



Name: Leslie Loble

Submission date: 4/06/2025

Improve school student outcomes with the best available tools and resources

What (if anything) needs to be done to improve the use of edtech tools (including GenAI) in schools?

There is strengthening evidence that edtech improves student outcomes but variable quality, implementation and governance significantly mediates effect. Improving the use of edtech in schools means ensuring edtech, including GenAI tools, is well-designed, thoughtfully used, and appropriately governed.

(1) Design

A large proportion of commercially available 'educational' apps contain little to no explicit learning content or grounding in evidence-based pedagogy (UNESCO 2023). In Australia, the lack of coordinated guidance on the quality of edtech tools leaves schools vulnerable to aggressive marketing by vendors (ACER 2022).

The work tasked to Education Services Australia (ESA) and the Australian Education Research Organisation (AERO) to develop national edtech standards and a quality assurance mechanism is essential. An embedded process will help drive high-quality design across the sector and provide schools with the information they need to assess which tools are educationally effective, protect student privacy, align with the curriculum, and accommodate a wide range of student needs. Industry will benefit from clarity to guide its investment in product development.

Designing for diversity is crucial but may require incentives. One in four Australian students require an in-school learning adjustment due to disability (ACARA 2024). Research shows that edtech holds significant potential to support these students by adapting curriculum content, improving accessibility, adjusting pacing and delivery, and providing rich data to support teachers. However, most tools are not designed with these students in mind. Currently, incentives in the edtech market can drive vendors to design for a 'mythical average learner' at the expense of the full spectrum of student learning needs (Noakes 2019).

User engagement and co-design during product development (not just UX) can support more equitable edtech. There is a particular responsibility to engage authentically and respectfully with First Nations communities, in line with the commitments of the Better and Fairer Schools Agreement 2025–2034, to work in partnership with Aboriginal and Torres Strait Islander peoples to design and deliver reforms that increase educational equity.

Good data is key to good design. Data-enabled edtech, especially tools that support personalised learning or embed generative AI, depend on the collection, processing and interpretation of student data. Deliberate attention is required to ensure edtech and GenAI systems do not perpetuate existing biases and reinforce structural inequalities. For example, algorithmic predictions based on historical data risk amplifying disadvantage, particularly when

used to guide student pathways.

(2) Use

All tools, however well designed, are only as good as their use. Evidence shows that technology has the greatest impact when it is grounded in its educational context and used to augment teacher expertise. Technology use should address a clearly identified need or opportunity, with clarity on how it will improve learning.

Teachers' digital literacy, subject matter knowledge, professional judgement, confidence and self-efficacy are essential to quality edtech implementation. One of the schools we engaged with observed that without an understanding of the science of learning, the information produced by a particular assessment tool would be difficult to understand and act upon. The advent of generative AI significantly increases the range of skills necessary for effective edtech implementation, spanning skills like effective prompting through to critical AI literacy.

Teachers need appropriate support to explore new technologies and learning platforms. The OECD's 2018 teacher survey found only two in five Australian teachers felt well prepared or better to use ICT for teaching (Mitchell Institute 2020). Initial teacher education and ongoing professional development should explicitly cover how to evaluate, adapt and integrate edtech educational goals. Teachers frequently learn best from peers, and benefit from dedicated time to explore new tools.

We need a better understanding of the thresholds for student engagement with edtech. Our consultations suggest there is a limit to students' tolerance for working independently on devices. Skillful teachers know how to find the sweet spot for maximum benefit.

The conditions for effective use are harder to achieve in some settings than others. Disadvantaged and non-metropolitan schools are more likely to experience insufficient or poor-quality digital resources than advantaged or metropolitan peers, as well as less stable, qualified and experienced staff.

(3) Governance

Robust governance is critical to ensuring that edtech tools and GenAI used in schools safeguard children's privacy, data and online safety, and remain safe and fit for purpose over time.

Global research post-COVID found most edtech tools collected children's data, often without informed consent, and that many government-recommended platforms enabled practices that infringed on children's rights (Human Rights Watch 2022). These risks cannot be managed by individuals. They require system-wide regulation and consistent, enforceable standards. The integration of AI into edtech underscores this need. Because AI systems evolve over time, governance must include ongoing oversight and lifecycle monitoring.

Work to ensure the adequacy and cohesion of governance mechanisms is vital to ensure edtech tools are safe, fair and accountable over time. Existing effort includes the extension of Education Services Australia's Safer Technologies 4 Schools (ST4S) initiative to incorporate AI. This takes a risk-based approach, aligns with the Ministerial Framework for AI in Education, and will be updated in response to the recent Privacy Act reforms. Work is also underway by the Privacy Commissioner to strengthen national privacy standards for children through the development of a Children's Online Privacy Code and stricter privacy requirements for

organisations.

(4) Access equity

Considerations of good design, effective use and careful governance of edtech assume reliable access by students and teachers. However, this is often not the case. Teachers we spoke with consistently identified access as a key barrier, describing challenges across multiple dimensions. These include access to devices in the classroom and at home, reliable internet connectivity, and the digital literacy of both students and parents.

The digital access gap between Australian students in low- and high-socioeconomic status (SES) schools is the sixth largest in the OECD. More than one-fifth of students in low-SES schools lack adequate digital resources, compared to two per cent of students in high-SES schools (Programme for International Student Assessment 2022). These disparities contribute to uneven uptake and benefit realisation, with students in well-resourced schools more likely to adopt new tools and experience positive learning outcomes from their use.

Digital literacy is widely recognised as part of the digital divide. Students need an appropriate level of digital literacy to participate in the classroom. Despite the common reference to 'digital natives', young people often lack valuable digital skills. The report of the National Assessment Program in ICT Literacy 2022 shows that despite an increase in instruction to support digital literacy in schools since 2017, fewer than half of the Year 10 students who took part reached proficiency — the lowest percentage since testing began in 2005 (ACARA 2023).

Digital literacy skills skew towards advantage. Students from low-SES families more frequently record the lowest levels of interest in ICT, the weakest skills in using ICT and the lowest levels of capacity for working independently with ICT (Mitchell Institute 2020). Students with lower levels of digital literacy may struggle with operational aspects of using edtech and devote valuable cognitive resources to navigating the platform itself, leaving less capacity for engaging with learning. If they have the opportunity for digital learning at home, they are less likely to have parents who can troubleshoot the technology if something goes wrong.

A Digital Equity Learning Guarantee would ensure all students have access to high quality digital learning and teaching tools and should include:

- Support for ESA and AERO's work to establish a national quality assurance process for edtech products, including GenAI, to help schools identify effective, evidence-based tools, and ensure transparency. Beyond standards, guiding procurement processes and co-investment by government and industry will help develop and scale equity-focused design.
- The provision of free or low-cost access to quality digital devices and connectivity to support disadvantaged students' learning, and additional resources to lift digital skills and AI literacy.
- Expanding the safe and effective use of digital teaching and learning tools, especially to improve outcomes for disadvantaged and special needs students, through professional learning opportunities and preservice teacher education; and research into what works best in using edtech learning applications, including work with disadvantaged schools to test and showcase effective integration.
- Ensuring the highest-level privacy and safety protections for children and students in the design and use of educational technologies, including GenAI used in classrooms.

What more (if anything) needs to be done to improve awareness and access to high quality lesson planning and curriculum materials in schools?

Digitally based resources, including AI-enabled tools and learning applications, now make up a significant and growing portion of lesson planning and curriculum materials and are a mediating layer between the formal curriculum and its classroom implementation. As with analogue resources, schools face the ongoing challenge of identifying and accessing high-quality digital content. Our consultations with teachers from diverse settings across multiple states revealed that the selection of education technology tools is highly variable and often lacks a consistent evidence base. Teachers reported a range of methods used to identify tools for use in their schools, faculties, and classrooms — including advice from literacy consultants, insights gained at teaching conferences, and promotional outreach from edtech vendors offering free trials. This direct-to-school marketing raises concerns about quality assurance, as schools often lack the time, expertise, or capacity to rigorously evaluate products before adopting them.

Is there anything more you would like to say about edtech, GenAI or lesson planning and curriculum materials?

(1) Risks need to be managed, and appropriate value-for-money secured, given the global market concentration and external-to-Australia governance of large AI platforms.

Several states have developed or are developing custom GenAI tools built on top of existing large language models, often in partnership with large, global technology companies principally governed outside of Australia. The growing presence of these global companies in school systems underscores issues of data governance, transparency, and effective procurement. Further, technology companies typically operate on business models that monetise user data, prompting concerns about how student and educator data may be collected, stored, and used in educational contexts. While ‘walled garden’ implementations are an important mitigation of this risk, ongoing vigilance is required. Education systems, let alone schools or teachers, are not always equipped to critically assess or negotiate with these companies on an equal footing. Research into the assessment and safeguarding of privacy by edtech products in three Australian states found that while the Safer Technologies 4 Schools (ST4S) framework provides a promising foundation, risks persist. For example, ‘whole-of-state’ contracts may bypass ST4S processes (Pangrazio and Bunn 2024).

Further risks emerge in managing the ongoing relationship post-procurement. Frequent updates and automatic changes to platform settings — such as default data storage locations or security features — can introduce new compliance risks without clear notification. Departments often only become aware of these changes after an incident has occurred, such as a data breach (Taylor in The Guardian 2025).

When negotiated fairly and managed wisely, edtech procurement can be a lever to shape the market by aligning with quality assurance and safe data practices through contract control. Systems should move beyond procurement as ‘sealing the deal’, to ensuring governments have sufficient levers to manage the product over the lifecycle, particularly given the rapidly evolving context and the automated nature of AI. Negotiating collectively, rather than state-by-state, may have benefits for quality and value achieved.

(2) The long-term impact of generative AI on cognitive processes essential to learning and critical thinking is still unknown and must be monitored closely.

Two of the key limitations of generative AI are the well-documented risks of inaccuracy and bias. This potential for misinformation underscores the importance of AI critical literacy but also critical thinking skills more broadly. At the same time, however, generative AI potentially places

significant obstacles in the way of students learning these skills.

Critical thinking is often described as a 'generic' skill but cognitive science has shown that it is in fact domain-specific and heavily dependent on a person's knowledge. Further, the inherent limitations of working memory require us to store and retrieve knowledge from long-term memory if we are to think critically about complex issues (you can't 'just Google it').

While research evidence for the effects of generative AI on learning is currently very young, some studies, as well as media and expert commentary, point to a tendency to use generative AI as a crutch, negatively impacting learning. For example, a randomised controlled trial of 4,000 Turkish high-school students found that students who used a generic AI chatbot to help them during maths practice sessions performed far better in those sessions than their control group peers, but significantly worse than them in a subsequent 'closed-book' test (Bastani et al 2024).

In essay-based work, the ability of AI chatbots to generate smooth and highly plausible text arguably facilitates the offloading of the cognitive effort associated with analysis, synthesis and meaning construction. Learning that sticks requires some cognitive friction. While generative AI tools can help teachers reduce unhelpful levels of cognitive load for students so that they can concentrate on the learning objective (for example, by adjusting the reading level of resources so that students with lower levels of literacy can access stage-level curriculum), care needs to be taken that they do not encourage the offloading of learning itself.

Further emphasis on the explicit teaching of critical thinking, and integration in a knowledge-based curriculum, will not only serve students working with AI but also strengthen Australia's collective economic and social assets.

Which of the following best describes you?

The participant did not respond to this question.

Are you currently using any edtech tools (including learning games and GenAI) to support teaching and learning in the classroom?

The participant did not respond to this question.

If yes, what has been your experience with using these tools?

The participant did not respond to this question.

Are there things you would like to do with GenAI or edtech tools that you can't do currently? What's stopping you from doing these things?

The participant did not respond to this question.

If no, can you tell us why you are not using any edtech tools?

The participant did not respond to this question.

Do you access lesson planning and curriculum materials online?

The participant did not respond to this question.

If yes, what has been your experience with using these tools?

The participant did not respond to this question.

If no, can you tell us why you are not using online lesson planning and curriculum materials?

The participant did not respond to this question.

Support the workforce through a flexible post-secondary education and training sector

Credit transfer and recognition of prior learning

In your experience, how well does the credit transfer and recognition of prior learning system operate in Australia? Does it adequately support students to move between courses or have their work experience recognised as part of a qualification? Are there ways it could be improved?

The participant did not respond to this question.

Which of the following best describes you? Please select all that apply.

The participant did not respond to this question.

In the past 3 years, have you applied for credit recognition or recognition of prior learning (RPL)?

The participant did not respond to this question.

If yes, what was your experience in applying for credit recognition or RPL like?

The participant did not respond to this question.

If no, can you elaborate on why you didn't apply?

The participant did not respond to this question.

Work related training

What are the main reasons individuals and/or businesses do or do not participate in work-related training?

The participant did not respond to this question.

What role, if any, should businesses be playing to address any barriers and better support the offer of work-related training to employees?

The participant did not respond to this question.

What, if anything, could government do to address barriers and better support the offer of work-related training to employees?

The participant did not respond to this question.

Which of the following best describes you? Please select all that apply.

The participant did not respond to this question.

For business owners, managers and sole traders, how many employees do you have?

The participant did not respond to this question.

For employees/individuals, have you participated in any work-related training in the last 12 months that did not relate to general compliance (such as WHS)?

The participant did not respond to this question.

If yes, can you elaborate on the reasons for the training and any benefits you received from doing it?

The participant did not respond to this question.

If no, can you elaborate on any challenges or barriers you faced in attempting to undertake work-related training?

The participant did not respond to this question.

For business owners, managers or sole traders, have you provided or supported your employees to participate in work-related training in the past 12 months?

The participant did not respond to this question.

If yes, can you elaborate on the reasons for the training and any benefits you or your employees received from doing it?

The participant did not respond to this question.

Can you describe whether you accessed any government assistance, what type, and the amount received? If you didn't access any financial assistance, please tell us the reasons why.

The participant did not respond to this question.

If no, can you elaborate on any challenges or barriers you faced in attempting to provide or support your employees to undertake work-related training, such as the time or cost, availability of relevant or high-quality courses, and level of interest from your employees?

The participant did not respond to this question.

Balance service availability and quality through fit-for-purpose occupational entry regulations

What are the effects of occupational entry regulations? Please describe your experience and name the specific occupations you are referring to.

The participant did not respond to this question.

Do you believe current occupational entry regulations are proportionate to the level of risk associated with different professions? Why or why not? If not, do you have any suggested improvements to regulations to better reflect risks? Please name the specific occupations you are referring to.

The participant did not respond to this question.

Which of the following best describes your connection to occupational entry regulations? Please select all that apply.

The participant did not respond to this question.

Which state or territory are you predominantly based in?

The participant did not respond to this question.