Trend Report

Learners in the Age of AI

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AI Observatory

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About EdTech Hub

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EdTech Hub AI Observatory and Action Lab

The AI Observatory and Action Lab is funded by UK International Development, and uses a hypothesis-driven approach to generate evidence about strategies and approaches on the use of AI in education. We believe this will narrow the learning divide in the age of AI and provide decision-makers with timely, practical evidence. For more information, please visit edtechhub.org/ai-observatory.

Contents

Abbreviations and acronyms

AI	Artificial Intelligence
DPL	Digital personalised learning
GenAI	Generative AI
LMIC	Low- and middle-income country

Executive summary

One area where generative Artificial Intelligence (GenAI) is already reshaping education in low- and middle-income countries (LMICs) is how students learn. This report identifies three trends that education decision-makers should pay attention to regarding AI's influence on learners.

The first trend concerns informal use. Children and young people are using GenAI tools outside school at a scale that current data likely underestimates. Without intentional oversight, the risks — to learning, trust, and equity — are largely unmanaged.

The second concerns personalised learning. AI is accelerating a shift towards individualised instruction that promises to expand access, but the evidence suggests it works best where teacher involvement is strongest.

The third concerns what education is actually for in the age of AI. A powerful policy narrative is forming around AI skills and workforce readiness, but it may be narrowing what education is understood to be for at precisely the moment a broader conception is needed.

For education decision-makers, these trends call for a clearer sense of direction — about what role communities should play, what kind of future learners are being prepared for, and what learning is ultimately for. The sections that follow set out each trend in detail, and the report closes with reflections for those navigating what comes next. The aim is not to prescribe responses, but to sharpen the questions that should be guiding them.

Two further reports will explore AI's influence on how teachers teach (↑Weatherall, 2026b) and how systems run (↑Weatherall, 2026a).

1. Methodology

This report uses a foresight method called 'horizon scanning', which involves systematically monitoring a wide range of sources to detect early signals of change. These signals vary from subtle cues of potential shifts to clearer evidence of emerging trends. Taken together, clusters of signals pointing in the same direction form the basis for identifying trends — the patterns of change this report seeks to explore.

Some cited sources were originally published in languages other than English and were accessed using machine translation tools, primarily Google Translate and Qwen-MT.

1.1. How we identified and curated signals of change relevant to LMICs

EdTech Hub's AI Observatory and Action Lab team has run a continuous horizon-scanning process since 1 May 2025, designed to detect signals of change in AI and education with particular relevance to LMICs. New signals are identified daily and reviewed weekly alongside an education expert.

This process draws on a large pool of records from curated sources, supplemented by trusted news and research feeds. An automated filtering system — capable of translating content from 56 languages — screens these records for relevance, reducing an initial pool of ~1.2 million records to a subset for human review (n = 22,603). To date, this process has produced a library[1] of 2,250 signals.

1.2. How we identified trends

EdTech Hub's AI Observatory and Action Lab have developed a custom AI-powered tool to identify patterns and emerging themes across the Signal Library. Records relevant to the topic of learners (n = 2031) were filtered to a subset selected for AI analysis (n = 400), from which a shortlist of potential trends was produced for consideration in this report.

1.3. How we produced a more critical analysis

Three trends were selected for deeper investigation, combining additional targeted desk research with critical analysis. Additional records selected for inclusion via desk research: n = 15. Total records selected for inclusion in the report: n = 59.

[1] See https://www.ai.edtechhub.org/signals. Retrieved 11 March 2026.

2. Trends

Below, we discuss what the signals suggest is changing according to three themes:

1. Why this matters, particularly for LMICs
2. What could happen if the trend continues
3. What these changes mean for decision-makers.

2.1. The trend towards informal GenAI use could circumvent learning in LMICs

Children and young people are increasingly encountering GenAI outside school (↑Burns et al., 2026; ↑OECD, 2026). In LMICs, this use could be more widespread than adults (including policymakers) realise. At a roundtable discussion during our initial horizon scan in February last year, EdTech entrepreneurs told us how they had been surprised to discover that high school students in rural Bangalore were already using ChatGPT outside school to do their homework (↑EdTech Hub, 2025a). Since then, studies of high-school-age children from LMICs suggest that their use of GenAI is widespread and growing (↑Asosiasi Penyelenggara Jasa Internet Indonesia, 2025; ↑Núcleo de Informação e Coordenação do Ponto BR, 2025; ↑Özkul & Vosloo, 2025; ↑Stoilova et al., 2025), through apps and services already in the hands of many children (↑Vosloo & Aptel, 2025). Much of this use happens without the knowledge of parents (↑Eira et al., 2025), and the measurement gap echoes earlier challenges in tracking mobile phone adoption in LMICs, where access is frequently shared, intermittent, or informal (↑Elkasabi & Khan, 2023; ↑James, 2011; ↑Livingstone et al., 2017).

Why this matters

Given that this use appears to take place outside any structured or supervised context, the risks are largely unmanaged. Evidence suggests children's use of GenAI includes learning (↑Özkul & Vosloo, 2025; ↑Stoilova et al., 2025), but their choices are shaped by what is available and efficient rather than what is pedagogically sound (↑OECD, 2026; ↑World Bank, 2025). Without guardrails, learners are exposed to a range of documented risks that include and go beyond diminished learning outcomes: undermining of cognitive development, social and emotional harms, exposure to harmful and sexualised content, emotional dependency through

companion AI platforms, privacy and data vulnerabilities, misinformation and bias in AI outputs, and damage to student–teacher trust (↑Burns et al., 2026).

What could happen if the trend continues

School responses to these dynamics have so far been reactive and, at times, counterproductive. Plagiarism detection and rule enforcement dominate institutional reactions, with AI misuse frequently moralised as "laziness" rather than engaged with as a structural challenge (↑EdTech Hub, 2025b; ↑OECD, 2026). This mirrors patterns documented in high-income countries (↑Petricini et al., 2025), where punitive responses are linked to fear and dismissive ones to workload pressures. An overemphasis on rule enforcement may be ineffective (↑Mosheim, 2025): students from Vietnam (↑Vietnam.vn, 2025) to Bangladesh (↑Hasib et al., 2025) have devised creative ways to bypass AI detection tools. Enforcement-heavy approaches also carry equity risks, with minority students more likely to face suspicion — compounded by evidence that AI detection tools disproportionately misclassify writing by non-native English speakers as AI-generated — and may foster adversarial relationships between teachers and students (↑Gallant, 2008; ↑Liang et al., 2023). Where policies are uneven or poorly implemented, they may further undermine trust (↑Luo (Jess), 2025; ↑Petricini et al., 2025). Academic integrity policy has historically emphasised compliance over education (↑Gallant, 2008; ↑Kumar et al., 2024), and current AI responses risk following the same path.

An alternative approach centres on trust and responsible use: framing AI-related integrity concerns as learning opportunities rather than infractions (↑Adendorff et al., 2026); investing in faculty to shift from reactive to proactive strategies (↑Petricini et al., 2025); and adopting two-way transparency between teachers and students (↑Luo (Jess), 2025). Some universities have decided not to use detection tools (↑Mashinini, 2025). Research suggests that AI-permissive classrooms are linked to higher student motivation (↑Sumilong, 2025). At the same time, education decision-makers should weigh ↑Williamson's (2026) caution that acknowledging AI's harms while simultaneously prompting its adoption may shift the burden onto learners and normalise institutional adoption without sufficient scrutiny.

What these changes mean for education decision-makers

For decision-makers, the question has shifted: the task is no longer to decide whether AI will be part of children's learning lives, but to understand how it already is — and design responses accordingly. That

requires better proxies for measuring informal AI use, and a stronger evidence base on how that use affects children's well-being — including longitudinal studies that can track impacts across different age groups and contexts (↑OECD, 2025). Just as mobile phone surveys learnt that shared, proxy, and intermittent access must be accounted for, measuring AI use among young people in LMICs may require similar approaches.

That so much of this use occurs out of sight of teachers and parents means the response cannot solely rest with schools. It suggests that what is needed is a whole-of-society approach (↑OECD, 2025) in which families, communities, and policymakers become active shapers of practice — one that is also age-differentiated, since the risks and appropriate responses for a primary-school child differ markedly from those for a university student. At a policy level, this would mean interaction with different ministries beyond the education ministry.

2.2. The trend towards AI personalisation may widen the gap it promises to close in LMICs

AI seems to be accelerating an existing trend towards personalised learning, driven by ambitions of efficiency and expanded access (↑Ahmed, 2026; ↑Goyal et al., 2025; ↑Khoza & Van Der Walt, 2025). Personalised approaches long predate AI, but AI has expanded the potential of digital personalised learning tools (↑Eble et al., 2025; ↑Guettala et al., 2024). This has drawn attention from governments facing teacher shortages, limited budgets, and large numbers of children who are out of school. The momentum is visible across the sector: EdTech products already deployed across LMICs are being retrofitted with AI (↑UNICEF, 2022), some teachers are experimenting with GenAI tools to tailor content and pacing (↑Burns et al., 2026), and AI-enabled tools are being prototyped and tested in schools (↑Atherton et al., 2026). ↑Williamson (2026) characterises this moment as one in which classrooms are increasingly configured as "live AI test sites", driven by what he describes as a perceived imperative to deploy quickly.

Why this matters

The promise driving this trend warrants scrutiny. The latest research suggests that AI-enabled personalisation works best when teachers are closely involved, and carries greater risks when they are not (↑Burns et al., 2026) — a finding consistent with evidence from AI-enhanced digital personalised learning (DPL) programmes in Kenya and India, where teacher involvement was not incidental but structural to effectiveness (↑Adam & Lester, 2025). This distinction matters because it cuts against the

logic underpinning much of the current hype: the places most attracted to the promise of AI personalisation may also be the places where the risks are highest and the benefits hardest to realise. The methodological basis for the evidence base is also contested. Beyond a handful of well-designed studies, rigorous independent evidence on DPL effectiveness in LMICs remains limited relative to the rapidly growing number of platforms — many of which report internal engagement metrics rather than learning outcomes, and market themselves as AI-enhanced without clarifying how AI is actually integrated (↑Adam & Lester, 2025). Notably, DPL was already a promising approach before the 2023 AI surge, raising questions about whether observed effectiveness stems primarily from foundational adaptive and design principles grounded in Teaching at the Right Level (TaRL) or from the added AI layer (↑Major et al., 2021; ↑World Bank et al., 2020). From a decolonial perspective, the concern is sharper still: AI-powered personalised learning products may not align with non-Western educational philosophies (↑Luu et al., 2026; ↑Sarwar, 2022), and may replicate features of colonial extraction if not consciously addressed (↑Maisiri & Musonza, 2025). ↑Prinsloo (2025) further notes that personalisation systems are not epistemologically neutral — their design embeds particular views of knowledge, learning and what it means to be human.

What could happen if the trend continues

If the current trend continues unchallenged, it may reshape inequality rather than reduce it.

> *"Is it possible to imagine a future in which a new digital divide emerges: where the rich have access to technology, increasingly powered by artificial intelligence, and to teachers to help them use this technology as part of their learning, while poor kids just have access to the technology?"* (↑Trucano, 2023).

Delphi panellists in a recent Brookings study echoed this concern (↑Burns et al., 2026). In this scenario, the divide is not between those who have AI and those who do not, but between those who have AI embedded in learning relationships and those who just have AI. This raises deeper questions about fit beyond adaptation. ↑Tuomi (2025) observes that AI in education research has systematically focused on efficiency and mastery while overlooking the broader social purposes of schooling: the development of civic identity, the capacity for collective life, and the experience of learning alongside and from others. ↑Prinsloo (2025, p. 72) makes the point more sharply, arguing that the learner in most

personalisation frameworks is treated as a "disembodied individual-without-others", whereas, in reality, learning is inherently social, relational, and shaped by community. A system that routes children through individualised AI pathways does not merely deliver education differently — it enacts a particular and diminished answer to the question of what education is for. In this scenario, the children in systems that can least afford the status quo are also those being offered the thinnest version of the alternative.

What these changes mean for education decision-makers

The challenge for education decision-makers is therefore one of direction, not deployment speed. Treating AI personalisation as a hypothesis to be tested — rather than an inevitability to be managed — requires first articulating what learning is for and which model of education a system believes in, and then designing experiments accordingly. The capacity to leapfrog inherited infrastructure, demonstrated elsewhere in LMICs — mobile money, off-grid solar, mobile-first internet — suggests LMICs need not follow the AI personalisation path at all. Relational, community-based, and indigenous models of learning may offer a stronger foundation for approaches better suited to local realities and purposes.

2.3. The growing emphasis on closing the 'AI skills gap' could quietly narrow the purpose of education

2025 was a year with lots of debate around AI skills and the potential to impact the labour market: the ↑World Economic Forum's (2025) *Future of Jobs* report highlights that AI is reshaping work across skill levels and the head of the International Monetary Fund (IMF) warned that AI will be "like a tsunami hitting the labour market" with young people worse affected (↑Wearden & Stewart, 2026). International organisations are calling for efforts to "close the AI skills gap" (↑International Telecommunication Union, 2025) and have raised important unsolved questions about how to prepare learners for the age of AI and the future of work. However, the question of what students should learn about AI remains open and contested, with the concept of AI literacy loosely defined and inconsistently translated into different curricula and teaching activities (↑Sperling et al., 2025). The result has been described as an "alphabet soup" of competing frameworks, with countries charting very different paths in practice (↑Sevak, 2025). ↑Wagner (2025) argues that the debate over AI literacy is really one about what education is for. One approach frames it as a pipeline for producing an AI-ready workforce, centred on proficiency with tools. The other frames it

as a critical and cultural practice, aimed at cultivating ethical and engaged citizens (↑Pangrazio, 2026; ↑Wagner, 2025).

So far, much of the momentum has leaned towards the workforce framing. Across both research and policy, learners are increasingly positioned as future workers who must acquire AI-related skills to remain competitive (↑Sevak, 2025; ↑Sperling et al., 2025). Where formal education has been slow to establish robust AI literacy frameworks, technology companies have moved in to fill the gap — rewriting what literacy means in ways that serve their products rather than learners (↑Pangrazio, 2026). ↑Williamson (2026) argues that the dominant framings of AI in education are not inevitable and could still be reframed. But the window to do so may be closing as those framings become embedded in institutions and practices.

Why this matters

This narrowing of the purpose of education is happening at a time when the workforce framing is losing credibility with the people it's meant to serve. A recent survey found that young people no longer trust education systems to prepare them for work, highlighting a widening mismatch between classroom learning and labour market needs (↑World Economic Forum, 2026). Concerns about whether education leads to decent work are not new, but AI appears to be intensifying them. In contexts where employment is often informal, agricultural, or small-scale entrepreneurial, the urgency of the AI skills rhetoric may be moving faster than the local labour market change. The risk is that education systems in LMICs find themselves optimising for a workforce future that may not materialise as anticipated, while the international push embeds that narrative further into curricula and pedagogy. There is a further risk that AI literacy, rather than providing a corrective to this narrowing, becomes part of it — co-opted for compliance and productivity purposes, functioning as a kind of 'soft governance' for participation in the digital economy rather than a genuinely critical educational practice (↑Pangrazio, 2026; ↑Pangrazio & Sefton-Green, 2023).

What could happen if the trend continues

A deeper problem may be the assumption underneath the skills agenda: that the future will require roughly what the present requires, only with more AI competence layered on top. Those working closest to frontier AI systems warn that much of the acceleration is happening out of sight, and "could have economic and societal consequences beyond our current imagination" (↑Stone, 2025). If AI handles an increasing share of productive work, then anchoring education to workforce preparation risks making

education irrelevant. Whatever skills are considered essential today may look quite different by the time current learners enter the labour market (↑AI Asia Pacific Institute, 2025; ↑Thomson, 2026). Three scenarios deserve consideration. In an augmentation scenario, where students increasingly work with AI to extend their cognition, then human-AI collaboration (↑Holstein & Aleven, 2022) and hybrid intelligence (↑Cukurova, 2025) skills need to be cultivated, which is not the same as training people to use AI tools. In a displacement scenario where AI performs most technical and analytical tasks, curricula need to pivot towards what makes humans distinctly human. In a post-work scenario where AI handles productivity needs of the future, humans must find value beyond economic output, and education should support holistic development and a broader sense of purpose, belonging, and contribution to collective well-being.

What these changes mean for education decision-makers

The emphasis on closing the AI skills gap offers a persuasive policy narrative. In LMICs seeking economic transformation, it may carry particular appeal. But education decision-makers should weigh what it displaces. ↑Adam (2024) argues that powerful global forces have gradually pulled education away from its deeper purposes—developing character, community, and a sense of responsibility—towards narrower ones focused on skills, jobs, and economic growth. The AI workforce readiness narrative accelerates that shift. It assumes that producing workers is what education is for, and that the only question is which skills those workers need. Yet, every major wave of automation has generated its own version of this narrative—and it is not clear that reorienting education towards the skills of the moment is what best prepares learners for a world reshaped by that same moment. The more fundamental question, which the current policy moment tends to sidestep, is: what is education for if productivity is radically transformed? There are signs that the conversation may be shifting from 'skills for jobs' to 'skills for development' (↑Vosloo, 2025). But without deliberate effort to hold the question of purpose open, education systems risk optimising themselves into irrelevance—producing AI-ready workers for a labour market that AI is simultaneously reshaping beyond recognition.

3. Navigating what's ahead

What makes the current moment distinctive is the scale of what is being assumed on education's behalf. The dominant narratives around AI in education — that enforcement will contain misuse, that personalisation will expand access, that AI literacy will secure employability — all carry implicit answers to deeper questions about what education is for and who it serves. Those assumptions are worth examining explicitly, as they will shape the decisions that will be made. A system that believes education is primarily about workforce preparation will respond to AI very differently from one that believes it is about cultivating citizens, or communities, or moral character.

The priority for education decision-makers may be less about moving faster, and more about being clearer on where they're heading — because without that clarity, the risk is not just falling behind, but deepening the learning divide. This means building better measures of what is already happening — particularly the informal AI use that may be overlooked. It means treating AI adoption in schools as a hypothesis to test, not a solution to implement. And it means keeping the question of purpose alive in policy conversations that tend to collapse it into a skills agenda. This may be challenging in a landscape shaped by donor expectations, vendor pressure, economic demands, and international benchmarking — but it is precisely because those forces tend towards a single direction that deliberation matters. LMICs have both the need and, in some cases, the opportunity to imagine education differently — and that may turn out to be an advantage in the age of AI.

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These references are available digitally in our evidence library at https://docs.edtechhub.org/lib/M5E9SEKI

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