESCO & SEAMEO, 2023](#)), digital literacy levels ([↑UNICEF & SEAMEO, 2020](#); [↑UNESCO & SEAMEO, 2023](#)), and a lack of clear, education-specific policies ([↑Vietnam \(2025\)](#)). Teachers and education stakeholders are concerned about the loss of professional agency and skills, the increased job insecurity and the risks that teachers' roles will be displaced as AI becomes more ubiquitous and advanced ([↑Adam & Lester, 2025](#)).

There is a need to support teachers with adequate and equitable access to infrastructure, training, and guidance to use AI meaningfully and effectively - yet these resources are unevenly distributed across the region. For policies and practices to truly meet teachers' diverse needs, teachers themselves must be at the centre of discussions and decisions about AI in education. In reality, they rarely are ([↑UNESCO & SEAMEO, 2023](#)). This research aims to change that by elevating teachers' voices and bringing their perspectives and experiences with AI tools into the conversation.

2. Methodology

This topic brief draws on regional evidence, a case study, and teacher perspectives to generate practical, teacher-centred insights into how AI is reshaping teaching and learning across Southeast Asia, and what else needs to be done to support teachers through this transition. The three-phase approach was designed to reflect both sector trends and everyday realities across ASEAN education systems.

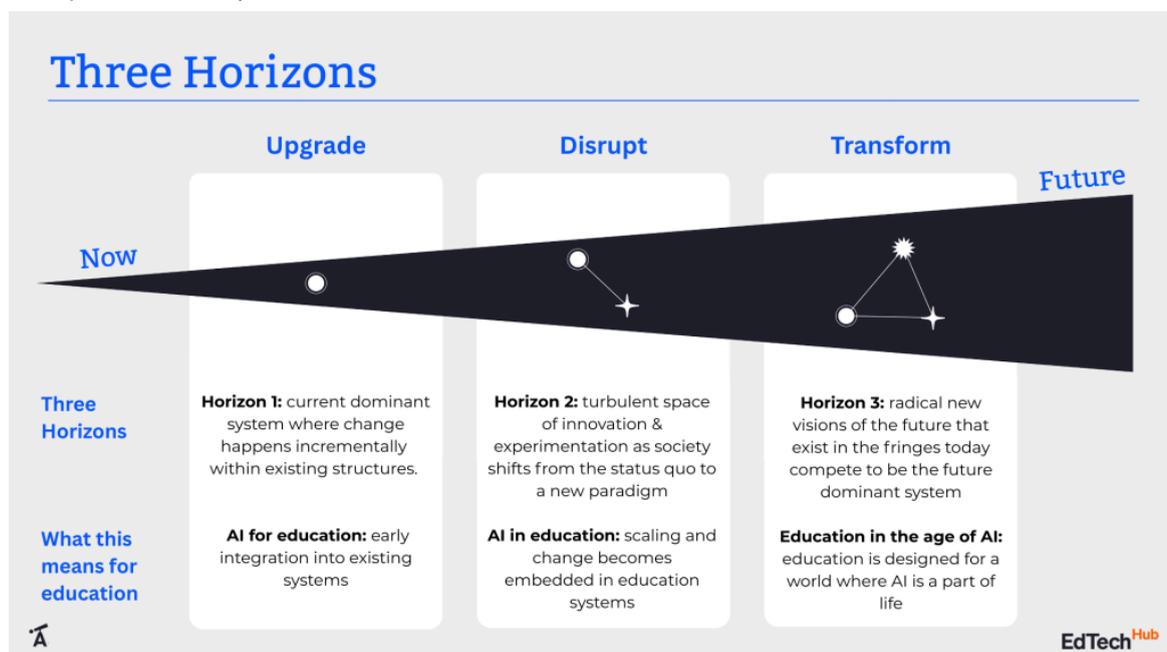
2.1. Desk research

A desk review was conducted to map current policies, programmes, and practices related to AI in education across Southeast Asia. Academic and grey literature were sourced from organisational websites, including UNICEF, UNESCO, ASEAN, SEAMEO, and EdTech Hub, as well as from database and Google Scholar searches. A structured keyword search used the terms “AI”, “education”, “ASEAN”, “Southeast Asia”, “teaching and learning”, “teacher professional development”, and “teacher role”. The review provided a regional baseline on how teachers are engaging with AI.

2.2. AI tool use mapping

A focused tool-mapping exercise was completed to provide an indicative snapshot of how AI-enabled tools designed for teachers are emerging in the Southeast Asian educational landscape. The exercise was exploratory rather than exhaustive and aimed at identifying patterns of innovation. Tool identification and categorisation were guided by EdTech Hub’s Three Horizons Framework for empowering teachers ([↑Luz & Simpson, 2025](#)), which distinguishes between how the use of AI in education can upgrade, disrupt, and transform education ([Figure 1](#)).

Figure 1. *Graphic of the Three Horizons for Mapping AI in Education* (Luz & Simpson, 2025).



Tools were identified through structured keyword searches across selected innovation repositories and knowledge platforms, including HundrED¹ and EdTech Hub’s Beta AI Observatory Assistant. Searches combined terms related to AI, teaching and learning, and teacher-facing functions (e.g. lesson planning, assessment, feedback, and classroom support). Results were screened to retain tools that were either developed within Southeast Asia or explicitly designed for use in the region’s education systems.

The mapping focused exclusively on teacher-oriented AI tools. Widely used general-purpose AI systems (e.g. Large Language Models (LLMs) not designed specifically for teachers) were excluded for analytical clarity. The exercise, therefore, does not represent the full landscape of AI use by teachers but instead highlights regionally relevant examples of purpose-built solutions.

2.3. Teacher survey

A regional teacher survey was deployed to capture teacher perspectives on AI adoption and its implications for workload, classroom practice, and professional roles. The 40-question survey explored (i) how teachers use AI tools, (ii) training and institutional support received, (iii) perceptions of changing professional roles, and (iv) hopes and fears for the future. This method was chosen to amplify teachers’ voices, often underrepresented in

¹ See <https://hundred.org/en>. Accessed on 11 February 2026.

AI and EdTech discourse, and to generate practical recommendations from across the region.

Purposive sampling was used to disseminate the teacher survey through established networks of key informants engaged in this Topic Brief series, including CoLearn, the Biji-Biji Initiative, and Semua Murid Semua Guru in Indonesia; the Equitable Education Fund (EEF) in Thailand; SEAMEO Regional Centre for Lifelong Learning (SEAMEO CELLL), and the SEAMEO Regional Training Centre (RETRAC) in Vietnam; SEAMEO Regional Centre for Community Education Development (SEAMEO CED) in Lao PDR; and the Department of Education (DepEd) in the Philippines. SEAMEOLEC in Indonesia also supported the distribution of the survey and provided a platform to share early survey insights with teachers. The survey yielded 260 valid responses,² with the majority of respondents coming from Indonesia, Malaysia, Vietnam, and Lao PDR. It was translated into local languages of instruction, with responses translated back using AI-assisted tools such as DeepL and checked for accuracy.

2.4 Limitations

While the survey approach enabled rapid access to active teacher communities already engaging with AI-related initiatives, it also introduced a geographic bias. Most responses came from Lao PDR, Indonesia, and Malaysia, with fewer responses from the Philippines and Thailand, and none from Cambodia, Myanmar, Singapore, or Timor-Leste. This uneven coverage limits the generalisability of findings across the region.

Participation in the survey was voluntary; thus, our results are subject to response bias. Teachers who already use AI or feel comfortable with technology may have been more likely to respond, and therefore reported AI use may be overrepresented. In addition, the analysis is limited to teachers' self-reported usage. Nonetheless, the survey offers timely insight into how teachers across diverse systems are already negotiating AI in everyday practice, and the perspective of early adopters enables early insights into emerging opportunities and challenges ([↑EdTech Hub, 2025b](#)).

² A total of 318 responses were received. Responses were considered valid if they met the following conditions: 1) the participant gave consent to their data being used in analysis and 2) the survey was complete, defined as responding to 80% or more questions.

3. Use cases for AI in teaching and learning

This section condenses what we have uncovered through desk research on how AI is supporting teaching and learning across the region, along with examples of best practice.

3.1. What we know so far

Evidence on teachers' use of AI in Southeast Asia is emerging, but it is uneven. Much of the documented research and implementation comes from higher-income, digitally mature systems, such as Singapore and Thailand, where digital infrastructure, policy development, and investment in education technology are more established ([↑Isono & Prilliadi, 2023](#); [↑UNESCO, 2023](#)). The evidence base is growing in Indonesia and Malaysia, where there is a strong political and strategic commitment to AI and digital transformation ([↑Weno et al., 2025](#)).

By contrast, in lower-connectivity and resource-constrained contexts, including Timor-Leste, Lao PDR, and Myanmar, research is more limited and often depends on partnerships with foreign universities and companies and shared infrastructure ([↑Nguyen, 2026](#)). Many universities in these contexts lack computing capabilities, and even when they do, the resources are inadequate to meet the increasing demands of AI research ([↑Nguyen, 2026](#)).

According to the *Teaching and Learning International Survey (TALIS) 2024* findings, teachers in Singapore and Vietnam are among the highest users of AI among the 55 education systems surveyed and more than double the OECD average ([↑OECD, 2025a](#)).³ However, similar large-scale data about teachers' use in other Southeast Asian countries is not available.

High usage does not automatically translate into confidence and capability. Across the region, governments and universities, often in partnership with technology companies and civil society organisations, have implemented training and skills development initiatives to strengthen teachers' AI literacy ([↑Honda, 2026](#); [↑Vietnam, 2025](#)). Topics typically include fundamental AI concepts, ethical and responsible use of AI, and practical applications ([↑Honda, 2026](#)).

The AI in education use cases identified through the desk review have been mapped across the Three Horizons Theoretical Framework,

³ The survey asked lower secondary teachers about their AI use in the past year.

developed by EdTech Hub's AI Observatory ([↑Luz & Simpson, 2025](#)). This mapping focuses on the 'empowered teachers' North Star', one of the 'Six North Stars' identified by EdTech Hub's AI Observatory as key leverage points for change to narrow the learning divide in the age of AI ([↑Adam & Lester, 2025](#)). [Table 1](#) below outlines how AI is upgrading, disrupting, and transforming teachers' roles across the region ([↑Adam & Lester, 2025](#)).

In Southeast Asia, there is momentum towards the 'disrupt' horizon, which has the highest concentration of 'bright spots' with nine of 16 initiatives focused in this category. This indicates that the region is moving away from the status quo towards a new paradigm where AI is beginning to meaningfully shift how teachers allocate their time and energy. Malaysia, Indonesia, and Singapore appear to be the most active hubs for these initiatives, with Vietnam emerging in the 'disrupt' and 'transform' categories.

Table 1. How teachers are integrating AI into teaching and learning across Southeast Asia according to EdTech Hub's Three Horizons

Three horizons	What this means for teachers ⁴	AI use case	Bright spots across the region
<p>Horizon 1</p> <p>The current dominant system, in which change occurs incrementally within existing structures.</p>	<p>UPGRADE: Early integration of AI into teachers' roles, where some existing tasks and processes become streamlined or enhanced, while new demands emerge around oversight, adaptation, and judgement.</p>	<ul style="list-style-type: none"> ■ AI for content creation and lesson planning. ■ AI for administrative tasks ■ AI for assessments, grading, and feedback ■ AI for professional development and coaching 	<p>Quipper.⁵ An online learning management system (LMS) and e-platform developed by an EdTech company that was founded in the UK and runs from Japan. It aims to simplify teachers' workloads and enhance classroom management in Indonesia and the Philippines (†Cruz et al., 2023). Teachers use Quipper to manage classes, distribute homework, and track student performance through the Quipper School Link. It offers ready-made and adaptable instructional materials and automatically grades student assessments.</p> <p>Reading Progress.⁶ Free tool built into Microsoft Teams and Immersive reader, supporting teachers in the Philippines to manage literacy assessments by automating reading fluency checks, listening to students read and analysing their performance without immediate teacher intervention.</p> <p>Microsoft M365 CoPilot: Microsoft works with Ministries of Education (MoEs) in Indonesia, Malaysia, Thailand, and the Philippines to help teachers embed CoPilot into their daily</p>

⁴ This column focuses on the 'empowered teachers' North Star', one of the 'Six North Stars' identified by EdTech Hub's AI Observatory as key leverage points for change to narrow the learning divide in the age of education (†Adam & Lester, 2025).

⁵ <https://www.quipper.com/en/>. Accessed on 16 February 2026.

⁶ <https://www.microsoft.com/en/customers/story/1602039345578077924-philippine-k12-edu-microsoft-365-en-philippine>. Accessed on 14 January 2026.

Three horizons	What this means for teachers ⁴	AI use case	Bright spots across the region
Horizon 2	DISRUPT: AI use is increasingly formally evaluated and embedded in teaching,	<ul style="list-style-type: none"> ■ AI-powered digital personalised learning ■ AI tutor chatbots 	<p>work to help reduce time spent on lesson preparation and administrative tasks, such as parent communication and organising class assessment data.</p> <p>ELSA Speak:⁷ AI-driven speaking coach that provides Vietnamese teachers' instant feedback on English pronunciation and fluency. Developed by ELSA Corp, a private AI EdTech company started by a Vietnamese founder. The programme combines personalised learning paths, specialised courses, and progress tracking designed to meet teachers' needs.</p> <p>Little Lives:⁸ Singapore-based holistic school management system developed by a Singapore-based private EdTech company, and active across the region. It aims to simplify complex school administrative processes, including monitoring health, attendance and fee collection.</p> <p>Monsha:⁹ AI-powered teaching assistant for K-12 teachers accredited for use in public schools in Singapore. The platform generates lesson plans, slide decks, worksheets, quizzes, and rubrics aligned to a specific grade level and</p>

⁷ <https://vn.elsaspeak.com/en/homepage/>. Accessed on 13 February 2026.

⁸ <https://www.littlelives.com/>. Accessed on 14 January 2026.

⁹ <https://monsha.ai/country/singapore>. Accessed on 14 January 2026.

Three horizons	What this means for teachers ⁴	AI use case	Bright spots across the region
A turbulent space of innovation & experimentation as societies shift from the status quo to a new paradigm.	addressing some issues identified early and disrupting aspects of teachers' roles in ways that shift their practice or time allocation.	<ul style="list-style-type: none"> ■ AI teaching assistants ■ AI-powered inclusive education and language accessibility 	<p>curriculum standards.</p> <p>Pandai Teacher:¹⁰ AI-powered teaching assistant developed by a private Malaysian EdTech company for teachers in Malaysian classrooms. The platform automates lesson planning and grading, and generates quizzes from a question bank. Teachers can manage classes, track student progress, and adapt their teaching accordingly. The platform is built in collaboration with teachers (↑HundrED, 2025).</p> <p>Teachy:¹¹ AI-powered teaching assistant developed by a private EdTech company for teachers in Indonesian classrooms. It automates lesson planning and the development of lesson objectives and assessment rubrics, and provides customisable, curriculum-aligned instructional materials (↑Hasanah et al., 2025).</p> <p>asistenguru.id: AI-powered teacher assistant developed by an Indonesian private EdTech startup for teachers in Indonesian classrooms. The platform integrates four assistants that aim to help teachers in planning, developing, and assessing learning: i) AI Teacher Assistant, ii) Learning Assistant Teacher, iii) Assessment Teacher Assistant, and iv) Assistant Teacher Lesson Plan.</p>

¹⁰ <https://my.pandai.org/teachers>. Accessed on 20 January 2026.

¹¹ <https://teachy.ai/id-ID>. Accessed on 20 January 2026.

Three horizons What this means AI use case
for teachers⁴

Bright spots across the region

Edupartner:¹² School management system developed by a local private EdTech company in Cambodia. With various functions and AI assistants, it automates tasks like grading and lesson planning.

AI Khanmigo:¹³ AI-powered teaching assistant for teachers in Vietnam, adapted and deployed in partnership with The Vietnam Foundation. The platform integrates 25 support tools for teachers, including lesson planning, differentiated exercise design, and learning analytics. Khan Academy Vietnam has also localised its 'AI in Education' course to support Vietnamese teachers in using AI effectively and responsibly in their classrooms (↑[The Vietnam Foundation, 2025](#)).

Digital Educational Learning Initiative Malaysia 2.0 (DELIMa):¹⁴ National learning platform relaunched in 2024 by the Ministry of Education to incorporate AI functionalities for students and teachers. It streamlines access to Google Classroom, Microsoft O365, and Apple Teacher Learning Center to enable virtual classrooms, interactive content, Pixlr design tools, and data-driven insights into student performance (↑[Shakri et al., 2025](#)).

¹² See <https://www.edupartner.app/?lang=en>. Accessed on 22 January 2026.

¹³ See <https://www.khanmigo.ai/>. Accessed on 13 February 2026.

¹⁴ See <https://d2.delima.edu.my/login>. Accessed on 20 January 2026.

Three horizons	What this means for teachers ⁴	AI use case	Bright spots across the region
Horizon 3	TRANSFORM: The role of teachers is fundamentally changed, with AI being a core facet of the teaching and	<ul style="list-style-type: none"> ■ ‘Teacherless’ classrooms ■ Teacher-AI complementarity and hybrid intelligence 	<p>Singapore Student Learning Space:¹⁵ National platform for AI tools, including Authoring Copilot, Short Answer Feedback Assistant, and Data Assistant.</p> <p>Noodle Factory AI:¹⁶ Agentic AI-powered teaching assistant used by teachers in Singapore and other countries across the region. It was developed by Noodle Factory in Singapore, and is not embedded within the Ministry of Education’s Student Learning Space. The core function enables teachers to upload existing instructional materials, which the platform can turn into interactive lesson plans and tailored assessments for students. Agentic AI guides teachers in building AI tutors from their own content, and helps learners engage with teachers’ materials and assessments at a level that is right for them.</p> <p>Octo AI: Teachers in the new AI era:¹⁷ Partnership between STEAM for Vietnam, Meta, Vietnam ICT, and HOCMAI to create a dual model design that offers an AI assistant and a ‘digital coach’ that supports teachers to learn new skills and apply them in their classrooms (↑Cafef, 2025).</p> <p>Vietnam Law on Teachers (2025): Framework that redefines</p>

¹⁵ See <https://www.tech.gov.sg/products-and-services/for-citizens/education/student-learning-space>. Accessed on 18 February 2026.

¹⁶ See <https://www.noodlefactory.ai/>. Accessed on 18 February 2026.

¹⁷ See <https://www.octoai.vn/>. Accessed on 21 January 2026.

Three horizons	What this means for teachers ⁴	AI use case	Bright spots across the region
<p>Radical new visions that exist on the fringes today compete to become the dominant system.</p>	<p>learning experience in novel ways.</p>	<ul style="list-style-type: none"> Multi-intelligence learning in unbound learning environments 	<p>teachers as facilitators of creativity, digital fluency and inclusive learning. The law elevates the professional status of teachers by placing them at the highest public-sector salary rank, affirming their professional autonomy, and institutionalising support systems for digital transformation and welfare (UNESCO, 2025c).</p> <p>ICT-AI Competency Framework for Teachers (Cambodia): With funding from the Global Partnership for Education, the Ministry of Education, Youth and Sports and UNESCO are developing a framework to define the competencies teachers need to integrate digital tools and AI into their teaching practices, while preserving the human dimension at the core of learning (GPE, 2025).</p>

3.1.2. Upgrade

In the ‘upgrade’ horizon, AI is used to automate and improve tasks teachers already perform, without fundamentally changing their roles (↑[Adam & Lester, 2025](#)). Five of the 16 initiatives identified in the desk review fall into this category, spanning tools designed to reduce the administrative and preparatory burden on teachers, including automated lesson planning, coaching and feedback (ELSA Speak), data entry (Reading Progress), attendance tracking (Little Lives), and parent communication (Microsoft CoPilot).

Findings from the 2024 TALIS survey indicate that teachers¹⁸ are actively using AI in this way: 77% report using it for topic research, 69% for parent communication, and 65% for lesson planning or activity design (↑[OECD, 2025](#)). However, these figures reflect a level of digital maturity that is not fully representative of the broader region (↑[Oxford Insights, 2025](#); ↑[Tay et al., 2025](#)). The desk review found no examples of AI tools designed to automate or improve tasks in lower-income, lower-connectivity contexts such as Timor-Leste. This disparity aligns with ↑[Adam & Lester’s \(2025\)](#) finding that evidence of AI’s ability to reduce teacher workloads in low- and middle-income countries (LMIC) remains largely inconclusive.

Beyond the initiatives captured in [Table 1](#), the desk review identifies a broader trend of teachers using general-purpose generative AI to accelerate the production of instructional materials and manage administrative processes.¹⁹ A regional survey found that 29% of teachers report using ChatGPT for instructional preparation (↑[Holmes & Lee, 2024](#)), alongside other tools like Gemini, Magic School AI, Quillbot and [you.com](#)²⁰ (↑[detikcom, 2025](#); ↑[Holmes & Lee, 2024](#); ↑[Williyan et al., 2024](#)).

Evidence of AI-enabled teacher professional development (TPD) within this horizon is scarce. ELSA Speak offers personalised coaching with targeted feedback on English pronunciation and fluency - a promising model, but an uncommon one. More broadly, regional TPD activity remains focused on large-scale capacity building through training-of-trainers initiatives and direct training for end users (↑[Nazara, 2026](#)). One AI-powered TPD platform,

¹⁸ 3,500 teachers and their principals from 145 secondary schools and a random selection of 10 private schools took the online questionnaire from April to August 2024.

¹⁹ These general-purpose tools are not included in the summary table, which is intentionally limited to teacher-focused AI applications that are purpose-built for education and developed in, or explicitly for use in, Southeast Asia.

²⁰ See <https://you.com/home>. Accessed on 22 January 2026.

AI Khanmigo, was identified through the desk review but is categorised under the ‘disrupt’ horizon given its broader set of functions, including real-time coaching, lesson planning automation, and learning analytics generation.

The relatively low number of ‘upgrade’ initiatives compared to ‘disrupt’ may partly reflect the challenge of ‘AI-washing’. Many platforms remain vague about how their features use AI versus traditional digital automation, making it difficult to assess whether these tools offer a genuine efficacy gain or simply repackage existing digital features under an AI label. Greater transparency in technical documentation will be essential for teachers and policymakers to make informed decisions about which tools are worth adopting.

3.1.3. Disrupt

Eight of the 16 initiatives identified in the desk review fall within the ‘disrupt’ horizon, representing the largest concentration of activity. Initiatives in this category move beyond efficiency gains to embed AI directly into teaching workflows, reshaping how teachers plan lessons, support learners, and allocate instructional time.

The dominant model within this horizon is the AI Teaching Assistant. These platforms bring together a suite of integrated tools, most commonly for lesson planning, but also content creation, formative assessment, and progress tracking. This trend is reflected in TALIS survey results from Singapore, where 82% of lower secondary teachers and principals report using AI to formulate or improve lesson plans, and 65% use AI to create lesson activities ([↑OECD, 2025](#)). However, these figures mask significant variation: the survey does not disaggregate data by school resource level or connectivity, making it difficult to assess how evenly these practices are distributed across different teaching contexts.

Evidence from Indonesia’s Teachy platform illustrates this divide clearly. [↑Hasanah et al. \(2025\)](#) find that teachers in better-resourced schools benefited from using the platform, while those in lower-resourced schools faced infrastructure bottlenecks that counteracted the advantages and slowed down their work. Adoption also varied by professional experience: younger teachers were more likely to use AI experimentally for core pedagogical tasks, whereas more experienced teachers tended to use AI for supplementary tasks to ‘upgrade’ their role ([↑Hasanah et al., 2025](#)).

A notable feature of this horizon is the role of national digital learning platforms. Singapore’s Student Learning Space and Malaysia’s DELIMa 2.0 are integrated into learning management systems, offering teachers

AI-powered tools for resource creation, lesson planning, assignment management, and student progress tracking, alongside access to online coaching and professional development. Both platforms have recently expanded their AI capabilities to include chatbots, data assistants, and workflow automation, with the aim of reducing teacher workload at scale.

While these platforms have the potential to mitigate inequities by providing quality resources to all, they also raise important questions about teacher agency. Rapid standardisation through centralised AI tools may limit teacher's flexibility to adapt materials to their specific classroom context, and, over time, risk undermining their role as the primary pedagogical decision-maker ([↑Adam & Lester, 2025](#)).

3.1.4. Transform

The 'transform' horizon is the least evidenced and most speculative category identified in Southeast Asia. It refers to shifts where AI does not simply support existing practices but contributes to rethinking the structures, relationships, and purposes of teaching and learning. In this horizon, the role of teachers, the organisation of instruction, and even assumptions about how learning is designed are open to reconsideration.

Central to this horizon is the concept of hybrid intelligence, where human professional judgement and AI capabilities are combined in ways that extend beyond what either could achieve independently ([↑Adam, 2026](#)). Teachers are not displaced; instead, their expertise is augmented by AI's capacity for analysis, adaptation, and scale. Realising this potential requires broader systemic innovation, including changes to policy, practice, and professional standards ([↑Cukurova, 2025](#)).

Policy developments in the region point towards these broader shifts. Vietnam's 2025 Law on Teachers redefines the professional status of teachers, expands their professional autonomy, and positions them as drivers of digital fluency and innovation. This type of reform signals a move away from viewing teachers solely as implementers of technology towards recognising them as active agents in shaping AI-enabled classrooms ([↑UNESCO, 2025c](#)). Cambodia's Strengthening Teacher Education Programmes (STEPCam), supported by Global Partnership for Education (GPE) grants and UNESCO, reflects large-scale investment in teacher preparation, continuous professional development, and institutional capacity. Neither reform represents AI transformation in itself, but both illustrate the kinds of structural conditions that enable more fundamental shifts in teaching and learning ([↑GPE, 2025](#)).

While widespread transformation is not yet the regional norm, specific examples illustrate movement towards this horizon. One is Octo AI: Teachers in the New AI Era, which positions itself as a “breakthrough solution” for helping teachers to adapt to the AI era ([↑Cafef, 2025](#)). The initiative combines two core components:

1. An AI-powered teaching assistant that provides access to a library of localised instructional resources.
2. An online tutoring function that supports teachers to develop digital skills and receive in-class pedagogical suggestions.

AI is positioned as a partner in both classroom practice and teacher development, with teachers remaining central to instructional decision-making while AI supports live reflection, adaptation and design ([↑Cafef, 2025](#)).

The desk review found no evidence of ‘teacherless’ classrooms or fully autonomous AI-driven instructional systems operating at scale in Southeast Asia. While high pupil–teacher ratios and uneven digital infrastructure make such models costly and difficult to scale ([↑Adam, 2026](#)), the more significant barrier is systemic. It’s a question of how to align AI systems with educational values and teacher professional judgement without blurring professional boundaries or weakening teacher agency ([↑Christian, 2021](#)). Delegating core pedagogical decisions to AI also raises unresolved questions about what constitutes ‘good’ teaching in a given context ([↑Cukurova, 2025](#)). Meeting this challenge will require sustained dialogue between technologists, teachers, and policymakers, and a shared commitment to keeping human judgement at the centre of educational design ([↑Christian, 2021](#)).

4. Teacher survey

While desk research provides examples of how AI is being used in education, and the mapping exercise provides examples of the tools being developed, they offer little insight into how or to what extent teachers are using these tools in practice. Our survey aims to understand the current state of AI adoption in Southeast Asia, the institutional support for adopting AI tools, and teachers' experiences, concerns, and perspectives. The survey design drew on the [Teacher-in-the-Loop survey](#)²¹ conducted by EdTech Hub's AI Observatory.

4.1. Who responded to the survey

The survey yielded 260 valid responses,²² with the majority of respondents coming from Indonesia, Malaysia, Vietnam, and Lao PDR (see [Table 2](#)).

Table 2. *Teacher survey responses by country*

Country	Number of respondents
Cambodia	1
Indonesia	45
Lao PDR	91
Malaysia	46
Philippines	1
Thailand	7
Vietnam	67
No response	2

²¹ The Teacher-in-the-Loop survey collected views of teachers in the Global South about AI in the classroom or teaching environment in June and July 2025. See <https://edtechhub.org/ai-observatory/teacher-in-the-loop/>. Accessed on 5 February 2026.

²² A total of 318 responses were received. Responses were considered valid if they met either of the following conditions: the participant gave consent to their data being used in analysis; the survey was complete, defined as responding to 80% or more questions.

Responses came from teachers in urban (42%), peri-urban (35%), and rural (23%) areas, with the vast majority (88%) teaching in public or government schools.

In terms of gender representation, 67% of respondents identified as female, and 32% as male. The respondents skew towards experienced educators, with 84% having taught for eight years or more. The majority of respondents were in the 35–44-year-old (37%) and 45–54-year-old (36%) age ranges. A smaller proportion, 6% of respondents, were older than 55.

4.2. Adoption and use

Most respondents appear to be early adopters: nearly half (48%) say they use new AI tools as soon as they hear about them, and 86% say they are using AI for teaching or at school. ChatGPT was the most frequently mentioned chatbot, alongside a mix of other AI-enabled tools, including Kahoot, Canva (for PowerPoints and quizzes), Gemini (for infographics), and NotebookLM (for mindmaps and videos). Teachers also mentioned EdTech platforms that do not appear to have AI features, such as Wordall (a crossword puzzle creator), Azota (an assessment management tool), and Blooket (an educational game platform), reflecting that, in everyday practice, teachers are not always able to distinguish clearly between AI tools and other digital learning tools.

Although rural teachers have less consistent access to the internet (42% with constant connectivity) and electricity (78% with reliable power) than urban and peri-urban areas, they report similar rates of AI use. Moreover, 23% of rural teachers surveyed report that they *often* create or adapt AI-generated content, more than peri-urban (10%) and urban (19%). This pattern of rural teachers' AI use despite connectivity gaps is notable, given concerns that infrastructure barriers could deepen digital divides. Yet, it is worth noting that the survey sampling process may have resulted in over-representing rural teachers who already have access to internet-enabled devices and sufficient connectivity to engage with AI tools.

Teachers report using AI to create teaching materials, plan lessons, and teach in the classroom (see [Table 3](#)). The qualitative responses show that AI outputs are used as a starting point to help with lesson preparation and reduce heavy workloads, rather than as a replacement for teacher-designed materials. Teachers describe prompting AI to generate lesson ideas, warm-up activities, worksheets, or curriculum-aligned exercises, and adapting these outputs to their own context. How meaningfully this is done appears to vary by teacher. For example, a

teacher in Indonesia described using AI to create a lesson plan and combining it with an existing one. Another teacher explains:

"Lesson prep becomes a breeze. You describe an idea —“Unit 5: Jobs, level A1, with pictures and audio”— and AI instantly gives you [a lesson plan]." (Female teacher, Vietnam)

While this response suggests that AI is able to reduce the time needed to develop lesson plans or teaching materials, it is important to recognise that teachers may need to spend significant time verifying and revising AI outputs.

Table 3. Teacher survey responses to the question “In what ways do you use AI? Select all that apply.”

Response option	Count of respondents	Percentage of respondents (%)
Creating teaching materials	193	85.78
Lesson planning	169	75.11
Classroom teaching / student activities	160	71.11
Grading and assessment	91	40.44
Administrative tasks	80	35.56
Communicating with parents / students	44	19.56

The qualitative responses also reveal that some teachers are using AI in ways that fall under the ‘disrupt’ horizon (see [Table 1](#)). These practices range from supporting differentiated instruction to building subject knowledge. For instance, according to one teacher:

"I also used AI tools like text-to-speech and grammar checkers to support students' pronunciation and writing accuracy. These tools have made learning more interactive and supported differentiated instruction in my classroom." (Female teacher, Indonesia)

AI voice features were common among English language teachers, who used them to support students' pronunciation. Other innovative uses of AI tools include classroom management, with one teacher reporting;

"If I have a challenge with my students' behaviour, I usually ask [for] some ideas how to deal with it to ChatGPT. I will select ideas that suit my students' and my school's context." (Female teacher, Indonesia).

4.3. Teacher training and support

Overall, about two-thirds of respondents say they have received training in using AI for planning, teaching, or assessment. However, there is some variation by country. While 69% of teachers in Indonesia, 78% in Malaysia, and 82% in Vietnam had training, this figure is just 42% in Lao PDR. Almost all teachers report that the training has been helpful, but about half (48%) say they still need support to use AI effectively.

Of those who said they had received training, 60% said training included using AI for instruction and pedagogy, and 49% said training included using AI for lesson planning. Additionally, 64% said that training covered general technology skills, which could indicate that levels of digital literacy are low and teachers continue to need support in building foundational ICT skills.

Teachers expressed a strong preference for hands-on, applied training, particularly opportunities to practise using AI tools directly. The most commonly cited examples from the qualitative data included learning how to write effective prompts, adapting AI-generated content for specific subjects, and working through real classroom scenarios. Rather than theoretical overviews of AI and technology, teachers wanted ‘model lessons’, ‘worked examples’, and ‘practice writing commands in ChatGPT’ to show what meaningful and effective AI use looks like in their own teaching contexts.

Data indicates gaps in training on safeguarding, data protection, and ethics. Just over one-third (34%) of teachers reported receiving training on ethical and responsible AI use, and one-fifth reported receiving training on safeguarding and data protection. In the qualitative responses, respondents raised concerns about these gaps and asked for clearer guidance on how to protect students while using AI tools. Several noted that without knowledge of topics such as data privacy and cybersecurity, they felt hesitant to allow students to use AI independently, or were unsure how to model responsible use. When asked about what kinds of training or support they would like, one teacher said:

“Ethics in the use of AI in learning, because the data that AI can collect is so vast, I am concerned that we are oversharing with AI, which could have fatal consequences in learning, especially for us as teachers.” (Female teacher, Indonesia)

The qualitative data also highlights the importance of ongoing support structures. Teachers indicated they wanted continued coaching, peer

learning, and opportunities to share practices across schools and countries, rather than one-off workshops. Furthermore, they describe wanting support from school leaders, subject mentors, and professional networks to help them keep pace with rapid developments in AI and learn from colleagues' experiences. As one teacher said:

"I wish to be invited to training sessions and meet many colleagues from various countries, and be able to share insights on the application of AI in the world of education." (Female Teacher, Indonesia).

These responses suggest that effective AI integration may depend as much on school culture and professional learning communities as on formal training programmes.

4.4. Sentiment and concerns

Teachers' sentiments towards AI were generally positive and cautiously optimistic (see [Table 4](#) below). Few teachers expressed feeling unsure or nervous about AI use. Teachers most commonly describe AI as a "supportive tool" or "teaching assistant" that could reduce administrative workload and free up time to focus on what matters most: "making the learning process more meaningful, enjoyable and effective" (Female teacher, Malaysia).

Table 4. *Teachers' sentiment about AI in education*²³

Response option	Count of respondents	Percentage of respondents (%)
Excited and ready to explore what's possible	117	45
Interested, but want to go carefully and think things through	130	50
Unsure and still learning what it means	12	5
Nervous or overwhelmed by the pace of change	1	<1

In articulating their best-case visions for the next five years, the majority of teachers identified reduced workload, improved student outcomes and

²³ The survey question was: What is your main feeling about AI being used more in education?

engagement, and more inclusive and accessible learning environments. This focus on efficiency may stem from teachers already seeing AI reduce the time they spend on routine tasks.

“AI will help with half of a teacher's core duties, namely lesson preparation, allowing teachers to simply teach as they did in the past.” (Male teacher, Malaysia)

“My ideal scenario is a classroom that becomes a smart, AI-driven learning space, where every student receives a personalised learning experience tailored to their level and style. AI helps teachers analyse student progress in real-time, suggest appropriate remedial or enrichment activities, and manage routine tasks. This allows teachers to focus more on nurturing values, creativity, and soft skills.” (Female teacher, Malaysia)

However, teacher optimism was often framed conditionally, with the potential unlocked only if AI were equally accessible, if teachers were properly trained and supported, and if ethical safeguards were in place for teachers and students. For example, one teacher said:

“The use of AI certainly lightens the workload of teachers, as long as every result generated by AI is validated by the teacher themselves. This activity will certainly lighten the burden on teachers so that they can do many other tasks without spending too much time on developing learning tools.”
(Male Teacher, Indonesia)

Furthermore, teachers voiced considerable concerns about the impact of AI on learning. Over-dependence on AI²⁴ and authenticity of students' work were the top concerns, with 70% and 56% of teachers choosing them respectively. The qualitative data expanded on these themes, articulating fears that excessive AI use could lead to a decline in critical thinking, erosion of human interaction in the classroom, and diminishment of the relational aspects of teaching and learning.

Teachers were also aware of the potential for AI to deepen existing inequalities, particularly due to infrastructure gaps. Thirty-eight per cent of teachers said unequal access across schools / students was their biggest concern about increasing AI use in education.

Interestingly, while 52% of teachers said AI is changing or will change their role as teachers, no respondent reported that teachers losing professional agency as their top concern. While not a top concern, the open responses

²⁴ The survey question did not distinguish between teachers' or students' over-dependence on AI; however, the qualitative responses primarily focused on teachers' concerns about learners relying on AI outputs.

revealed teachers' uncertainty about how their role in the classroom will evolve. Teachers describe their role as more than knowledge providers; they also describe themselves as guides, mentors, and facilitators who create safe learning environments, support learners, and build their confidence. As one teacher explained:

"Sometimes, the most important purpose of a teacher is to show students that they can do it, even when they don't believe it themselves." (Male teacher, Vietnam)

However, with the introduction of AI, teachers expressed concerns that becoming a "data manager" or "technology supervisor" would shift their role away from this true purpose.

5. Case study spotlight

Across Southeast Asia, teachers, including those in rural schools with unreliable connectivity, are actively experimenting with AI, often without adequate support or guidance. While the regional picture captures the breadth of this activity, it does not reveal the detail of what capacity-building efforts actually involve in practice, nor does it explain why, despite these efforts, teachers still report feeling under-resourced and under-prepared. This section spotlights the Bijak Lestari initiative in Malaysia to explore the realities, challenges, and opportunities of building teacher confidence with AI in rural contexts.

5.1. Bijak Lestari

Background

Bijak Lestari is a University Social Responsibility initiative established in 2024 by the Faculty of Social Sciences and Humanities, Universiti Teknologi Malaysia (UTM), Kuala Lumpur. Led by Dr Nurhasmiza Abu Hasan Sazalli, the project focuses on empowering teachers in rural areas to effectively integrate AI into their teaching and learning. It was designed to address a training gap that emerged when AI features were integrated into Malaysia's national digital learning platform, DELIMa 2.0, without sufficient accompanying support for teachers ([IAFOR, 2025](#)).

At the heart of the project is CikguLearnAI, a practice-based training module designed to build digital confidence, technical proficiency, and critical awareness of generative AI. Training content is tailored to the challenges identified by teachers before each session. Common areas of focus include designing effective prompts, automating lesson planning and creating curriculum-aligned learning materials that support the development of 21st-century skills.

To date, Bijak Lestari has trained 250 teachers across Selangor, Kelantan and Perak through partnerships with the STEM@K.E.L.A.T.E. programme. The project is planned to continue until 2039, with a projected reach of 1,500 teachers nationwide.

Challenges and lessons learnt

1. Low digital literacy and confidence lead to distrust in AI tools and technologies

Research on the rollout of DELIMa 2.0 finds that while 99.5% of teachers are logged onto the platform, their utilisation of AI tools is limited and inconsistent (↑[Xuan & Nasri, 2024](#)). Evidence suggests that teachers default to familiar, simpler tools they mastered during the school closures related to the Covid-19 pandemic, such as Google Forms or Kahoot, while neglecting newer and more complex AI features (↑[Muthiah & Annamalai, 2025](#)). This underutilisation stems from a lack of awareness of available tools and inadequate or insufficient training, both of which can foster distrust of new technologies (↑[Shakri et al., 2025](#)).

We see this challenge is reflected in our survey data. Of the 46 Malaysian teacher respondents, 25% report using only one tool (ChatGPT), and one respondent mentioned DELIMa. A similar pattern was observed in the Asia-Europe Foundation (ASEF) Classroom Network Survey²⁵ of 315 Asian teachers, which noted a reliance on ChatGPT alone (↑[Holmes & Lee, 2024](#)). While teachers in both surveys report high levels of experience with AI, their narrow usage patterns point to a gap in the practical skills and confidence needed to explore a wider range of platforms.

The Bijak Lestari project aimed to address this through practice-based workshops. Facilitators quickly found that theoretical, slide-based presentations overwhelmed teachers and were largely ineffective. In response, they adapted the delivery model by providing printed, desk-based prompt guides that teachers could work through at their own pace through the AI tools embedded within DELIMa 2.0. The tools they were given exposure to were Gemini, Canva, Conker, Copilot, and Perplexity. A higher ratio of facilitators enabled one-to-one support during the sessions, giving teachers the space to openly discuss their challenges with both peers and facilitators.

A notable precondition for effective delivery was the establishment of trust within the community, particularly in rural settings. Prior to training, the project engaged respected community leaders and ensured that at least one facilitator could communicate in local dialects to bridge language barriers and reflect awareness of the local cultural context. Facilitators

²⁵ The survey involved 463 respondents, who completed the open call survey for the 17th ASEF Classroom Network Conference (2024). The respondents were from 44 countries across Asia (315 respondents) and Europe (143 respondents).

identified working with the community as essential to securing teacher participation and enabling open engagement during sessions.

2. Weak infrastructure and outdated devices are bottlenecks to effective AI training

Survey findings indicate that rural teachers recognise the potential of AI to address resource gaps and are actively testing new technologies, often relying on personal mobile data. However, poor infrastructure and unreliable connectivity are key barriers to participation in the training and knowledge-sharing opportunities that support meaningful and responsible AI use (†[Shakri et al., 2025](#); †[Xuan & Nasri, 2024](#)). During the Bijak Lestari project, this manifested in practical terms: teachers arrived with outdated laptops unable to run modern AI interfaces, and without school Wi-Fi to access school WiFi.

To work around these constraints, the project team encouraged teachers to use personal smartphones to access AI platforms. They reported that this adaptation had a secondary benefit for building digital confidence - teachers were able to draw on familiar mobile functionalities, such as voice-to-text and translation applications, to interact with AI tools in their native languages. However, smartphone ownership is not universal, and those who own devices often bear the cost of personal mobile data. This is reflected in the survey data, where over half of respondents (54%) report relying on their personal mobile data plans to access AI tools.

The development of Small Language Models (SLMs) offers a promising response to these infrastructure challenges. Unlike larger models, SLMs are compact enough to operate offline on less powerful hardware, including smartphones, and can be deployed locally using tailored datasets and algorithms (†[Wang & Wang, 2024](#)). For capacity-building initiatives like Bijak Lestari, and for AI tool development more broadly across the region, SLMs represent a potentially more equitable and sustainable model - one that does not require teachers to shoulder the cost of connectivity or depend on unreliable school infrastructure.

6. Key insights

1. Rural teachers are using AI despite infrastructure gaps, but support is needed to be sustainable

A critical concern about the increasing growth of AI is the deepening of the digital divide, particularly between urban and rural areas within countries and across the region. Rural communities in Southeast Asia face compounding disadvantages: a lack of infrastructure to support access to AI tools, skills to leverage them, and practical or beneficial applications relevant to their context ([↑Hendrian, 2025](#)).

Teachers in the survey echo these concerns, particularly regarding infrastructure gaps. Of the 62 survey respondents who reported that they don't see AI improving education in their country, 13 explained this was because of “uneven technological infrastructure”, with schools in rural areas more likely to fall behind.

Despite constraints, our survey finds that teachers are experimenting with AI in low-resource settings. The Bijak Lestari case study illustrates how rural teachers in Malaysia navigate barriers, such as using mobile phones and mobile data to access AI tools and using voice-to-text and translation features to bridge language gaps.

Nevertheless, rural teachers do face significant structural barriers to engage with AI and other digital tools which can support their practice. Without sustained investment in digital infrastructure, professional development and locally relevant applications, the burden will continue to fall on teachers to develop their own solutions (see also [Section 7.2](#)).

2. Teachers are using AI as a pedagogical partner, but worry about eroding agency

Although the AI tool mapping exercise identified multiple applications in the ‘upgrade’ and ‘disrupt’ horizons in Southeast Asia, teachers’ current AI usage patterns indicate they primarily use commercial generative AI tools like ChatGPT and Gemini in ways that fall under the ‘upgrade’ horizon (see [Section 3.1.2](#)). The open responses reveal that teachers are using these tools to support lesson planning and content development by treating AI outputs as a ‘starting point’ and then validating and adapting them to fit their specific classroom contexts. Rather than replacing materials developed by teachers, AI is being used as a ‘pedagogical partner’. This approach is consistent with the potential of AI to be a supportive tool that can develop high-quality, culturally relevant learning materials and lighten

administrative burdens, so teachers focus on the core human work of teaching ([↑Adam & Lester, 2025](#)).

Teachers are generally optimistic that AI will reduce workloads, but effective use depends on developing new competencies, such as how to develop prompts, assess whether AI-generated content aligns with curricula, and identify potential bias in materials created by general-purpose AI systems like ChatGPT. Combined with the potential for AI systems to make errors, this means that teachers may need to spend additional time verifying and refining outputs which undermines the anticipated time-saving benefits ([↑Selwyn et al., 2025](#)).

Current use patterns also raise questions about future teacher agency. Teachers' use of AI as a collaborative partner and the validation of its outputs demonstrates that teachers retain their agency, as they direct the prompts and decide when and how much to incorporate into their practice. However, teachers voiced concerns that, in the future, they may be reduced to 'data managers' or 'technology supervisors', signalling fears about diminishing control over pedagogical decisions. Protecting teacher agency must be a central priority in AI implementation, ensuring that more advanced applications enhance teachers' professional judgment and decision-making.

3. Teachers' role as a guide and mentor is essential with the increased use of AI among students

"Teachers are not 'know-it-alls' who stand at the front of the class lecturing. They are guides and companions, helping students to discover for themselves, ask questions and find the answers."
(Male teacher, Vietnam)

While teachers acknowledged worries about data privacy, bias, and unequal access to technology, these system-level issues are overshadowed by a more tangible challenge: the impact on learning and assessment. The survey data and open responses clearly reflect teachers' fears that excessive AI use could erode critical thinking skills and diminish the human and relational aspects of learning (see more in [↑Wotton, 2026](#)).

These concerns resonate with arguments that prioritising human connection in the classroom is central to achieving holistic education ([↑Adam, 2025](#)) and calls for reaffirming the indispensable role of the teacher ([↑TTF, 2025](#)). As stated by the teacher in the quote above, teachers are not just transmitters of knowledge but also role models who support learners and their development. These discussions highlight that rather than being replaced, teachers are even more essential as guides who

cultivate students' critical thinking, curiosity, and judgement, necessary skills to effectively direct AI and critically assess AI outputs.

4. Teachers want practical, hands-on training and increased content on ethics and data protection

Training in AI use is essential, yet teachers in this study are still using AI without it. Of the 60 teachers who said they had not had training, 71% reported using AI. Governments, organisations, and EdTech providers in the region recognise the need: many AI in education initiatives focus on teacher training or provide workshops alongside the provision of AI tools ([↑Honda, 2026](#)).

These AI trainings are typically presented as stand-alone workshops rather than integrated into existing teacher professional development (TPD) systems. This approach carries several risks. Evidence shows that long-term, sustained engagement is critical for effective TPD ([↑Hennessy et al., 2022](#)), and one-off trainings do not provide continuity. Separate trainings may also strain systems that already face multiple challenges in implementing TPD and place additional burdens on teachers who are already overworked ([↑IDRC, 2024](#); [↑Revina et al., 2022](#)). Critically, AI training should not displace other essential professional development needs. Teachers require ongoing support in pedagogy, subject knowledge, and classroom management, and these domains remain foundational despite advances in technology.

Beyond these structural concerns, there are significant gaps in training content. Although the desk review indicates that training in the region covers topics such as ethical and responsible use, our data reveals that teachers are not consistently receiving training in this domain. This absence is particularly alarming given significant concerns in the region about data privacy and ethical use of AI ([↑Jayasinghe, 2026](#); [↑Petrovets, 2026](#)).

Teachers are calling for a practical, hands-on approach, which aligns with research that hands-on training supports the adoption and use of new teaching methods ([↑IDRC, 2024](#)). Open responses from the survey indicate that teachers want training that allows them to practice directly with tools rather than receiving theoretical overviews. A focus on practical, hands-on training can not only provide teachers with the necessary skills but also improve their confidence in using AI, as demonstrated in the Bijak Lestari case study.

7. Recommendations

Teachers' roles in an AI-enabled world are frequently framed through the lens of fear and uncertainty. Yet evidence from across the region points to growing investment in the profession, reflected in Vietnam's Teacher Law ([↑UNESCO, 2025c](#)) and Cambodia's largest grant to strengthen the teaching workforce ([↑GPE, 2025](#)). Teachers themselves are equally clear on what their role involves: they inspire, guide, mentor, facilitate, boost confidence, create safe spaces, act as role models, and deliver knowledge. What some fear is the prospect that their role could be reduced to data supervision, and the possibility that human interaction might disappear altogether.

Two principles underpin the following recommendations: teachers are irreplaceable, and AI must remain human-led and human-accountable.

7.1. Reaffirm the irreplaceable role of teachers

Governments and education stakeholders must commit unequivocally to protecting the professional role of teachers in an AI-enabled education system. This means going beyond the introduction of AI tools to explicitly define the boundaries of automation in national education strategies. Policymakers should codify that AI is a tool for augmenting teacher capacity not replacing the judgements and relationships that define good teaching. Domains such as emotional support, ethical guidance, and creative pedagogy should be explicitly protected as human-led endeavours ([↑TTF, 2025](#)).

Central to this is protecting teacher agency. Without deliberate policy safeguards, there is a risk of deprofessionalisation. This is a gradual process whereby teachers become passively reliant on AI outputs, ceding instructional decision-making to automated systems and losing confidence in their own professional judgement ([↑Pascua-Valenzuela, 2025](#)). **Policymakers and teacher training institutions must therefore focus not only on building technical skills, but on strengthening teachers' capacity to critically evaluate AI tools and make informed pedagogical decisions.**

At the school level, school leaders can intentionally design and protect 'AI-free' spaces and moments both in and out of lessons ([↑Adam, 2026](#); [↑EdTech Hub, 2025a](#)). These designated times for experiential learning and direct human connection serve as a safeguard against the erosion of interpersonal relationships in classrooms dominated by technology.

Teachers need to hear clearly and consistently that their role is valued and irreplaceable. **All actors have a responsibility to reinforce this, not only through policy language, but through meaningful inclusion of teachers in national and local conversations about AI in education from the outset.** Cross-disciplinary dialogue within and between schools can help prevent professional isolation, and ensure that teachers are active participants in shaping the future of their profession ([↑UNESCO, 2025a](#)).

7.2. Create a supportive environment for teachers through ongoing coaching and knowledge exchange

Empower teachers through pedagogy-first professional development

Teacher survey data indicates that overreliance on AI and maintaining academic integrity are among teachers' top concerns. Teachers who are supported to engage critically and ethically with these technologies, and who feel confident in their professional judgement to determine when AI should not be used at all, will be better placed to navigate these challenges ([↑TTF, 2025](#)).

Policymakers should prioritise investment in ongoing pre-service and in-service TPD that frames AI as an extension of existing professional practice. Training programmes should reinforce teachers' roles as pedagogy and subject-matter experts, building their capacity to critically evaluate AI outputs and make informed decisions about when, how, and whether AI should be used to support teaching, learning, and assessment ([↑Cukurova et al., 2024](#)).

To accommodate varying levels of digital confidence, **teacher education institutions and schools should move away from 'one-size-fits-all' models in favour of differentiated training pathways.** These programmes can offer multiple entry points, from foundational digital literacy to advanced ethical critique and pedagogical innovation, allowing teachers to progress at a pace suited to their classroom context ([↑Liu & Shang, 2025](#); [↑Widianingsih, 2025](#)).

To ensure quality and regional relevance, these pathways should be aligned with and locally adapted from established benchmarks, such as UNESCO's *AI Competency Framework for Teachers* or Cambodia's *ICT-AI Teacher Competency Framework* ([↑UNESCO, 2024](#); [↑UNESCO, 2025b](#)).

National regulators and standards bodies must regularly review competency frameworks ([↑Holmes & Miao, 2023](#); [↑UNESCO, 2019](#)). Updates should reflect the specific and evolving skills required for AI integration,

such as prompt engineering or algorithmic critique, without becoming overly rigid or prescriptive ([↑Liu & Shang, 2025](#)). Clear validation processes for AI tools, including pilots and simulations that involve teachers directly, can further ensure that the tools used in training are high-quality and classroom-ready ([↑UNESCO, 2024](#)).

The Bijak Lestari case study illustrates that trust is a precondition for effective AI training, not a secondary consideration. At the school-level, training facilitators can be embedded within the community or supported to work alongside school-based ‘tech champions’ who speak the local language, understand the cultural context, and who can address any anxieties teachers may have.

Embed teacher-led professional networks and communities of practice

Teacher survey data revealed a preference for ongoing coaching, peer learning and cross-border exchange over one-off workshops. Teachers called for knowledge exchange between colleagues in diverse contexts to navigate shared challenges and identify locally relevant solutions. This peer-driven approach matters beyond convenience: trust - a fundamental driver of AI adoption - is shaped by a teacher’s underlying attitudes, technical misconceptions and general understanding of AI operations ([↑Nazaretsky et al., 2022](#)).

Policymakers and regional bodies should institutionalise and resource teacher-led professional networks as core educational infrastructure.

This includes rethinking mentoring models to facilitate structured exchange of resources, strategies, and classroom practice between teachers in urban and rural areas - for example through paired mentoring schemes or cross-observation programmes ([↑Wang & Wang, 2026](#)).

Building on this, research highlights that embedding ‘tech champions’²⁶ at school can be an effective driver of trust, particularly for staff with lower digital confidence ([↑Zeng et al., 2025](#)). **Institutions should identify teachers suited to this role and protect their time to support, observe and coach peers.** Evidence from Indonesia suggests that despite the low cost and high potential of this approach, only a small number of schools facilitate it systematically ([↑Widianingsih, 2025](#)).

Schools and universities should also protect teachers’ time for participation in professional learning communities and revisit insights from external networks, ensuring that individual learning benefits the

²⁶ Teachers with high technological literacy and the capacity to inspire colleagues

whole institution. [↑Liu & Shang \(2025\)](#) suggest that professional learning communities should support teachers in engaging not only with how AI is used in classrooms, but also with why it is used and *to what ends*.

Policymakers, development partners, teacher education institutions, and school leaders all have a role in funding and facilitating these spaces, particularly where teachers have limited access to them. Hybrid and low-cost delivery models, combined with investment in shared learning resources, can make participation more equitable. The success of the One Teacher Network in Thailand and Komunitas Guru Belajar in Indonesia demonstrates that large-scale professional learning can be sustained when platforms are teacher-driven, voluntary, and build on trusted peer relationships - without requiring heavy programme infrastructure (see [Figures 2](#) and [3](#) below).

Figure 2. *One Teacher Network, Thailand*

The One Teacher Network is a professional learning network designed by teachers, for teachers. It was launched in Thailand's southern provinces by UNICEF Thailand in 2015 to promote self- and peer-learning through ICT and the integration of technology to enhance teaching and learning.

The network reaches approximately 200,000 teachers through three low-cost platforms ([↑UNICEF Thailand, 2024](#)):

1. ZOOM (a video conferencing platform, used for meetings)
2. LINE (a messaging application, used for announcements and personal conversations)
3. SWAY (a platform where materials can be uploaded and used to access and exchange content).

The network is coordinated by a core group of volunteer teacher leaders who work closely with national and regional education authorities. Activities are demand-driven and free to access: weekly virtual training sessions run throughout the year, with an annual in-person event funded by UNICEF to reduce participation barriers ([↑Thang et al., 2025](#)).

Teachers report that peer-to-peer collaboration through the network has directly supported the integration of new ideas and technologies into classroom practice, with its success attributed to strong teacher leadership and trusted peer relationships.

Figure 3. *Komunitas Guru Belajar, Yayasan Guru Belajar, Indonesia*

[Komunitas Guru Belajar](#),²⁷ coordinated by Yayasan Guru Belajar (YGB), is a nationwide teacher community network spanning more than 50 regions in Indonesia. The network supports teachers in collaboratively reflecting on practice, sharing what works (and what doesn't), and co-developing contextually appropriate learning innovations, including the use of simple AI tools, alongside technology developers.

The community relies on accessible, light-touch communication channels, primarily WhatsApp groups and webinars, enabling sustained engagement in low-resource contexts. Rather than large-scale funding, continuity is maintained through a “rhythm of collaborative learning and accountable reflection,” which keeps participation voluntary, relevant, and teacher-driven (Yayasan Guru Belajar [YGB], Key Informant Interview [KII], [Wotton, 2026](#), p. 2).

Collaboration is extended through partnerships with universities, technology providers, and startups, and amplified through YGB's annual [Temu Pendidik Nusantara](#)²⁸ (TPN) conference, a practitioner-led national forum where teachers share classroom innovations and technologists help translate ideas into practical solutions ([Wotton, 2026](#)).

Sustainability is reinforced through strong social trust among educators and a culture of collective learning.

Regional bodies have a complementary role in amplifying these efforts at scale. The SEAMEO Secretariat and its regional centres are well-placed to facilitate cross-border knowledge-sharing platforms that surface shared challenges and transferable solutions across education systems. Initiatives such as [SEAMEO Innotech's \(2024\)](#) “Fostering the ‘I’ in AI” and SEAMEO Regional Centre for Education in Science and Mathematics (RECSAM) AI literacy workshops for teachers are promising examples of this regional convening function. Teachers should be actively involved and invited to participate, present, and shape the content and focus of these regional exchanges.

7.3. Prevent deepening the digital divide and contextualise offerings

The survey highlights a paradox: rural teachers are using AI at rates comparable to their urban peers, yet they are doing so largely by subsidising their own professional practice - relying on personal data plans and devices, and exploring new technologies without institutional support.

²⁷ <https://kgbn.or.id/>. Accessed on 27 January 2026.

²⁸ <https://tpn.gurubelajar.org/>. Accessed on 30 January 2026.

This disconnect points to an overlap between traditional access barriers and the emerging ‘third digital divide’: disparities not just in who has access to digital tools, but in the quality of that access and the degree to which individuals are able to derive meaningful benefit from it.

A teacher’s ability to benefit professionally from AI is determined by both personal financial capacity and institutional support. Those with greater resources and stronger support mechanisms are better positioned to access the premium AI models that enable high-quality interaction, while teachers in lower-resource settings are left to navigate the hidden costs of AI - financial strain, data instability, and higher error rates of free or legacy models — largely on their own (†Trucano, 2023). Without guidance or peer support, the friction of navigating these limitations can ultimately offset the very time-saving benefits AI is meant to provide.

Policymakers should take the initial steps to create smart learning environments by supporting teachers’ access digital to devices and quality resources. National digital learning platforms, like Singapore’s Student Learning Space (SLS), offer a blueprint for sharing resources at scale, but must be designed to be compatible with ‘low-specification’ and commonly used affordable devices (†Pascua-Valenzuela, 2025). Platforms must also integrate robust accessibility features, including closed captions, screen-reader support, and automated transcripts, to ensure that teachers and students with disabilities are not further marginalised in the transition to AI-enabled education.

EdTech developers and research partners should prioritise the development and adoption of regional foundational AI models tailored to Southeast Asia’s linguistic and cultural contexts. Models trained on local languages and contexts can significantly reduce the biases embedded in Western-centric Large Language Models (LLMs), and initiatives such as the [Southeast Asian Languages in One Network](#)²⁹ (SEA-LION) demonstrate the potential of affordable, multilingual systems designed to operate in low-bandwidth or offline environments. Research partners can strengthen these models by contributing high-quality, locally representative datasets, particularly in under-resourced languages. Where tools are sourced externally, licensing arrangements should allow for modification and localisation (†Miao et al., 2021).

Schools and training institutions have a role in creating supported spaces for structured experimentation, where teachers can test open-source and locally relevant tools at their own pace, without the pressure of immediate high-stakes implementation. Embedding this kind

²⁹ <https://sea-lion.ai/> Accessed on 16 February 2026.

of low-stakes exploration within institutional routines, rather than leaving it to individual initiative, is essential to ensuring that the benefits of AI reach teachers across the full spectrum of resource contexts.

7.3. Put pedagogy and teachers first, and avoid homogenisation

To protect the integrity of education systems, **policymakers must enforce strict "ethics by design" principles that require all AI systems used in education to be transparent, explainable, auditable, and well-evidenced before deployment** ([↑UNESCO, 2024](#)). This is critical to building teacher trust; when educators understand how an AI model reaches a decision, they are more likely to adopt it effectively ([↑Cukurova et al., 2023](#); [↑Nazaretsky et al., 2022](#)).

All actors must actively resist the homogenisation of education. AI tools trained on dominant, non-local datasets risk amplifying stereotypes and displacing indigenous knowledge ([↑UNESCO & International Research Centre on AI, 2024](#)). Education standards should require AI tools to be culturally responsive, supporting diverse pedagogical traditions rather than imposing a singular instructional model ([↑Bulathwela et al., 2024](#)). This can only be achieved fully by including teachers' voices through policy dialogue through participatory frameworks that capture and learn from teachers' experience, expertise and concerns ([↑TTF, 2025](#)).

Central to this is a shift towards pedagogy-first approaches that position teachers, not technology, as the primary agents of change (see [Figure 4](#) below for what this looks like in practice). This means moving beyond tokenistic 'human-in-the-loop' arrangements, which provides blanket reassurance while disguising a reality where AI leads, and humans follow as 'safety checkers'. [↑Hau \(2025\)](#) calls for stakeholders to reclaim pedagogy as the primary frame. **For teachers, leaders, and policymakers to ask questions about when, where, and how, if at all, AI can meaningfully contribute to human learning.**

Figure 4. *Example of what pedagogy-first AI can look like in practice*

“Collaborative writing, not automated essays: Students are not using AI to write essays, but to refine them. After writing a first draft by themselves, they use AI to identify synonyms or smoother transitions. Working in pairs, they evaluate the AI's suggestions and consider what could strengthen their ideas. The teacher supports this process by encouraging metacognitive thinking rather than simply correcting grammar. Here, AI amplifies student thinking rather than replacing it” ([↑Hau, 2025](#)).

Teachers must be empowered with ‘real agency’ to act as the final arbiters of quality, to systematically verify AI outputs and model critical engagement for their students (↑[UNESCO, 2025a](#)). To support this, education authorities should develop rating mechanisms or guidelines that help teachers assess tools based on pedagogical value and bias risks, reducing reliance on uncritical adoption (↑[Miao et al., 2021](#)).

Policymakers should institutionalise co-creation as a mandatory requirement for AI for education design and integration. This means embedding participatory design expectations into national AI and EdTech strategies, procurement frameworks, and quality assurance processes, and requiring clear documentation of how teacher and student input has influenced system design and deployment decisions. Implementers should close feedback loops by communicating to teachers and students how their input has shaped outcomes - making co-creation a genuine dialogue rather than a one way consultation.

In practice, meaningful co-creation requires deliberate scaffolding. Teachers and students may not initially have the data literacy needed to engage critically with AI system design. **EdTech developers should therefore use participatory prototyping methods that enable teachers to explore the consequences of different design choices in accessible, concrete terms** (↑[Holstein et al., 2019](#)).

Importantly, teachers’ contributions to co-creation must be recognised and fairly compensated. Without dedicated resources and genuine recognition of their time, co-creation risks becoming extractive: placing additional burden on teachers while the benefits flow primarily to developers and institutions (↑[Holmes et al., 2022](#)). Teachers should also be involved in decision-making regarding curriculum reform and assessment frameworks that are relevant to AI-supported contexts, positioning them as co-designers within the education ecosystem rather than end-users of externally developed solutions.

7.4 Accelerate the generation of research that actively involves teachers

As AI is rapidly integrated into education systems across Southeast Asia, **policymakers, funders, and researchers themselves must ensure that the evidence base evolves at a comparable pace.** While longitudinal studies remain essential for understanding long-term impacts, they are too slow to inform immediate policy and implementation decisions. These approaches should therefore be complemented by rapid, adaptive

evaluation methods drawn from implementation science, which allow education systems to identify effective implementation conditions early and avoid scaling tools that are misaligned with local needs (↑Adam & Lester, 2025).

Research organisations, development partners, and implementers should deploy ‘teacher-in-the-lead’ sandboxes and testbeds to conduct context-sensitive experimentation in real classroom settings.

These models share a commitment to classroom-based, user-led evaluation, and grounding the findings in the realities of teaching practice rather than controlled or idealised conditions. Promising frameworks include EdTech Hub’s [teacher-in-the-lead sandboxes](#),³⁰ [Global EdTech Testbed Network](#),³¹ [WISE EdTech Testbeds](#),³² and [TIDE](#)³³ (Teaching Improvement Through Data and Evaluation) programmes (↑Adam & Lester, 2025). To be effective, these initiatives must involve districts, teachers, learners, and parents throughout the research process, ensuring that findings support the adoption of technologies that genuinely strengthen teaching practice.

Education authorities and research institutions should also broaden research agendas beyond technical efficacy and learning outcomes to examine the structural impacts of AI on the teaching profession.

Evidence on how AI tools reshape teacher identity, professional autonomy, career pathways, and relationships of trust within the broader educational ecosystem remains limited (Liu and Shang, 2025; ↑Vereschak et al., 2021; ↑Widianingsih, 2025). Addressing these gaps is critical, as the long-term sustainability of AI in education depends not only on whether AI tools work as intended, but on whether teachers experience them as reinforcing their professional judgement and values.

Closing these gaps requires a different relationship between researchers and teachers. Rather than treating teachers as research subjects, **researchers and policymakers should position them as active research participants, enabling them to co-design research questions, interpret findings, and shape the evolution of AI-enabled practices through participatory and practitioner-led research models.** This shift can ensure that evidence informs policy and practice in ways that build trust, protect

³⁰ <https://edtechhub.org/2025/10/03/teachers-shaping-the-role-of-ai-in-education/>. Accessed on 4 February 2026.

³¹ <https://gloaledtech.org/>. Accessed on 4 February 2026.

³² <https://wise-qatar.org/edtech-testbed/>. Accessed on 4 February 2026.

³³

<https://www.nuffieldfoundation.org/project/teaching-improvement-through-data-and-evaluation-tide>. Accessed on 4 February 2026.

professional autonomy, and support human-centred AI integration. Without it, research risks reproducing the same top-down dynamics that have limited meaningful adoption in previous waves of educational technology.

8. Looking ahead

The trajectory of AI integration in Southeast Asian education systems will be shaped less by technological advancements and more by how teachers' roles are redefined and supported. AI is already easing workloads, offering overstretched teachers immediate relief. But the greater potential (and peril) arises as education systems (and teachers) move toward the 'disrupt' and 'transform' horizons, where AI begins to influence curriculum, assessment, and learning pathways in fundamental ways. Navigating this shift requires ensuring that technological change does not outpace educators' confidence and capacity to use AI meaningfully.

As AI absorbs routine tasks, the distinctly human capacities embodied by teachers become more critical, not less: compassion, interpersonal connection, the nurturing of values and virtues, and the fostering of learner competencies, attitudes, and mindsets that transcend knowledge acquisition ([TTF, 2025](#)). Realising a future where teachers remain central requires deliberate policy choices that keep humans in the lead, and grant teachers real agency and authority over how AI is adopted, adapted, or rejected. Without the right support and sustained investment in teachers, there is a real risk that AI will quietly undermine the very human foundations on which effective education depends.

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