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Futures
2025

EQUIPPING EDUCATION FOR THE AGE OF AI

ABOUT FED FUTURES AND THIS REPORT

FED Futures was established to carry forward the insights from five years of national consultation, sustaining momentum for long-term, system-wide reform in education. Recognising that current structures too often hinder rather than help, the programme shifts the focus from short-term fixes to deep, structured inquiry into what a stronger, fairer education system requires.

This report explores the role of AI in education – beginning with a foundational question: What is it that education needs from AI? It reflects the second phase of FED Futures engagement, guided by the principles of FED's Long-Term Planning Framework, and built around three key stages:

- **Vision-setting** – defining long-term success grounded in equity, inclusion and system coherence;
- **Current state analysis** – mapping the lived reality of today's system, combining qualitative insight with existing data;
- **Levers and blockers** – identifying areas of innovation, structural barriers, and opportunities for scalable change.

Engagements were held nationally and internationally, at venues ranging from Dulwich College to St George's House, Windsor, as well as online partner meetings and hosted roundtables. These convened a broad range of participants – from academics and school leaders to business voices and members of the FED Learners' Council – ensuring the work was shaped by both deep expertise and lived experience. Members of the FED team also participated in external webinars, seminars and specialist forums to further align and enrich their findings.

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FOREWORD

Artificial intelligence (AI) is already reshaping the world around us in how we live, work, and connect. But for education, the most important question is not what AI can do, but what we need from AI.

Across society, AI is set to deliver transformative benefits. In healthcare, it is enabling earlier diagnoses and more personalised treatments. In the economy, it is boosting productivity by automating routine tasks and driving innovation. In tackling global challenges such as climate change and food security, AI is providing advanced modelling, resource management, and early warning systems. These examples show what is possible when AI is harnessed with ethics and care.

If we are to make the most of this moment, we must begin with the needs of learners, teachers, leaders and communities. Education does not need another wave of technology imposed from outside. What it needs is clarity and trust, building confidence. We need tools that will help us to deal with some of the most intransient issues facing the system: strengthening inclusion, reducing pressures on the workforce, and extending opportunity to every child. We need AI that supports teaching, not replaces it, that deepens human connection rather than undermines it, and that safeguards 'pedagogical independence'. Teachers need to remain the decision maker when it comes to learning, using AI as a supportive tool.

At present, we are still some way from that goal. Students are moving faster than the system, often exploring AI tools at home without clear guidance from teachers. Many educators remain unsure about how to use AI confidently in their classrooms, and initial teacher training rarely provides structured support. School leaders face similar challenges, struggling to navigate the complexities of AI procurement and implementation. On a global level, very few countries have yet established clear national guidelines to shape how AI should be integrated into education.

The risks of inaction are clear. Biased algorithms could reinforce inequality; misuse of personal data could erode trust; over-automation risks weakening critical thinking and human judgement. Overreliance on single provider deals develop a risk of commercial lock-in which reinforce existing commercial power dynamics and translate them to how education is perceived and practised. Without proactive reskilling, automation may deepen economic divides. If education is left without trusted guidance, there is a serious risk of confusion, inequity and a widening digital divide.

That is why the Foundation for Education Development (FED) has worked with The Education Company, Cambridge University Press & Assessment, along with other FED partners to create the FED Futures AI in Education Toolkit Platform: a central, neutral resource, grounded in evidence and best practice.

As with all FED's work, this is not about short-term fixes. It is about creating the long-term conditions for improvement, ensuring that our system evolves with the times rather than reacts to them. If we get this right, AI can help us tackle some of the most entrenched challenges we face - from workload and retention to inclusion and lifelong learning. If we get it wrong, we risk deepening divisions and undermining trust.

Our responsibility is clear. Just as the FED Futures report argued that green shoots must take root if they are to last, so too must we embed AI in education with purpose and care.

Dr Carl Ward
Chair of the Foundation for Education Development

INTRODUCTION

Artificial intelligence (AI) is no longer a distant prospect; it is already here, reshaping how students learn and how teachers work. The question for education is not whether AI will be part of our system, but how we ensure it strengthens, rather than undermines, the core purpose of education.

The urgency is clear. The 2024 Autumn Report from Browne Jacobson[1] states that a quarter of respondents feel the UK government's policy on AI is inadequate, with 60% of leaders not using AI, and only 8% feeling adequately prepared to effectively implement AI in their organisation.[2] Parents are worried about its impact[3], and while the AI in education market is forecasted to be worth US$41.01 billion by 2030[4], policy and practice are struggling to keep pace. In the absence of trusted national guidance, commercial dynamics are increasingly shaping school adoption – with big tech vendors positioning their tools as defaults before systems are ready. This raises the risk of vendor lock-in, hype-driven procurement, and inequitable access – where long-term decisions are made on short-term marketing, not long-term educational value.

Expectations are rising in parallel. Teachers see potential for AI to reduce workload and free them to focus on personal connection, but remain concerned about trust, equity and reliability. Employers stress the importance of digital and adaptive skills, but warn that without inclusive access, AI could widen divides rather than close them. Education systems everywhere face the same dilemma: how to capture the benefits of a rapidly moving technology without leaving learners or educators behind.

This is where FED plays its part. FED was created to champion long-term thinking in education, convening voices across the sector to shape a more inclusive and sustainable future.

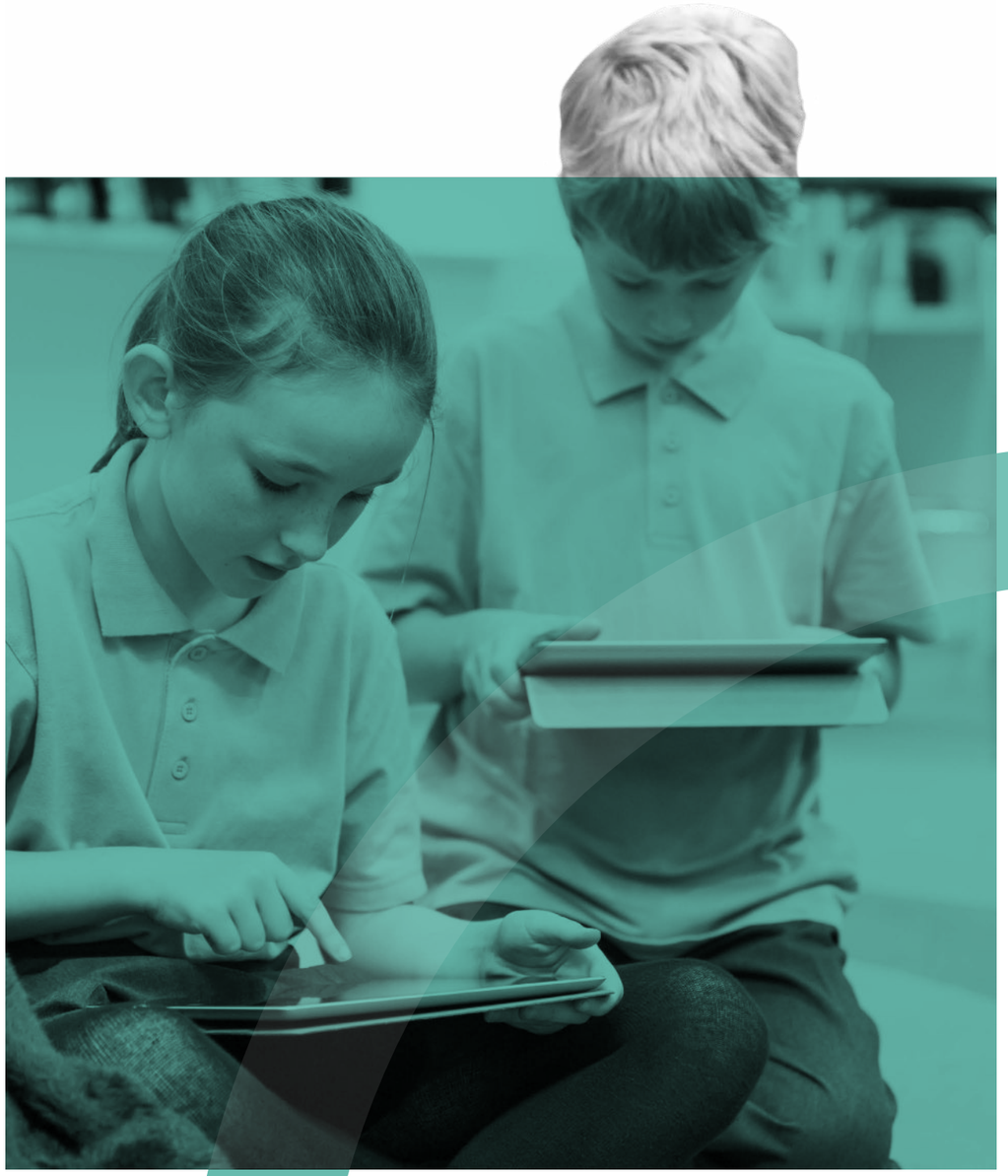
Through the FED Futures programme, FED has mapped out a long-term vision for education, built on the widest national consultation of its kind[5]. At its core are three priorities identified by educators, learners, and leaders alike – i**nclusion by design**, a **trusted and empowered workforce**, and **genuine system collaboration** – as the foundations for lasting reform across the system. This report builds on that foundation, focusing on AI as both a pressing challenge and a transformative opportunity.

The FED Futures AI in Education Toolkit Platform responds directly to that need: a practical, evidence-based resource that translates global best practice into actionable guidance. It equips leaders, policy-makers and educators with the clarity and confidence they need to use AI safely, ethically and effectively.

The FED Futures AI in Education Toolkit Platform is not just another AI system – it is a trusted compass designed specifically for teachers, learner's parents, policy-makers, government officials, as well as other stakeholders, drawing only on the most authoritative sources such as government departments, international agencies and leading research bodies, such as The Department for Education (UK DfE), UNESCO and Cambridge International Education. Where general-purpose AI often produces generic or unreliable answers, our Toolkit Platform provides clarity and confidence by grounding every response in evidence and best practice. Leaders can be certain that the guidance they receive is safe, ethical and aligned to the realities of education. By cutting through hype and speculation, it gives headteachers and senior teams the confidence to explore AI without fear of missteps.

What makes the Toolkit Platform unique is its precision. Instead of asking vague questions into a general AI model and hoping for the best, leaders and other users are guided through a series of clear choices: defining their purpose, selecting relevant tags, and adding contextual information about their education institution. These inputs sharpen the query, ensuring the results are not only accurate but tailored to the challenges a school or college is facing – whether safeguarding, workload reduction, curriculum planning or governance. Combined with our understanding of each user's context, this eliminates the risks of hallucination and guesswork that so often undermine trust in AI.

The result is a tool that puts educators firmly in control. It translates global research and policy into actionable guidance for schools and colleges, with guidance on how to adopt it responsibly, strategically and effectively. In a landscape where the risks of inaction are real – from falling behind in innovation to overlooking the ethical responsibilities of AI use – the Toolkit Platform empowers school leaders to lead with confidence. It is a safe, clear and future-ready way for education to harness the power of AI.



[1] Browne Jacobson is a leading education law firm in the United Kingdom
[2] Browne Jacobson, 2024
[3] Schools and parents unprepared for AI revolution | Internet Matters
[4] AI in Education Market Size, Trends & Growth | Industry Analysis, 2030
[5] FED National Education Futures Report, 2025

A SYSTEM STRUGGLING TO KEEP PACE

AI has shifted rapidly from an emerging possibility to an everyday reality. In education, its presence is increasingly visible: students are experimenting with tools at home, teachers are at varying levels of expertise and confidence, the market is flooded, evidence is sketchy and policy-makers are scrambling to keep pace. Yet despite the attention, the system is far from prepared. FED's consultations and a growing body of evidence paint a clear picture of enthusiasm without structure, adoption without evaluation and promise without clarity.

Learners outpacing the system

Across the world, young people are adopting AI tools at a remarkable pace. According to a National Literacy Trust (UK) 2024 survey, the percentage of thirteen to eighteen year-olds who reported using generative AI increased from 37.1% in 2023 to 77.1% in 2024[6]. This represents a significant rise in usage among this age group over the past year. GoStudent reports that 35% of UK students aged ten to sixteen use AI in school learning contexts, the highest among six European countries surveyed. The most common AI tools used include writing support (35%), language learning (29%), maths (23%), and research (13%)[7] These figures point to a cultural shift already underway – AI is becoming a normalised part of how learners access information, produce work and test ideas.

But this adoption masks deeper risks. While usage is high, understanding is often shallow. 63% of UK secondary students feel they do not learn enough about AI in schools at the moment[8] This "black box" effect creates risks of shallow engagement: learners are producing work without developing the critical literacy to question, evaluate, or challenge the outputs. FED consultations echo this, with parents and pupils expressing unease about the blurred lines between support and substitution in academic work.

Parents seeking clarity

Parents, too, are acutely aware of AI's growing presence, but confidence in schools' ability to manage it remains low. Parentkind's 2024 survey report highlights that AI is already part of how many young people approach homework, but schools and families are struggling to keep pace alongside concerns about equity, support and safety[9]. Without this clarity, schools risk a growing trust deficit with families, a gap that could widen if policy-makers fail to act.

Teacher confidence and capacity

For teachers, the challenge is not a lack of awareness but a lack of time, support, and confidence. Of course, this is vastly dependent on context and geography as well as phase: educators globally experience vastly different pressures and infrastructures. In the UK 61% of teachers said they would feel more confident and use AI more if they had effective training[10]. In a 2024 report FED co-wrote with Intel and BETT, we found that teachers may lose confidence if technology adds to their burden. The paper cites Ukraine, where teachers spent 58% more time preparing lessons due to tech use[11]. This indicates that confidence tends to hinge on receiving appropriate instruction – recent research indicates that 76% of UK teachers have not received any training or guidance from their schools[12]. In FED's 2024 winter consultations, practitioners spoke candidly about their concerns: fear of being "deskilled" by AI tools, frustration at "tech fatigue" after years of rapid digital rollouts and the reality that time pressures leave little room to explore or pilot new approaches.

Many also highlighted the absence of clear incentives. For innovation to succeed, teachers need to see a direct benefit: in reducing workload, improving student engagement or extending inclusion. Without this, adoption risks being seen as an additional burden rather than a source of relief.

> **"If you throw ten tools at a teacher and say 'crack on' - it's a disaster"**
>
> **Christine Mullin**
> Former COO TextHelp
> Fed AmbassadorDecember 2024

Leaders navigating without guidance

For school and college leaders, the challenge is not whether to engage with AI but how. At present, most are doing so without the frameworks they need. In the UK 75% of school leaders feel there is insufficient AI expertise within their organisation[13]; and 75% of leaders still feel concerned about a lack of AI expertise[14]. The result is a patchwork of ad hoc experiments, with no consistent framework for ethics, safeguarding or accountability.

Evaluation lagging far behind

Early adopters in schools and colleges describe positive short-term experiences – from reducing administrative workload to improving accessibility for learners with SEND. But these accounts remain anecdotal. There is currently no formal Department for Education (UK DfE) or Ofsted framework for measuring AI's impact, though Ofsted has indicated it may consider AI's contribution to outcomes during inspections[15] [16].

Where evaluation is attempted, it is typically qualitative: surveys of staff and pupils, workload tracking or usage statistics. These can indicate short-term benefits, such as reduced administrative burden or improved accessibility, but they fall short of rigorous evidence about learning outcomes.

The academic literature underscores this gap. A 2024 systematic review found no conclusive, reliable evidence of AI's ability to drive knowledge gains. Although AI frequently leads to immediate improvements, many of the reviewed studies reported only short-term gains such as knowledge acquisition, while the extent of long-term benefits, like retention and skills development, remains uncertain[17]. The pace of technological change makes it difficult to gather baseline data, and schools piloting AI often move on to the next innovation before results can be accurately assessed. This creates a cycle of innovation without evaluation - one that leaves leaders and policymakers without the insights they need to scale effective practice.

Safeguarding and online risks

AI does not operate in a vacuum. Wider challenges in the digital environment shape how it is experienced in education institutions. The UK's Online Safety Act of 2023 was designed to protect citizens from harmful digital content, but watchdogs argue it has failed to address misinformation and disinformation effectively[18]. Even after the 2025 update, civil society groups warn that children remain vulnerable online[19]. AI-powered tools risk exacerbating this vulnerability, producing misinformation with a fluency and scale unprecedented in earlier technologies. This underscores the urgent need for safeguarding rails around the use of AI in education: clear protections, ethical boundaries, and oversight mechanisms that prevent harm. The tragic case of Adam Raine[20], whose suicide has been linked to harmful AI interactions, illustrates the devastating consequences when such protections are absent, and why governments must ensure that the adoption of AI prioritises the safety and wellbeing of learners above all else.

The UK's Department for Science, Innovation & Technology (UK DSIT) and the UK DfE's 2024 report on public attitudes found that while awareness of AI is high, understanding is low. Parents and pupils alike expressed concerns about bias, harmful content, and the erosion of key skills[21]. These concerns align with international warnings: unless AI is integrated intentionally and ethically, education risks amplifying existing inequalities and exposing students to greater harm.

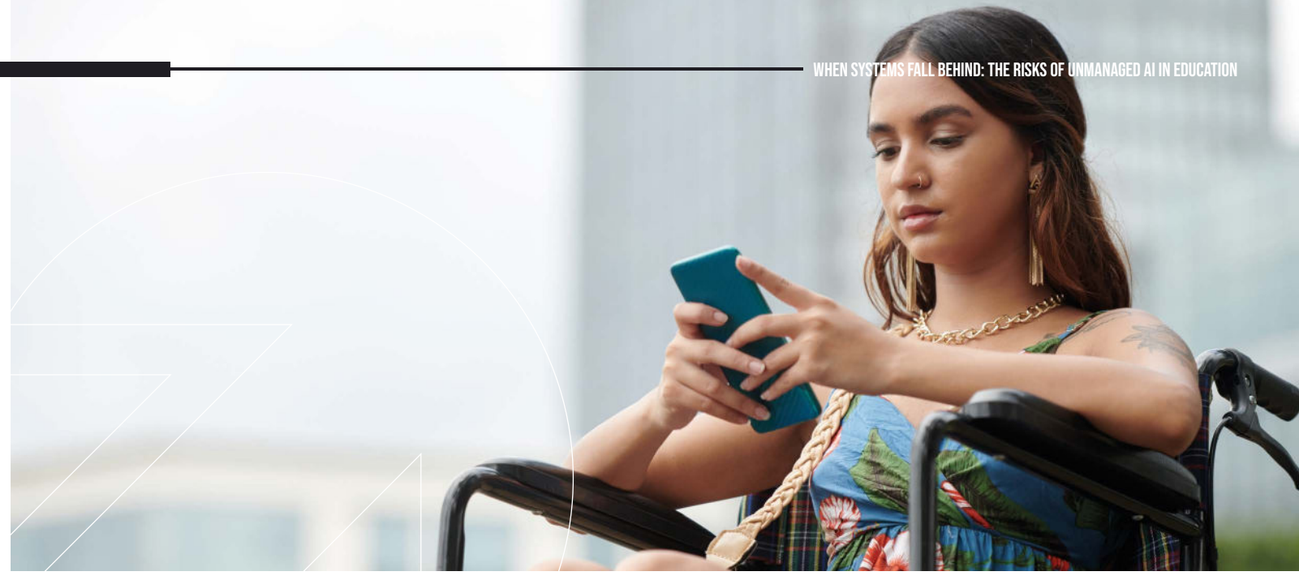
A system out of step

The overall picture is one of imbalance. Where there is digital access, learners are racing ahead; parents are asking urgent questions; teachers are hesitant and overstretched; leaders are without guidance; and policy-makers are struggling to keep pace. AI is being adopted, but without coherent policy, structured evaluation or clear safeguards.

The challenge is not whether AI will shape education, but whether education will shape AI. Unless these gaps are closed, the consequences will be profound.

[6] Children, young people and teachers' use of generative AI to support literacy in 2024 | National Literacy Trust
[7] 40+ Statistics of Students Using AI: How, Why, When | GoStudent
[8] The Pearson School Report 2025 | Pearson UK
[9] The National Parent Survey 2024
[10] FE News | Two thirds of teachers think AI is too unreliable for the classroom, new report finds
[11] Bett x HP - From Crisis to Classroom A Global Blueprint for Teacher Retention white paper.pdf
[12] 76% Of Teachers Feel Unprepared For AI. Why Training Is Urgent
[13] The Knowledge: School leadership and the AI revolution
[14] School Leaders Survey Autumn 2024 - the results are in | School leaders
[15] Ofsted's approach to artificial intelligence (AI) - GOV.UK
[16] 'The biggest risk is doing nothing': insights from early adopters of artificial intelligence in schools and further education colleges - GOV.UK
[17] A systematic review of literature reviews on artificial intelligence in education (AIED): a roadmap to a future research agenda | Smart Learning Environments | Full Text
[18] Online Safety Act 2023 - Full Fact
[19] No, the UK's Online Safety Act Doesn't Make Children Safer Online | Electronic Frontier Foundation
[20] A Teen Was Suicidal - New York Times
[21] Research on Public Attitudes Towards the Use of AI in Education | DSIT, DfE

WHEN SYSTEMS FALL BEHIND: THE RISKS OF UNMANAGED AI IN EDUCATION



Education's experience with technology has been mixed – full of promise but often uneven in impact. AI could change that, offering real opportunities if systems shape its use with care.

Inequality entrenched

Without deliberate intervention, AI adoption will mirror, and intensify, existing divides, biases and power systems. We are already witnessing examples of where AI is reinforcing stereotypes and further marginalising minoritised groups[22]. Families with resources will access advanced tools, while disadvantaged learners will be left behind. UNESCO emphasises the need for national-level policy responses to maximise AI's benefits while ensuring equity and inclusion. It underscores that effective regulation and coherent strategies, as opposed to guidance, are vital to avoid exacerbating existing inequalities[23]. For learners with SEND, this could be particularly damaging: while AI offers potential for personalised support, without safeguards it risks reinforcing barriers or failing to deliver at all.

Erosion of professional trust

Teachers are central to the success of any innovation. Yet if AI is introduced without adequate support, it risks diminishing their professional agency. FED consultations highlighted concerns that decisions are too often made 'to teachers, not with them,' leaving staff feeling excluded from shaping how new tools are used in practice. If AI is rolled out in this way, it could be perceived as another external imposition, undermining confidence and discouraging innovation in a workforce already under strain.

The risk is not only professional but systemic. Without clear guidance and governance, there is growing danger of vendor capture - where a few dominant providers shape the market through aggressive marketing, exclusive contracts and opaque AI systems. Education institutions risk becoming locked into specific tools without understanding alternatives, eroding trust and reducing flexibility. If procurement decisions are driven by marketing over impact, the result may be overreliance on expensive, under-tested technologies that disempower rather than support the profession.

Without structured incentives and ongoing development, adoption will remain shallow and fragmented. AI may be reduced to a novelty in some classrooms and avoided altogether in others; widening disparities between schools and leaving students with inconsistent, inequitable experiences.

Safeguarding failures and misinformation

AI raises complex safeguarding challenges that go beyond existing frameworks. Children, especially younger ones, can be prone to what researchers call an "empathy gap": they may treat AI chatbots like friends or confidants, making them vulnerable to inaccurate, inappropriate, or emotionally harmful responses. A University of Cambridge study highlights this risk and proposes a twenty-eight item "Child Safe AI" framework to guide developers and policy-makers toward safer design practices[24]. In response to growing evidence, the UK's Keeping Children Safe in Education guidance has for the first time explicitly included misinformation and disinformation as standalone safeguarding concerns - signalling recognition that AI-generated content poses a new kind of threat to young audiences[25].

Safeguarding concerns also extend beyond exposure to misinformation. Research by the UK DSIT and the UK DfE highlights widespread parental and pupil anxiety about bias in AI tools; the potential erosion of key skills through over-reliance; and the risks associated with data privacy and assurance[26].

Unless education systems respond with AI literacy, robust reporting pathways, and child-centred safeguards, learners risk becoming passive recipients of content they do not fully understand, undermining both their personal safety and the broader civic purpose of education.

Considering the environmental impact of AI at scale

Beyond social and educational risks, AI also carries a significant environmental footprint. Large-scale AI models demand vast amounts of energy and water for training and operation. The United Nations Environmental Programme (UNEP) has warned that the carbon and water usage of major AI systems now rivals that of small countries, raising concerns about sustainability as adoption scales[27].

If education integrates AI without considering these environmental costs, it risks embedding practices that are not only inequitable but also unsustainable. AI use – particularly when powered by large-scale, cloud-based models – currently carries a significant carbon cost per query[28] [29].

Long-term strategies must therefore balance innovation starting with simple questions:

- Is AI essential for this task, or are we using it because we can?
- How many AI queries does our school or college generate each month, and what is their collective environmental footprint?
- Could smaller, local models or human-led alternatives, meet the same needs with less environmental impact?

An evidence vacuum

The absence of rigorous evaluation frameworks presents another danger. While schools and colleges may report short-term benefits, government studies confirm that most current AI use is exploratory and narrowly focused[30]. Without robust data, it is impossible to determine whether AI improves learning, reduces workload or enhances inclusion.

The risk is twofold: wasted investment in tools that do not deliver, and exposure to commercial propaganda. Vendors already outpace regulators in developing new products. If systems cannot evaluate effectively, adoption will be shaped by marketing rather than pedagogy. This repeats past cycles where technologies were widely purchased but inconsistently used, with little long-term benefit.

Workforce and lifelong learning

The risks extend beyond education institutions. AI will reshape labour markets, demanding new skills from workers across sectors. Education must continue to nurture the uniquely human skills that AI cannot replace – creativity, imagination, empathy and collaboration – and raise their status as core outcomes of schooling, alongside critical AI and digital literacy skills. Yet few strategies exist to reskill adults or embed lifelong AI literacy. Singapore's SkillsFuture programme offers one of the only systematic models, providing structured support for adults over twenty-five[31]. Without comparable strategies, countries risk leaving their workforce underprepared and their economies exposed.

Global competitiveness at stake

Education is not only about individual opportunity but national capability. Countries that fail to integrate AI effectively will struggle to compete in a global economy where digital skills and adaptability are paramount. UNESCO has already warned that uncoordinated adoption risks undermining competitiveness[32]. For the UK, this could mean falling behind nations investing strategically in AI-enabled education and workforce readiness.

The societal cost of inaction

At its core, the greatest risk lies in undermining education's wider mission: to prepare citizens for life, work and community. If left to market forces and uncoordinated adoption, AI could deepen inequities, weaken trust between education institutions and families, expose learners to harm, and erode the very skills – critical thinking, creativity, collaboration – that societies will need most.

FED's consultations confirm that leaders and educators do not see AI as a panacea. They recognise its risks and insist on balance. As one participant observed

> **"AI is not waiting for us. The question is whether we lead its use for education, or whether we let education be shaped by it."**
>
> **Lauren Lo**
> FED Learners Council member

[22] How Harmful Are AI's Biases on Diverse Student Populations? | Stanford HAI
[23] AI and education: guidance for policy-makers | UNESCO
[24] Parliament Post, 2020
[25] UK Parliament, 2025
[26] Research on public attitudes towards the use of AI in education - GOV.UKDSIT, DfE, 2024
[27] UNEP, 2024
[28] ChatGPT Hits 700M Weekly Users, But at What Environmental Cost?
[29] OECD - How much water does AI consume? The public deserves to know
[30] AI in schools and further education: findings from early adopters - GOV.UK
[31] Skills Futures
[32] Artificial intelligence in education | UNESCO

A SYSTEM PREPARED: FOUNDATIONS FOR EFFECTIVE AI IN EDUCATION

The path forward requires intentionality. Our education system must invest in building the structures that enable safe, ethical, and effective adoption.

That means:

i

National and international policy frameworks, to guide procurement, safeguarding and curriculum alignment

ii

Action on equity and the digital divide, ensuring all learners - regardless of geography, background, or device access - can benefit from AI, not be left behind by it

iii

Robust evaluation mechanisms, to generate evidence of what works and what does not

iv

Support for teachers, addressing time, training and incentives to encourage meaningful adoption

v

Resources for parents and communities, to ensure trust and shared understanding

vi

Lifelong learning strategies, to equip the workforce for an AI-enabled economy

vii

Cross-sector co-creation, with universities and industry supporting effective AI use in education

These are not optional extras. Without them, the risks of AI adoption will outweigh the opportunities. The next section explores how education can begin to meet these needs – through practical, evidence-based tools that place clarity, trust and inclusion at their core.

Education does not need another debate about whether AI matters. What it needs now is a shared plan for how to use AI well: to build trust, close divides, strengthen the workforce and prepare learners for the future.

Through FED global consultations and evidence, five priorities stand out as essential. These priorities create the conditions for AI to strengthen teaching and learning – and they provide the foundation for the Fed Futures AI in Education Toolkit Platform, designed to translate principles into practice:

Equip every learner with AI literacy

The first priority is to embed AI literacy across the curriculum. Students must be prepared not simply to use AI tools, but to engage with them critically, creatively and ethically. This requires age-appropriate progression: in primary school, understanding what AI is and where it appears in daily life; in secondary school and beyond, learning to question outputs, spot bias and make ethical decisions.

This includes developing core "AI interrogation skills" such as asking, "How do I know this is true?", recognising when an AI system may be fabricating citations, delivering artificial hallucinations, or reflecting hidden biases, and understanding why a particular response was generated and what perspectives might be missing.

The OECD's draft *AI Literacy Framework*[33] sets out four practical domains: engaging with AI, creating with AI, managing AI's actions and designing AI solutions. This aligns with UNESCO[34] and EU initiatives[35] and has been echoed in FED consultations, where leaders stressed that learners should know how to work alongside AI, not be replaced by it. Building these critical questioning habits is essential to ensure students are not passive users, but active, informed participants in a world increasingly shaped by AI.

Embedding AI literacy within a broader digital competency framework ensures students leave education prepared not just for today's tools, but for the unpredictable technologies of tomorrow.

Build a confident, AI-literate education workforce

Teachers remain the most crucial factor in successful adoption, but confidence is strikingly low. A recent UK DfE survey found that 43% of teachers rate their AI confidence at just three out of ten, with over 60% saying they need more support to apply AI in lesson planning and classroom practice[36]. In FED's own consultations, educators also spoke of "tech fatigue" and fears of being deskilled. The clear message is that solutions must be developed with teachers, not imposed on them.

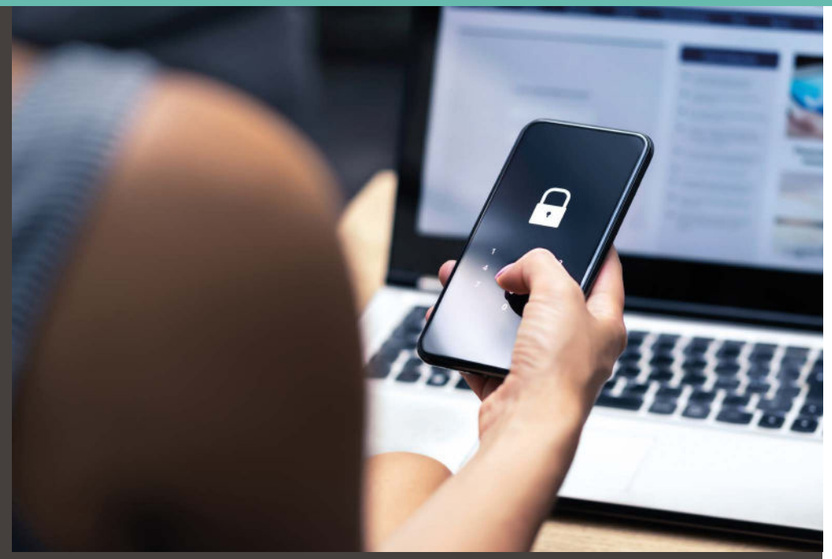
The answer lies in clear, supported pathways into AI use. Continuous professional development (CPD) should be role-specific, accessible and incentivised, with opportunities for peer learning. Evidence from early adopters highlights the value of "AI Champions" – staff who build enthusiasm, model good practice and help others experiment safely[37]. International examples, from the OECD's *Digital Education Outlook*[38] to the AFT's *Commonsense Guardrails*[39], emphasise that baseline training in ethics and practice is essential for every educator.

This means embedding a shared understanding of what it means to be an "AI-literate teacher." Drawing from UNESCO and the European Commission's DigCompEdu framework[40], an AI-literate teacher combines three pillars:

- Core knowledge – understanding what AI is (and is not), its applications in education and its limitations
- Practical competencies – being able to critically assess and select AI tools, integrate them into differentiated, accessible lesson plans and use AI for formative assessment without undermining human judgment or creativity
- Professional values – maintaining awareness of ethical issues such as bias, privacy, and safeguarding; setting clear classroom norms for responsible use; guiding students in developing their own AI literacy and participating in whole-school and policy conversations around adoption

Crucially, AI-literate teachers model a mindset of lifelong learning: balancing curiosity with healthy scepticism, innovation with caution, and always putting inclusion, equity and human connection at the centre of their practice. Equipping the workforce in this way transforms AI from a source of anxiety into a tool that complements, rather than competes with teachers' expertise. Teachers, rooted in their human understanding of learners and communities, are the pivot point and the key to successful delivery.

[33] Home | AILit Framework
[34] AI competency framework for students | UNESCO
[35] Give your feedback on the new AI literacy framework | European School Education Platform
[36] DfE, 2025
[37] OFSTED, 2025
[38] OECD, 2023
[39] Education Healthcare, 2025
[40] DigCompEdu - European Commission



Close the digital divide

AI can only be inclusive if the infrastructure is. Without equal access to devices, connectivity and assistive technologies, AI risks deepening existing divides. Digital poverty risks becoming AI poverty.

UNESCO[41] estimates that 43% of learners globally - over 700 million - have no internet access at home, and nearly half of the 826 million affected by school closures couldn't access online learning tools due to a lack of household computers.

The picture is even more stark in sub-Saharan Africa, where 89% of learners lack a home computer and 82% have no internet access. Globally, over 3.6 billion people - nearly half the world's population - still lack internet connectivity, leaving 463 million students unable to access remote learning.

Without urgent action, these disparities will harden into long-term exclusion, with those who most need personalised support becoming the least able to access it.

The Liverpool City Region provides a powerful example of how local leadership and partnership can begin to close that gap.

Ensure AI is safe, ethical and transparent

Trust is a prerequisite for adoption. Parents, carers and learners repeatedly told FED consultations that they want clear safeguards: how AI is used, how data is protected and how bias is managed.

Education institutions need transparent policies and frameworks to build that trust. This includes independent bias audits of tools, mandatory risk–benefit evaluations and clear rules on student data. International frameworks, including EDUCAUSE's AI Ethical Guidelines[42] and UNESCO's Global AI Ethics and Governance Observatory[43], provide models for wider adoption.

Embedding ethics and transparency into AI use protects learners and ensures technology enhances, rather than undermines, the social purpose of education.

Prepare for an AI-shaped labour market

Finally, education must prepare young people for a workforce already being reshaped by AI. A Goldman Sachs report estimates that AI could disrupt the equivalent of 300 million jobs globally[44], while the UK AI sector is forecast to grow to over £800bn by 2035. The Guardian has described this as a 'workforce crisis', noting that traditional entry-level roles are shrinking while demand grows for new AI-aligned careers such as ethics specialists and prompt engineers.[45]

The solution is not to chase predictions, but to focus on adaptability. Careers education must integrate labour market insights, retrain advisers and build industry partnerships that expose learners to the opportunities and challenges of AI-driven economies. The goal is to equip every learner with the transferable skills of critical thinking, creativity and ethical reasoning that will outlast today's job forecasts.

[41] UNESCO - Startling Digital Divides In Distance Learning Emerge
[42] EDUCAUSE, 2025
[43] UNESCO, Global AI Ethics & Governance Observatory
[44] How Will AI Affect the Global Workforce? | Goldman Sachs
[45] Guardian, 2025

CASE STUDY

LIVERPOOL CITY REGION (UK)

Metro Mayor Steve Rotheram has pledged to make Liverpool City Region (LCR) one of the most digitally connected and inclusive in the UK. Through the Digital Inclusion Initiative (DII), funded by Lloyds Banking Group, Vodafone UK, Assurant and the UK's Department for Science, Innovation and Technology, more than 5,300 residents have received free tablets, connectivity and digital skills training. Delivered with support from FRC Group, the initiative has ensured that those most at risk of exclusion are able to participate in an increasingly digital society.

At the same time, LCR Connect – a 214km gigabit-capable fibre network – is transforming regional infrastructure, while an AI in Education pilot launched in 2024 is giving primary schools tools to personalise learning and identify knowledge gaps.

Together, these initiatives demonstrate how digital inclusion, infrastructure and AI adoption can reinforce one another.

Nationally, the lesson is clear: universal access must be guaranteed if AI is to become a tool for equity rather than division.

LEO ACADEMY TRUST (UK): A PEDAGOGICAL APPROACH TO AI

In an educational world being reshaped by AI, LEO Academy Trust[46] has focused on one foundational question: "What do we need from AI?". The Trust's strategy is built on a PedTech philosophy, which means it prioritises pedagogical needs over technology for technology's sake. This approach has proven to be a key ingredient in the Trust's sustained success and has guided its proactive, ethical, and responsible integration of AI into its schools. By embedding technology to create an environment of inclusion by design, LEO ensures that every child's learning can be adapted and personalised to meet their specific needs, regardless of their starting point. The overarching idea is to ensure that teachers are provided with carefully selected tools that enhance learning, reduce workload pressures, and expand opportunities for every learner.

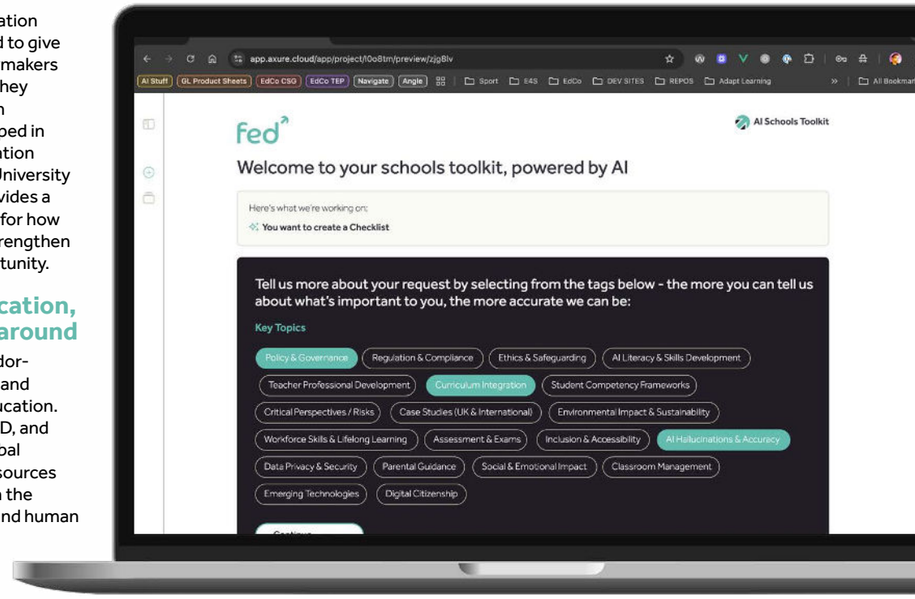
The decision to standardise on a single tool across the Trust was a deliberate and strategic choice. The Trust felt that investment in one foundational tool that integrated seamlessly with the existing workspace environment would be more effective than purchasing a range of 'wrapper apps'. This approach increased efficiency by reducing the learning curve for staff. More importantly, it empowered teachers and other stakeholders to understand the underlying principles of AI, such as prompt engineering, rather than simply being a consumer of a limited, pre-packaged solution. This long-term view of building AI literacy amongst staff is central to the Trust's sustained success.

The Trust's strategy is evolving as a direct result of a profound reality: pupil voice reveals that many children, particularly in Key Stage 2 (ages 7-11), are already using AI outside of school grounds. This insight reinforces an educational duty to teach pupils how to use the technology safely and responsibly, rather than ignoring its existence. LEO's approach is to meet learners where they are. We are continuously engaging them in an open dialogue about AI ethics through their AI literacy lessons, empowering pupils to be partners in their own digital safety. This ongoing collaboration not only builds trust but also informs the Trust's dynamic process of creating and refining policies and educational resources that are truly relevant and effective. This proactive approach ensures that the Trust is preparing every pupil for a future where AI will be a part of everyday life.

[46] A MAT is a single legal entity that runs and oversees a group of academy schools. Instead of being directly maintained by the local authority (district), academies within a MAT are funded by the Department for Education and governed by a trust.

EQUIPING EDUCATION FOR THE AGE OF AI: THE FED FUTURES AI IN EDUCATION TOOLKIT PLATFORM

The FED Futures AI in Education Toolkit Platform is designed to give schools, leaders, and policymakers the clarity and confidence they need to navigate AI. Built on global evidence and developed in partnership with The Education Company and Cambridge University Press & Assessment, it provides a trusted, ethical foundation for how AI can support teaching, strengthen inclusion and extend opportunity.



Shaping AI for education, not the other way around

The Toolkit Platform is vendor-neutral, grounded in ethics and designed for real-world education. It translates UNESCO, OECD, and UK DfE, amongst other global frameworks, into usable resources – ensuring AI is aligned with the values of inclusion, equity and human connection.

Support shaped to the system

Tailored for teachers, leaders, policymakers and parents and carers, the Toolkit Platform offers differentiated entry points. Teachers can find lesson resources and classroom tools; leaders access procurement templates and risk assessments; policymakers gain comparative evidence and benchmarks and parents and learners access guidance and safeguarding materials.

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AI for Education

We also recognise that true transformation will take time. The pace of change will accelerate when the next generation of teachers – those who have grown up in an AI-enabled world – enter the workforce. There is, therefore, the need for a long-term (10+ years) strategy that must be planned with care, foresight and sustained commitment.

Making evidence work in practice

The Toolkit Platform is structured into five practical modules:

Each module is designed to be adaptive, ensuring relevance whether for a primary teacher, a MAT leader or a policymaker.

Trusted guidance to harness AI safely, inclusively and effectively

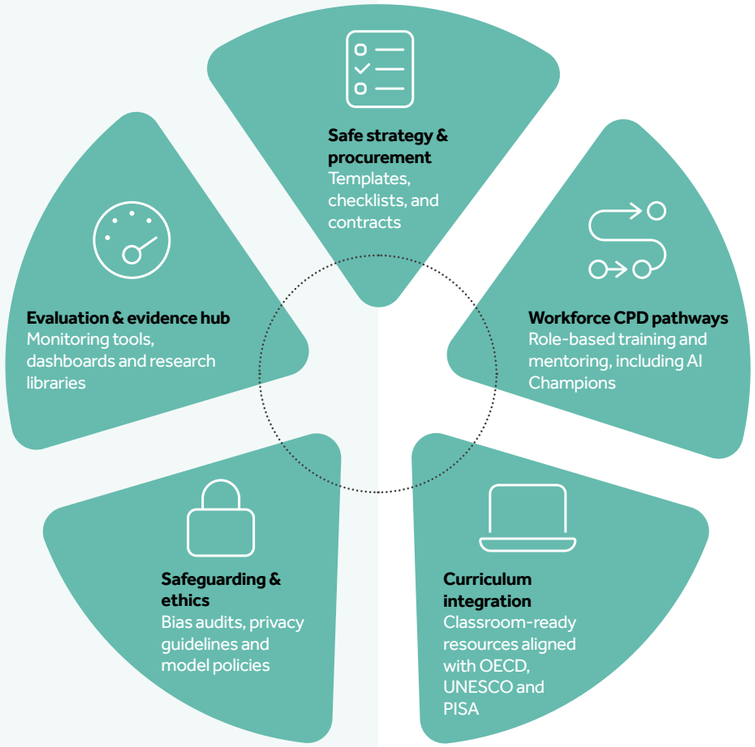
The Toolkit Platform launches alongside this report – initially free for all UK schools and trusts, with phased expansion to colleges and international partners.

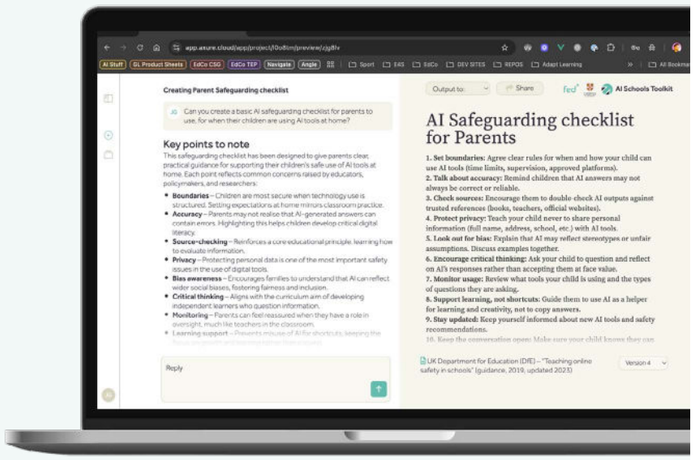
All resources are quality-assured by experts and continuously updated to reflect new policy, regulation and feedback from education institutions.

Confidence from trusted guidance, not hype

The Toolkit Platform addresses the barriers raised most often in FED consultations: lack of time, confidence, clarity and coherence.

By providing evidence-based resources, it helps education institutions act decisively and collaboratively, free from commercial pressures or hype.





"I agree whole-heartedly there is rapid movement in a flooded and overly-hyped space. There is limited evidence to support an underprepared workforce, who are wanting to adopt and use AI, but are understandably nervous. Current guidance and information from UK Government/DfE and Ofsted is sparse and sometimes contradictory. We need a national plan on the benefits and use of AI in education, and this is where I want the FED's AI Framework to tackle and fill the void that currently exists, a Framework that is co-created and continually evolves."

Javid Mahdavi

Trustee Baker Dearing Educational Trust, FED Ambassador

CONCLUSION

AI is no longer a question of if, but how. This report has set out both the risks of leaving adoption to chance and the opportunities that arise when education takes the lead. Learners are moving faster than systems, teachers remain cautious, leaders lack clear frameworks, and policymakers are only beginning to respond.

Left unmanaged, AI could widen divides and erode trust. But with the right conditions, it can help address some of the most persistent challenges in education – from workload and retention to inclusion and lifelong learning.

FED was created to champion long-term thinking in education. That principle underpins both this report and the creation of the FED Futures AI in Education Toolkit Platform. The Toolkit Platform reflects the values FED has consistently argued for: evidence before hype, collaboration before fragmentation and clarity before confusion. It is not another wave of technology imposed from outside, but a trusted, ethical resource that allows education to shape AI on its own terms.

Done well, AI can support the moral purpose of education – expanding access, reducing inequality and freeing up time for deeper human connection. But this requires clear values, not just clever tools.

The Toolkit Platform will not answer every question, nor remove every risk. But by grounding decisions in evidence and practice, it offers a foundation on which education institutions, leaders, policymakers and communities can build with confidence. It is FED's contribution to a critical moment, provided in the hope that it helps education lead AI with clarity, trust and purpose, so that every learner benefits from the opportunities ahead.

APPENDIX

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The Northern Powerhouse Partnership
The UK Innovation Corridor
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The FED is grateful to all partners who have shared their expertise with us to form the outcomes for this report.

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national education assembly

Join the National Education Assembly

FED has launched the National Education Assembly (NEA) – the first fully stakeholder driven initiative designed to ensure all voices across the education community have a genuine role in shaping the future of education.

The NEA is the first of its kind: of an education system, for an education system.

Stakeholder led, driven by no vested interests, the NEA is designed to give all education stakeholders a meaningful input into national education policy, practice and strategy.

The NEA is powered by FED and is an organisation created to support Education Stakeholders (Teachers, Lecturers, Leaders, Support Staff, Parents / Carers, Business Leaders, Learners and more) to ensure their voice is heard, shared and amplified.

The NEA meets at regular intervals throughout the year to consider education issues. It acts to provide objective and positive developmental feedback to government, its institutions and wider stakeholders.

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Help us create a thoughtful, sustainable, long-term approach to the education of our country's young people. Only by doing this can we build a positive, thriving, economically robust and morally driven future.

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