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# Britain's Greatest Education Opportunity Ever

## Why our approach to AI is stuck in the starting blocks; and how to get out

Sir Anthony Seldon and Tim Bunting

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# About the authors

Sir Anthony Seldon is one of Britain's leading contemporary historians, educationalists, commentators and political authors. For 25 years, he was a transformative headmaster at Brighton College, then at Wellington and Epsom Colleges, and served as Vice-Chancellor of the University of Buckingham. He is the founding Director of Wellington College Education, responsible for overseeing the introduction of 'the human flourishing in the age of AI' paradigm with the OECD originator of the model at Wellington and partner state schools. He is the author/editor of over 50 books on contemporary history, including insider accounts on seven 21st century prime ministers. He is a leading authority on contemporary British history and education and was the honorary historian of 10 Downing Street and Chair of the National Archives Trust.

Tim Bunting was educated at Wellington College and Cambridge University. He started his career at LEK Consulting and, in 1989, headed to Goldman Sachs for 17 years where he became a Partner. His roles at Goldman included Global Head of Equity Capital Markets. In 2008, he co-founded the Venture Capital firm Balderton Capital from Benchmark Europe. Tim led Balderton's investments in many companies including, for example, Nutmeg, GoCardless, and Revolut. He left his full-time Balderton role in 2023 and is now senior adviser there. Throughout the last 25 years, Tim has worked extensively in the charity and education sectors, including spells at Paul Hamlyn Foundation, the Royal Ballet and the Royal Opera House, Rainbow Trust, the Sutton Trust, Springboard, Wellington College and Wellington Academy. These vantage points across AI, technology, education and the arts have led to his focus on this report.

Anthony and Tim approach the question of AI in education from opposite ends of the system. Anthony, as one of Britain's leading voices on education, and authority on the Prime Minister and UK Government. Tim brings the perspective of entrepreneurs and investors on what business needs from young people entering the workforce in an AI-driven economy.

Nearly ten years ago, at Tim's inspiration, Anthony wrote his landmark book, *The Fourth Education Revolution: Will AI Liberate or Infantilise Humanity? The* thinking lay behind *The Times Education Commission* (2022), which Anthony instigated along with *AI in Education* (2023). Together, they have now written *Britain's Greatest Education Opportunity Ever* (2026), a compelling argument that Britain is still in the starting blocks compared to other leading countries when it comes to AI in education, whilst every other part of the economy has accelerated down the track. Ten years ago, when planning *The Fourth Education Revolution,* they worried that education was Britain's Cinderella aspect of AI. *It still is.*

This publication has been written with the support of Holly Papworth and Jonathan Simons at Public First – one of the UK's leading research consultancies and think tanks, including in education. Public First also provided the polling data for the report from a new survey of 4,000 young people in England, exploring how they are already using AI in schoolwork and wider life, and what it means for how they learn. Public First is a member of the British Polling Council and full polling details are available at: www.publicfirst.co.uk.

Anthony and Tim would welcome further engagement on the findings and conclusions of the report, which should be addressed to: holly.papworth@publicfirst.co.uk. All conclusions, and errors, remain the authors' own.

# Executive summary

***Britain's Greatest Education Opportunity Ever*** *is a landmark new report from Sir Anthony Seldon, one of Britain's leading voices on education and a former headmaster of Brighton College, Wellington College and Epsom College, and Tim Bunting, a Founding Partner at Balderton Capital, now one of Europe's largest VCs, and a former partner at Goldman Sachs. The report draws on extensive Public First polling of 4,000 young people in England, exploring how they are already using AI in schoolwork and wider life, and what it means for how they learn. Together, they make the case for why Britain's approach to AI in education is stuck in the starting blocks and how to get out, including a Ten-Point Action Plan for Government, at the end of this report.*

**AI is ubiquitous throughout education, largely unseen by Government and by school leaders.** Every new survey puts usage by teachers and students higher than the one before it – and 4 in 5 teachers are now using AI for day-to-day work.[i] But AI's introduction is chaotic and anarchic. Even as we completed this text as the new academic year was beginning, OpenAI declared that they have made "a major leap into the AGI era" with the launch of GPT-6 Astra.[ii] But no one knows or fully understands the extent of what is happening, and no one is in charge. It is the greatest dereliction of responsibility by Government this century. Parents, teachers, governors, school leaders and pupils are crying out for trusted guidance. There is little that is reliable across the sector.

**Schools have not been readied for AI's arrival.** The fundamentals that most are built upon are sand. Fewer than 1 in 7 teachers feel confident in the use of AI, and only 1 in 50 say it is embedded into their curriculum.[iii] Very few schools or Multi-Academy Trusts (MATs) have a comprehensive AI strategic plan signed off by governors. Students see the mismatch – only 9 per cent of young people believe schools and universities are preparing them for the AI future very well, but two-thirds believe it is the responsibility of schools and universities to teach them to use these tools.[iv] Our new data shows that many young people are nervous about changes to the job market because of AI and are concerned by the failure of their education to adapt and prepare them for the AI economy and society.

**The UK is already falling behind.** The UK can be brilliant at setting bold strategies and visions, but terrible at implementing them. The most authoritative global index puts the UK joint first in the world for policy readiness, and 64th – behind Bangladesh, Uganda and Bhutan – in our ability to get this into public services like schools.[v] The history of education policy shows that it's only when a Prime Minister prioritises it that change happens. In that vacuum, other countries have raced ahead of us – on everything from curricular design to assessment, to teaching models and tutoring, to workforce development and classroom structure. But Britain's adoption of AI in education is bedevilled by the lack of a rich data layer, adequate data analytics resources, or a data sharing open culture, as well as by the lack of leadership and accountability.

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[i] *Royal Society. (2026). Artificial Intelligence in Education. [online] Available at: https://royalsociety.org/news-resources/projects/ai-in-education/*

[ii] *OpenAI. (2026). GPT-6 Astra: The next generation in intelligence for work. [online] Available at: https://openai.com/index/gpt-6-astra-next-generation-work/*

[iii] *Royal Society. (2026). Artificial Intelligence in Education. [online] Available at: https://royalsociety.org/news-resources/projects/ai-in-education/*

[iv] *Between 18 and 27 August 2026, Public First conducted a nationally representative survey of 4,021 people aged 11-24 in England on their use of, and attitudes to, AI in education, commissioned for this report. Full results and polling tables are available at: www.publicfirst.co.uk*

[v] *Oxford Insights. (2025). Government AI Readiness Index 2025. [online] Available at: https://oxfordinsights.com/ai-readiness/government-ai-readiness-index-2025*

**AI is humanity's greatest challenge and opportunity.** Every serious person now accepts that AI is fundamentally different to any other model of education technology that has gone before, not least because it is self-generative, predictive and increasingly cheap and available. It offers an unparalleled category of opportunity for learning, tackling economic and social disadvantage, supporting SEND pupils, nourishing the independent-minded and curious, and so much besides. If schools, colleges and universities are to fully stretch all students, and if the UK economy is to flourish internationally, the benefits of AI across education – including adult education – need to be widely adopted now.

**AI could be the great leveller, but only by design. *Data* could be a key enabler, if we choose to collect it.** An AI system can draw on millions of data points about a single child: every essay written, every spelling test taken – even correlations with diet and sleep. From this, it is possible to build a genuinely rounded picture of what that child knows, and tailor every lesson accordingly. Whilst companies have been doing this at scale for their customers for decades, and analytics are advancing at pace across sport, music and health, the education system – from Government to individual schools – is held back not only by an absence of such data, but also the lack of knowhow to use it.

**AI is, of course, not an unalloyed good.** Studies show the risks include cognitive offloading, abuse of personal data, deepfakes and exploitation, cheating, unequal access and a diminishing of the inherent humanity of learning and the forging of trusting personal relationships. We should not catastrophise or be mesmerised by these risks and we should acknowledge that no one can stop or even slow down AI's lightning advance, despite calls.[vi] Rather, we need to adjust our risk appetite to acknowledge we will have to govern and regulate in real-time alongside adoption, as opposed to the legacy model of years between innovation and adoption. The world was slow to get ahead of the damage to young minds by social media 20 years ago. Yet again, the Prime Minister and the UK Government are looking elsewhere at this time of rapid AI advancement and proliferation. Yes, there are urgent problems bearing in on it from all quarters. But it must find the capacity to look at the future scenarios and address the risks *now* with the recommended Ten-Point Plan drawn from what is working best across the world (see end).

**Standing still is not an option.** Sometimes, in response to fresh events, the right Government response is to wait and see rather than having a knee-jerk reaction. But given the pace of change and the benefits and risks of uncontrolled and inequitable access to AI, the risk of inaction now outweighs the risk of acting. Government must step up, but it cannot crack this alone. AI is so vast it can only be met by a *coordinated* response. Politicians, policymakers, school leaders, young people, parents, businesses and the third sector must all act in lockstep. The issues facing education are similar to those in other areas. Collective learning from all sectors is an imperative. Without galvanising change, we risk undermining the entire education system, especially whilst it remains primarily exam and qualification driven. We also hand our young people over to the mercy of the ambitions of unaccountable tech companies and international AI competition between the US and China. Standing still and waiting months, or years, for unequivocal evidence of safety is a deeply dangerous policy.

**AI brings into focus what education is for beyond schooling.** Current Government policy priorities – on anything from vocational education reform, to recruiting more teachers, to halving the attainment gap – are all for naught without an appreciation of how AI changes the fundamentals of education.[vii] Education serves a wide range of purposes – it makes us human; it builds new generations of citizens; it teaches values and behaviours and creates and sustains society. We cannot arrest the rise of AI, but we can refocus our schools on human flourishing: developing uniquely human attributes which will maximise the opportunity of our young people to use AI well rather than to become overly dependent on or infantilised by it.

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[vi] *Dario Amodei. (September 2026). We must pace the frontier. [online] Available at: https://darioamodei.com/post/we-must-pace-the-frontier*

[vii] *Department for Education. (2026). Every Child Achieving and Thriving. [online] Available at: https://assets.publishing.service.gov.uk/media/69972c02bfdab2546272c007/Every_child_achieving_and_thriving_print_ready_version.pdf*

# Our argument

## 1. England[viii] is trying to educate for an AI-less world that *no longer exists.*

That claim will strike some readers as melodramatic. It is not. It is the plainest description of our position, and it has been the situation for some time. The modern education system was built for a world in which access to knowledge was uneven, high-quality explanation and expert feedback were scarce, and the ability to reproduce and process information had clear economic value. Schools, colleges and universities organised themselves accordingly. Students were taught in cohorts and grouped by age. Timed examinations became the primary instrument for educational 'sorting'. If a student could produce the answer unaided, the student probably understood.

**That world no longer exists**. The advent of open source generative artificial intelligence – notably with the release of ChatGPT at the end of 2022 – sent shockwaves around the globe. It did so, not because AI or its use in education was new (earlier forms of AI, from expert systems to machine learning, have been part of the field for over half a century), but because it made these changes newly visible, immediate and impossible for education systems to ignore.[1]

Perhaps most importantly, it arrived with ubiquity and at 'low cost'. AI moved from being a bounded and specialist technology, hidden away in back-end software, to public, conversational and widespread. Large language models (LLMs) crossed a threshold from technical infrastructure to a visible participant in the everyday lives of millions of people, including children and young people. As access widened, and demand for its capabilities grew, AI began to move into some of our most precious arenas, including schools.

Debate and judgment calls about the appropriate use of AI in education are being had everywhere, in all aspects of life. Businesses are assessing what and how jobs will change, and what AI tools mean for productivity. All the while, they are watching closely how the world around them is shifting. This is also true of arts, culture, music, media and sport. When and how to adopt AI is not just an 'education problem'; it is a human challenge – and it will be vital that education learns from all sectors of life.

**The AI tap has been turned on.** In just a few years, AI is already shaping how young people learn, how teachers work, and what employers demand. Every day, new data emerges showing its ubiquity – and Government data, like Government policy, risks being left behind.

The latest official figures from the Department for Education (DfE) suggest that 44 per cent of teachers use generative AI for school activities, most often for lesson planning (35 per cent) and less often for delivering live lessons (7 per cent) or marking (5 per cent). But this is from as far back as November 2025.[2] More recent

[viii] A word on nomenclature. The report is titled *'Britain's Greatest Opportunity Ever'* and, at various points, we discuss the status that the UK has, or work that the UK Government can do. These terms should be considered synonymous, and refer to the combined nation state, businesses and individuals within it, or the Westminster Government when it is acting on behalf of all four home nations. When we discuss specific educational issues, we use the term, 'England', given that education policy is devolved. Recommendations and discussions of policy frameworks that apply to the Department for Education are also badged as England. Many of the themes, analysis and recommendations, however, would apply equally, within their own contexts, to the other home nations.

estimates from the National Education Union in February 2026 suggest that three-quarters of teachers (76 per cent) are using AI tools for day-to-day work – a steep increase from 53 per cent the previous year.[3] The Chartered College of Teaching and Teacher Tapp report that the majority of teachers are using it weekly, as of May 2026, though 12 per cent had never used it.[4] And research commissioned from YouGov for BETT in June 2026 indicates that as many as 80 per cent of teachers are using AI for teaching-related tasks, and those using it at least weekly has doubled in a year.[5]

Amongst pupils, our August 2026 polling for this report shows that 86 per cent of secondary school pupils and 89 per cent of college and sixth form students in England had used AI chatbots or tools. Many children younger than 13 (the threshold at which AI companies commonly permit access to AI products) are already accessing AI products.

**But teachers and young people are struggling.** Our polling shows that only 9 per cent of young people believe schools and universities are preparing them for the future very well, but two-thirds believe it is the responsibility of schools and universities to teach them to use these tools. Teachers themselves, though, feel unprepared. Recent work from the Royal Society finds that only 14 per cent of teachers are confident across all three dimensions of AI literacy, and this may be a function of a lack of training and curricular focus.[6] Only 18 per cent of teachers have received CPD sessions or training courses on AI literacy, and just 15 per cent have clear, whole-school guidance. Furthermore, fewer than 2 per cent of teachers say AI is covered across most subjects in their school; 37 per cent say it is not addressed in teaching at all.

**Meanwhile, the wider world is moving at pace**. A Government-commissioned employer survey published in 2026 found that 31 per cent of employers were already using AI, whilst 21 per cent expected demand for AI skills to increase over the following year.[7] Skills England has, likewise, framed AI capability as a workforce issue cutting across multiple sectors.[8] Research by the World Economic Forum, produced in collaboration with Accenture, found that 40 per cent of time spent on tasks could potentially be impacted by LLMs.[9] The structure of work is beginning to shift, whether education is ready or not. As we write, GPT-6 Astra has been launched by OpenAI, promising (in the company's own claims), the first Artificial General Intelligence (AGI) model. We stand on the cusp of seismic change.

## 2. AI is a fundamentally different challenge to previous waves of educational technology because it is *generative* and *forward-looking.*

The growth of AI usage is not simply another example of new technology coming into schools, as with previous waves such as internet access, or first- or second-generation IT products. **The advent of mass adopted, open source AI fundamentally changes the terms of the educational question in three ways: what can be observed, how much of it, and what can be done in response to it.**

This is because AI – unlike previous internet access, or search capability – does not merely give us information faster. It gives us explanation, synthesis, reasoning, validation, simulation and tailored feedback on demand. It can summarise a paper, draft an argument, solve a problem, translate a text, produce a lesson outline, generate code and imitate forms of competence that schools and universities have historically treated as evidence of mastery. In many contexts, it can now meet the standard of what once looked like an authentically 'human' output, and it is advancing at a remarkable pace.

Previous iterations of EdTech broadly offered one of two things. Either they would deliver existing content in a classroom more effectively, or they would make the back office management of a school or college cheaper and faster. Both propositions left the central problem of teaching relatively untouched. A teacher standing in front of 30 children might have been able to deliver content more easily (from slides on a projector, to early word processing, to video content from YouTube and others, to programmes like Google Earth which allow young people to visit world monuments at the touch of a button) – but they still had no reliable way of knowing what any one of their pupils had actually understood by the end of the lesson.

The way in which AI offers opportunity is different, in three ways. Firstly, the volume of data that can be gathered and then interrogated is exponentially growing. This is the major learning point from fields outside education – it is data rich, which allows for more insight to be gathered. Secondly, it is the type of data which can be gathered. Earlier EdTech could only capture what had already been reduced to a machine-readable format: clicks on a page or in a programme, multiple-choice responses to a quiz, time on a task measured through screen time on a platform or a webpage. These are, as research makes clear, often poor proxies for learning. The actual substance of learning – meaning extended writing, spoken explanation, and reasoning made visible through dialogue – remained invisible to software, because marking it required a human being and therefore cost money. LLMs have collapsed that cost. For the first time, the things teachers care about assessing can be assessed continuously and at scale. And, thirdly, AI is now adaptive – and it can generate and project content in response to interrogating larger and better forms of data. Earlier forms of EdTech could diagnose flaws but were limited by pre-programmed responses (essentially to move the content up or down in terms of difficulty or focus on a particular area) that were themselves limited by the size of the item banks which could be pre-loaded. So, if a child struggles with fractions, then EdTech can know which elements a child typically struggles with, and pre-load various explanations. But if the child reaches the end and still struggles, then the programme loses its efficacy. AI promises infinite variations of generative content that is adaptive. And, taken together, this better understanding of learning, and the adaptation of future work, means that projections can be more accurate.

**That is why so much of the current debate in England, and even much of the international academic literature, feels too narrow.** It asks sensible questions: how does AI affect teacher workload, cheating, tutoring, assessment or attainment? Those questions matter. But they are *within-system* questions. The deeper questions get at the fundamental nature of the challenge: how can technology support learning in a self-generating way, and what is education for in a world where these capabilities once seen as the product of human intelligence and effort are no longer uniquely human? The answer cannot simply be more of the same.

Nor should the response be a collapse into vague future-skills rhetoric. Knowledge still matters. Foundational literacy and numeracy matter. Subject expertise matters. A student cannot detect AI slop in a history essay without knowing history. A teacher cannot judge whether an AI-produced lesson sequence builds understanding without understanding pedagogy and the learning process. Just as those who want to build, evaluate or deploy AI systems need to understand the fundamental mathematics behind their creation and deployment.

**So, expertise is not obsolete. In important respects, it is becoming more valuable. But the balance of educational value is shifting.** If machines can increasingly generate strong questions, and acceptable answers, then schools, colleges and universities must care more about the capacities that sit behind answer-production: judgment, interpretation, scepticism, ethical reasoning, oral defence, sustained attention, collaboration, creativity and the ability to connect ideas across domains.

## 3. The AI question is, at its heart, a question about *the power of data* – a question the wider society and economy has already embraced.

This is where the current English system looks increasingly brittle. It has no data in a data-driven society. It is narrow where it should be broad. It is structurally conservative where it should be agile. It is still tempted to treat reform as a matter of refining accountability levers inside the existing machine, rather than asking whether the machine was built for a different age.

**What the outside world tells us is that, without rich core data, improvement in education will be slow.** Today, modern companies collect data not only to analyse and make better decisions but, increasingly, to make better predictions. We are already in a world where customers receive personalised experiences en masse – whether you are one of Tesco's 24 million data points, or Revolut's 80 million. These companies are continuing to enrich these datasets, and some like Revolut have gone further to build their own AI stack.

The ability to personalise experiences like this has profound implications for education. In education, the data fields are endless: a pupil's exact age, indicators of their social environment, performance in their last formative assessment (down to question and sub-question level that identifies a hyper specific area of misunderstanding), the performance of the pupils around them, their keystrokes, even the room temperature when they sit an exam.

Collecting, manipulating and interrogating this data is, arguably, the most valuable cause of any organisation. But, of course, data collection in education is bounded by sensitivities. It won't ever match the scale of data collected by retail giants or tech-first banking. Nor should it. But education certainly won't advance on the basis of the limited number of fields currently collected.

It is not just the corporate world. Elite sport illustrates the extraordinary pace of change in data and analytics, throwing up new questions for how high-performance sportsmen and women should be coached and how they train. Gordon Hamilton-Fairley, Co-Founder and CEO of Prospect – a tech company using AI to change the way live decisions can be taken in sport – explains:

> *"Football tracking has evolved from capturing one data point per player 25 times per second to as many as 10,000 points per player hundreds of times per second. Cricket simulations that used to take hours can now be delivered in under two seconds, transforming them from a pre-match preparation tool into one that can provide the England cricket coach with a predictive insight during a match. In little more than a decade, data has moved from describing what happened to helping elite teams predict what happens next and what to do about it."*

In culture, too, theatres and opera houses are integrating AI into understanding customer behaviour, scheduling, set design and even audience experience. This is happening globally, and quickly. Music is being inundated with AI recordings, with Spotify recently suggesting up to 40 per cent of uploads contain AI.[10] The art market is seeing similar patterns. Indeed, all cultural organisations are having to deal with AI both externally and internally.

But a good education data strategy will not just be about collecting more pupil and outcome data alone. It will require building fields that are interoperable – a data structure that continues to learn precisely because it can be combined with others' data to answer questions neither dataset could answer alone. These data lakes will inform decision-making and predictive behaviour of the institution and must be built. If this comes to pass,

the productivity of teachers will dramatically change and learning patterns for pupils and teachers will be never ending.

This is already happening elsewhere. Palantir's approach to health data pools information from multiple organisations on the logic that a shared dataset produces better answers than any single contributor could reach in isolation. The same principle could apply to education: within five years, it should be plausible for the UK Government to exchange education data with high-performing countries, under the right permissions and safeguards, with each learning something from the other's data that neither could see alone.

Michael Muthukrishna, Professor of Economic Psychology at the London School of Economics and New York University, told us that this is symptomatic of a deeper challenge: schools do not face the same competitive pressure that pushes retailers or banks to compete on data, so nothing forces the system to build the equivalent of a data layer. His logic is unforgiving: organisations that cannot learn from data cannot adapt, and organisations that cannot adapt eventually become extinct.

**The status quo is not a risk-free political choice.** Ultimately, data is going to define who wins and who doesn't. That is as true for the world of business as it is for education.

## 4. Current education policy risks adding AI to a system that is *underperforming* and *not self-improving.*

The case for a gear change in England's approach begins with a harder truth than many policymakers like to admit: **the present system is not high performing enough to deserve the presumption of continuity.**

Proponents will point, with some justification, to strong international comparisons, to England's performance in reading, maths and science – the achievements of the knowledge and standards agenda.[11] But these strengths mask deep inequalities. In June 2024, the Institute for Fiscal Studies published a sobering account of the legacy awaiting the incoming Labour government, exposing the persistent inequalities still woven into the fabric of our education system.[12] Perhaps most illuminating is that the current approach of gentle, incremental school reform has not led us much further towards policymakers' own vision of success.

Meanwhile, the education system is creaking and failing on most other metrics, too. Teacher recruitment and retention remain a live policy problem, as does the adequacy of support for rising numbers of children with special educational needs and disabilities, unmet mental health needs, the growing proportion of young people leaving school or college without a destination, and increasingly loud doubts about the value of higher education. Both ends of the barbell are not delivering – not for the least able, nor for the most able. All trends – outcomes, budgets, workloads – are negative.

None of this is unfolding against a backdrop of employer satisfaction with the talent pipeline that the education system is churning out. A survey conducted by Public First for WorldSkills UK in 2026 found that 46 per cent of UK employers think young people are unprepared for the world of work.[13]

The Institute of Student Employers has reported confidence in the career readiness of new entrants is weakening: in 2024, only 49 per cent of employers said graduates were career-ready at the point of hire, down from 54 per cent the year before, whilst confidence in school and college leavers was lower still, at 25 per cent.[14] The graduate market has tightened too, with vacancies falling and the gap between graduate and apprentice hiring narrowing.[15] IPPR research in 2025 similarly found that fewer than half of young people felt ready for work after education.[16]

We do not begin, therefore, from a stable or obviously legitimate baseline. Generative AI sharpens this instability and asks us to move beyond a backwards-looking system. There may be little point in striving for a benchmark or vision of 'success' that no longer chimes with the AI world students are entering.

It is not just that the current system is failing on its own terms. **It is that it is not a self-improving system.** Left to its own devices, it will not change and adapt at scale to seek the opportunities (and minimise the risks) of AI. The system in England is what we call here structurally landlocked. It does not change on its own and, even staring down the barrel of a *fifth* industrial revolution, there is still no serious conversation taking place about what this means for the future of education.

This is not to criticise the work of schools, colleges or trusts, who are working hard to drive continuous improvement (and in some circumstances, doing so exceptionally well). They are collecting and using the data that is available to them, but are, at least partly, constrained by the system (curricular, assessment, accountability measures, teaching roles, funding and so on) from more radical change.

At a system level, fewer of these constrains exist. The DfE has the levers, working with trusts, to make more of a dent in the AI work. There are national efforts, for sure, but oftentimes, the natural inertia of the system blocks faster adoption. Education policy in England is still made inside a relatively closed loop. Outside expertise is consulted from time to time, but it rarely drives change with much force. Even when commissions, reviews or expert groups are convened, their recommendations are often diluted, ignored, or slowed by the machinery of Whitehall. Those coming in from outside are frequently struck by how difficult it is to move anything substantial through the system.[17] Meanwhile, the corporate world is changing every month. Though, it should be noted that the failure risk appetite amongst a commercial organisation is higher than that of a school – as it should be! Stewarding the future of young people lends itself, rightly, to more caution than in the commercial world.

Policy is "evidence-based" or, at least, thought to be. But the evidence base is patchy, slow and often inactionable. The small amount of data collected is normally held at school or trust level and is not done so routinely or evenly enough to give educators or policymakers anything like a live picture of what is happening across the system. The DfE's planned 'data spine' is hampered by arguments as to how much data can be collected, and the extent to which the DfE will be able to analyse it. At school or trust level, very little environmental and social data is used to enrich the data samples. Learner performance is assessed unevenly across early years settings, schools, colleges, training providers and universities. International comparisons, such as the OECD's Programme for International Student Assessment (PISA), arrive only every few years. Curriculum reviews are episodic. By the time evidence settles, many of the conditions it measured have already shifted. In the case of AI, some may have shifted so fundamentally that the system is left measuring something for a world that no longer exists.

**The dominant model of longitudinal evidence-gathering in education, built for a world of slow, periodic measurement, is no longer fit for purpose in an environment where AI can test and adapt in near real-time.**

## 5. Unless we act wisely, there is a risk of *human diminishment and learning loss.*

AI is not an unalloyed good, and the task is not simply to let it rush into education unchecked. The risk of greater AI adoption in education is not just that students will use AI to cheat, or that assessment will become harder to police. Nor is the answer to shut it out altogether. The real challenge is to maximise what AI can

contribute, whilst protecting against the ways in which it may corrode human development, agency and confidence.

The major risks of AI can be codified into three categories – what can be thought of as three systemic risks that threaten the fundamental purposes of education:[18]

a. **Cognitive offloading and loss of learning**, where AI completes work, but no learning takes place;
b. **Loss of academic integrity and trust**, where pupils face a game theory dilemma between using AI and being disadvantaged; and
c. **Dehumanisation**, where a relentless drive for data displaces the relationships and experiences at the heart of education.

It is right that the English school system takes action – at a national level – to prevent these systemic risks coming to be.

The author and thinker Richard Susskind sets out six hypotheses about where AI leads:[19]


Under any of the first four scenarios, the educational question is the same. At its best, AI widens access to knowledge, support and human expression, and can itself become the catalyst for becoming more fully human. At its worst, it enables a retreat from effort, judgment and responsibility.

**Unless education changes, AI will steadily hollow out the conditions under which human intelligence, agency and confidence are formed.** A child who routinely offloads thought to an LLM may produce more polished outputs whilst becoming less capable underneath. A system that uses AI badly may produce dependence, homogeneity and passivity at scale. Some evidence from early adoptions of AI at scale, most notably a study from China that received widespread attention in summer and Autumn 2026, suggests that use of AI leads to a reduction in the amount of time students spent studying out of school; an increase in AI-

augmented scores in such work; but a significant diminishing in closed-book exams (i.e. without access to AI).[20] This diminishment was around 20 per cent for AI-using students compared to not-using AI students. By this one measure, this is a greater learning loss than experienced in the US during the Covid pandemic.[21]

This is the risk of a slow drift towards infantilisation: a gradual yielding of human powers to systems designed to anticipate, recommend, persuade and decide. The danger is not only that lower-order thinking begins to dominate, but that human beings become less practised in the habits that serious thought and mature agency require – attention, memory, judgment, restraint, interpretation, scepticism, endurance. In that sense, the danger is not AI itself in the abstract, but educational dependence on AI without sufficient guardrails, judgment or clarity of purpose.

Around the same period that smartphones, social media and always-on internet access became woven into daily life, concern grew that important cognitive habits were beginning to erode. The long rise in measured intelligence associated with 'the Flynn effect' appeared in some places to slow or reverse.[22] The causes remain contested, but the pattern is hard to ignore. Technologies that expand convenience and stimulation can also weaken the habits of the mind on which human capability depends.

AI raises that risk further. Professor Richard Susskind's argument is that AI is not simply another wave of technological change, but the defining challenge of the age – how humanity is saved both from and with AI.[23] The pace of progress is unlikely to slow. Systems are becoming more capable, more embedded and more consequential – as this report's co-author warned in *The Times*, back in October 2024, noting Geoffrey Hinton's assessment that we may have only two or three years to change course before the damage becomes irreversible – a claim some considered alarmist at the time.[24]

The central question is no longer just what AI can do for us, but what happens to human beings if too much thinking, judging and deciding is quietly handed over to increasingly capable AI systems. That is why 'acting' cannot mean either passive resistance or naive acceleration. It must mean deliberate stewardship: adopting where educational value is real, limiting where developmental costs are too high, and designing institutions that strengthen rather than weaken human capability.

There is also a harder version of the argument. The slow decline of humanity's thinking and engagement with the world is not the only possibility. Increasingly capable AI – AGI – could render large parts of human intellectual labour redundant. That prospect is often treated as too speculative to take seriously in educational debate. And yet, it has crept up on us.[25] But if education is meant to prepare young people for life, work and citizenship, it cannot simply ignore the possibility that the conditions under which human beings secure meaning, usefulness and economic value may be altered profoundly. The question is not only whether some jobs will disappear. It is whether an education system built around human cognitive performance can remain conceptually intact if machine intelligence outstrips human intelligence across an expanding range of domains. As Professor Rose Luckin, a leading authority on AI in education, puts it:

> *"The danger is not that machines become super intelligent. It is that we quietly redefine intelligence as whatever a machine can do and then build schooling around the smaller version. Human intelligence is worth far more than that, and protecting it means regulating AI properly and at speed, while adoption is happening, rather than waiting for a certainty that will arrive too late to be any use."*

This point cannot be reduced to anti-cheating policy or classroom management. The deeper challenge is civilisational. If AI can increasingly explain, draft, simulate reasoning, provide companionship, guide decisions and perform growing amounts of professional work, then education must become clearer about what is distinctively human, what forms of judgment remain irreducibly ours, and what kind of intellectual and moral

formation should anchor a life. If we ignore AI altogether, we risk the loss of confidence and legitimacy described above. But if we embrace it carelessly, we risk something deeper: an education system that serves workforce adaptation in the short-term whilst diminishing the human capacities it exists to cultivate in the first place.

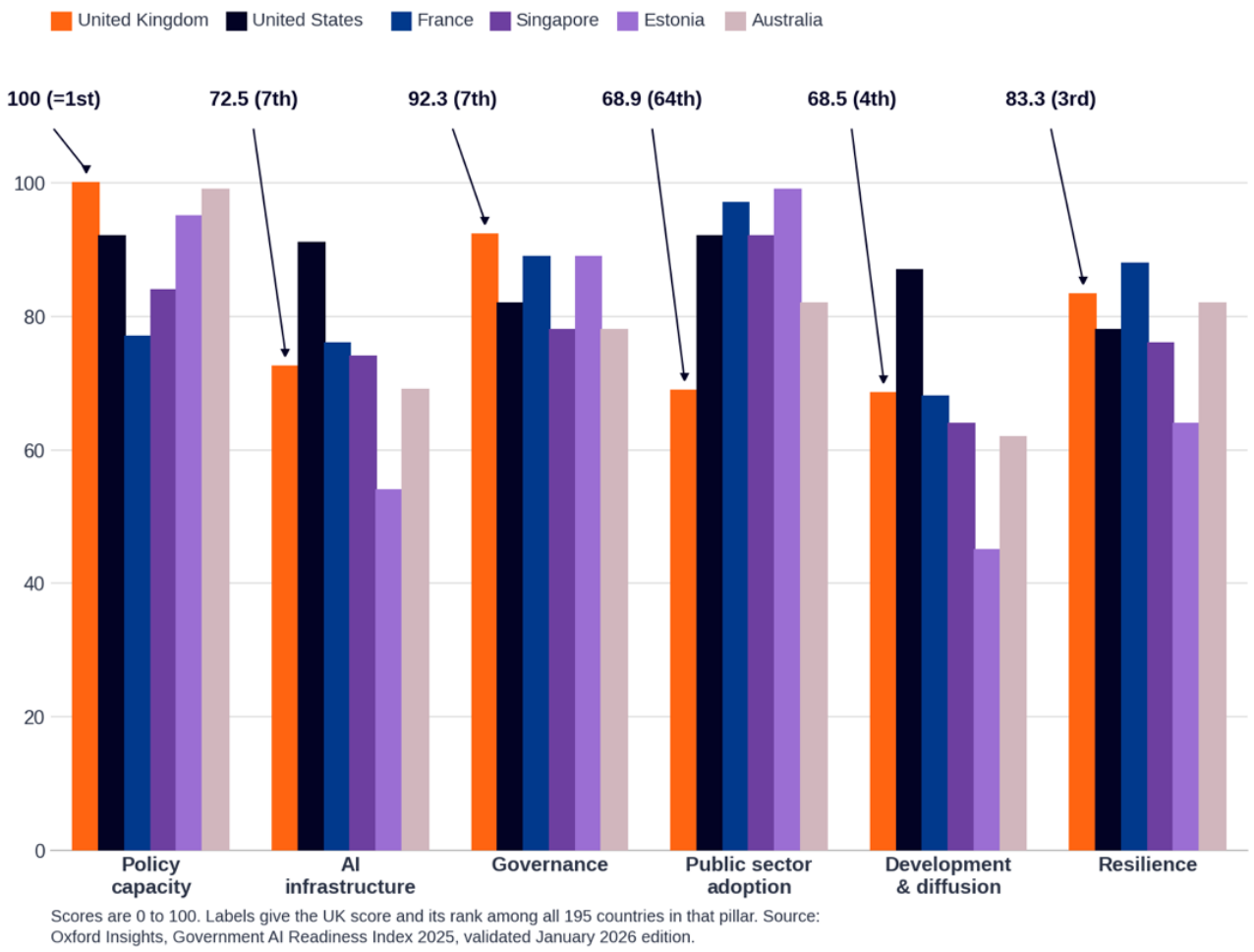
## 6. But current UK Government policy is *not driving a conversation about wise adoption and protecting downsides.*

Around the world, governments, business, broader society and public services are grappling with what AI means in practice.

In some fields, the UK performs well. The most authoritative ranking is the Global Government AI Readiness Index, published by Oxford Insights.[26] This assesses 195 countries across the world in their preparation for AI, across various dimensions. Overall, the UK places third of 195 countries with a score of 77.75, behind the US on 88.36 and France on 80.81, making it the second-strongest performer in Western Europe.

This is driven by very strong performance at what we might call the 'top end', or strategy. The UK scores a perfect 100 on policy capacity – tied with Australia, Egypt and Serbia – and the report credits this to strong policy coming out of Westminster, singling out the *AI Opportunities Action Plan* alongside international research partnerships including with the EU and the Technology Prosperity Deal signed with the US. Resilience, where the UK ranks third globally on 83.30, measures how a government manages the social, economic and environmental consequences of AI adoption and monitors emerging safety and security risks. On overall AI governance, the UK scores 92.27 and ranks seventh. On development and diffusion, it ranks seventh globally, as it does on underpinning infrastructure. The big exception is public sector adoption. Here the UK scores 68.93 and ranks 64th. In other words, the UK Government seemingly writes AI policy better than almost any country in the world – and deploys AI into public services worse than more than 60 others.

**Chart showing the UK's performance in the six domains of AI readiness, against selected competitors, and overall score and rank. Oxford Insights 2025 report. Chart generated via AI**




Scores are 0 to 100. Labels give the UK score and its rank among all 195 countries in that pillar. Source: Oxford Insights, Government AI Readiness Index 2025, validated January 2026 edition.

This is where education heaves into view. The policy framing is right. The ambition is high. But in schools (and hospitals, prisons, train companies, job centres and probation offices), the UK is miles off the pace.

In our educational competitors, AI-powered products are being used to personalise tutoring, generate lesson materials, support children with speech and language needs, and widen access where qualified teachers are in short supply. More strategically, nations are folding it into wider conversations about curriculum, assessment, regulation, teacher training and the future of learning.

Part of the reason England is not yet having a serious conversation about AI in education is political. Aside from protecting a legacy on education (which should not be reason alone), Ministers need to keep the teaching profession with them, as they take decisions. Teachers are under pressure and have little time to think about bigger-picture questions about AI, human agency and the future shape of education. Politicians, meanwhile, are balancing their government's strategic priorities, union sensitivities, parental anxiety and headline risk. Given the documented pressures on teacher workload and retention, it is not difficult to see why policymakers reach for careful reassurance rather than strategic upheaval. Though it is not good enough.

**Transformative AI adoption in education will, therefore, require a cultural shift, too.** For one, what both politics and education are missing is a model that many other organisations have already adopted: coordinated

networks of 'AI champions' – staff who are given the time and mandate to lead adoption, share what works, and bring colleagues along the journey, rather than expecting every teacher to navigate this alone.

The debate is further narrowed by the character of the criticism directed at the current system. Progressive educationalists often press for looser, skills-led alternatives without a sufficiently robust evidential foundation against the proof points educationalists and policymakers have come to expect, and despite the mixed historical record of such approaches where they have been pursued. Employers, meanwhile, understandably want young people who are ready for work, but that demand can also become too immediate and instrumental. Education cannot simply be asked to supply the needs of business in the present tense, least of all in an economy where skills needs are changing so rapidly. Both critiques contain something real. Neither is sufficient. Education must offer something broader and more durable than either camp tends to allow.

The effect of all of this, however, is to keep debate trapped at the level of immediate operational and political acceptability. From outside the education establishment, the oddity is not that reformers are impatient. It is that a sector facing such an obvious external shock still behaves as though managed continuity were synonymous with prudence. In business, technology, energy or defence, leaders confronted with a shift of this magnitude do not assume that the existing operating model requires only modest supplementation. They would ask whether the first principles themselves had changed. Education, by contrast, remains structurally inclined to reform at the margins – managing short-term sensitivities – whilst protecting the centre.

We cannot just assume that technological change will arrive gradually enough for the system to absorb it at its usual pace incrementally – that it will bend to policy or research timelines and political timetables whilst we wait for the 'perfect' solution and the 'perfect' timing. The rate at which AI is advancing demands active intervention. The task, then, is to act intentionally, but faster: to set direction, define boundaries, build capability and make provisional decisions that can be revised as the evidence improves.

## 7. Inertia is not a satisfactory answer because it *raises questions about the whole legitimacy of a state-funded system.*

Oftentimes, the policy and systemic response to a fast-moving external shock to any public service is to pause and wait and see how it resolves. This often makes logical sense. Moving too quickly risks mistaking early signals for noise and responding to an issue before it has properly reached an equilibrium. Early indicators of a new input are often not reflective of how that issue plays out at scale, meaning that policy action might be misplaced.

Education reform is often treated as especially dangerous in political terms, in part, because education holds a protected status unlike almost any other area of domestic policy. Continuity is, too often, assumed to be the low-risk option, even when the system itself is already under strain. Amongst policymakers, officials and stakeholders alike, there is too little recognition that inaction (or speeding up action) is also a choice – and one with mounting costs.

That logic may have been tolerable in a slower-moving world. It is much less tolerable when the technology in question is improving in real-time and entering children's lives long before policy and regulation have caught up. A lack of timely, comparable data on learning outcomes and skills gaps leaves education systems without the agility required to adapt to changing needs in society and the labour market. By contrast, in business, products are launched on instinct, tested in the field and iterated rapidly. Education cannot, and should not, behave like a start-up. But it cannot assume that slowness is always a virtue either.

**It will also mean England's education system cannot compete on the world stage.** Outside education, the verdict is already in. In sport, culture and business alike, organisations that do not embrace AI risk becoming irrelevant. Education faces the same reckoning. Measured through league tables like PISA, governments are judged on where their systems rank. Falling behind for want of data readiness will become our problem. The UK collects comparatively little of the data already being used elsewhere and is well behind higher-performing peers. In the highest scoring PISA country, Singapore, the national Student Learning Space (SLS) offers all pupils and teachers access to a learning portal built around "21st Century Competencies" that uses AI to support personalised, self-directed and collaborative learning.[27] The platform is built on open data standards so it can exchange information with other systems rather than sit as a closed silo.[28]

A great deal of current research rightly warns that AI may weaken cognitive development when it is overused or used too early, encourage offloading rather than effort, and reduce trust between students, teachers and families. Those concerns should not be brushed aside. But there is a second danger that is still under-priced. If home, work and wider culture become saturated with AI whilst schools and universities behave as if AI were a temporary contaminant to be fenced off, then the legitimacy of the system begins to erode. Students, parents and employers will see the gap. The institution will look less like a serious preparation for life and work, and more like a protective fiction.

**If education continues to treat adaptation as optional, it will not merely fall behind. It will begin to lose authority and legitimacy.** And if the state loses legitimacy, then parents and students will start to question the requirements of the system. We already see aspects of this in the attendance debate. The implicit social contract between state and family – you must be educated between the ages of 5 and 16, and the state will provide an option for you from taxpayer income – breaks down. Parents and students increasingly do not see the need to attend school every day.[29]

It is possible that alongside physical absenteeism, we will see a rise in psychological absenteeism. There is a risk – currently underpriced in policy debate – that a school system which stubbornly undervalues AI at scale, will lead to more families and students not recognising it as a legitimate use of their time and effort. For every child who, two generations ago, asked, "what's the point in learning this if it's not on the exam" or who, one generation ago, asked, "what's the point in learning this when I can google it", there is a risk that this generation's question will be, "what's the point in coming to school if my LLM can work this out faster and more reliably than I can, and can also teach me quicker and better the things that I need to know?" Much like physical absenteeism, this risk applies equally across different groups of students, including the highly able.[30]

At a time when increasing numbers of people report concern about young people's futures – about jobs, and future standard of living – it is imperative that they have faith that the state education system can prepare them.[31] [32] At the moment, we do not fully meet that challenge for too many young people. AI risks accentuating this gap for even more.

## 8. Others are moving *further and faster.*

This report is titled, *Britain's Greatest Education Opportunity Ever,* but also notes that our country is stuck in the starting blocks. That is to say, our education system (predominantly here referring to the main primary and secondary system, rather than our universities, though there are many similarities) is not set up to take advantage of this opportunity. This is shown by our poor performance at implementation of AI according to the authoritative Oxford Insights global report.

Other countries across the OECD show the opportunity that can and should be seized – including mitigating the downside risks.

**Estonia** is best known across Europe for its work adopting AI, not just across education but across all public services. AI Leap, or TI-Hüpe, is a national programme that treats generative AI as public infrastructure rather than a procurement decision devolved to 24,000 schools (as our approach in England currently does). The pilot year began in August 2025 across all 154 Estonian upper secondary schools, covering roughly 20,000 students in grades 10 and 11 and about 4,900 teachers, with schools establishing professional learning communities so that teachers develop subject-specific approaches together, rather than through one-off webinars. A learning application built with Estonian researchers and OpenAI began rolling out in late January 2026, designed to guide thinking rather than supply finished answers, and answering only in Estonian outside language lessons.[33] The results are not yet clear – a University of Tartu evaluation is running, with results due towards the end of the decade. But the scale of ambition is on a different level to the UK (or England).

**Singapore** has gone further on delivery. The Singaporean Ministry of Education has built AI into the national Student Learning Space that every mainstream school already uses. The platform now carries a Feedback Assistant for Mathematics offering step-by-step hints and suggested marks, a Short Answer Feedback Assistant for subjects such as science and geography, an Adaptive Learning System, and a chat-based Learning Assistant that guides pupils through iterative questioning.[34] Access is deliberately tiered by age and mediated by teachers, with the Learning Assistant requiring teacher activation and adaptive practice available from upper primary under supervision. The Ministry is also specifically studying AI's effect on pupils' cognitive skills, citing international evidence (covered in our report later on) that inappropriate use produces over-reliance that damages higher-order thinking.[35]

In **Australia**, Education Ministers agreed a national framework for generative AI in schools as far back as October 2023, built on principles covering teaching and learning, wellbeing, transparency, fairness, accountability and privacy.[36] States then built their own tools, including in partnership with commercial providers.[37] The framework itself has however been criticised as unfunded, without implementation support or enforcement, producing significant state-by-state variance.[38]

**China** has progressed further than England specifically on the issue of safety. Two statutory guidance documents were published in May 2025 covering AI general education and generative AI use in schools. Primary pupils are prohibited from independently using open-ended content generation tools; teachers are barred from using generative AI as a substitute for their core teaching role, from relying on it to answer pupils' questions directly, and from using AI-generated content to evaluate pupils. Middle school pupils may examine how the systems reason, secondary pupils may use them more broadly, copying AI output into homework is banned, and schools must maintain approved tool lists.[39]

The **EU** has introduced a series of legal duties. *AI in Education* sits in Annex III of the AI Act as a high-risk sector, covering admissions, assessment and monitoring. The Article 4 AI literacy duty has applied since 2 February 2025 and Article 50 transparency obligations from 2 August 2026, whilst the Digital Omnibus postponed Annex III high-risk obligations to 2 December 2027.[40]

Finally, **South Korea** is an example of a country that has moved fast and got things wrong, and needed to reverse. In South Korea, a full suite of AI digital textbooks was launched nationally in March 2025 in maths, English and computer science. But very swiftly – within months - complaints about factual errors, privacy risk, screen time and increased teacher workload led to the AI digital resources being stripped of textbook status and reclassified as supplementary material.[41] The programme cost over 1.2 trillion won of public money with a further 800 billion won from publishers, and adoption fell from 37 per cent of schools to under 20 per cent.[42]

But the Korean example shows how things can be changed swiftly. The policy generated a national evidence base, a legislative correction and a public reckoning all within 18 months.

Within the US, different states have taken different views. But it is worth sharing the whole of MIT's executive summary on how AI is being used across their university (see below).[43] This report garnered significant media and policy attention when it was released in August 2026, because it brings together all aspects of how an educational institution should both benefit from but also mitigate the downside risks of generative AI. Although some of this will not be relevant to primary and secondary settings, it is worth assessing the framework, which takes a more rounded approach to AI in education than exists at national level – let alone individual institutional level – in the UK.

## *The landscape of AI in education*

### – An excerpt from the report of MIT's Ad Hoc Committee on AI Use in Teaching, Learning, and Research Training (August 2026)

Generative AI is everywhere already, spurring an assortment of views:

- MIT students use AI frequently and pervasively – with strongly mixed feelings, from curiosity, creative inspiration, and gratitude to resignation, concern, and anxiety.
- Instructors' attitudes range from enthusiastic exploration and growing reliance on AI to scepticism, suspicion, and "AI refusal"– and there's a widespread desire to share experiences, ideas and techniques.

Whilst AI is allowing instructors to develop exciting new learning experiences and enabling students to learn and experiment in innovative ways, there have been a number of concerning effects on the life of the campus, including signs that AI is:

- Upending foundational elements of the MIT educational experience, especially for undergraduates, from the p-set, the take-home exam and UROPs to office hours and the study group.
- Increasing isolation.
- Undermining student mastery and confidence.
- Eroding the "social contract" between instructors and students.
- Making it much harder to assess student progress.
- Challenging decades of distinctive MIT community norms and values about rigor, the creative friction required for learning, collaborative problem solving, and personal integrity.

AI is generating both immediate rapid changes and long-term tectonic disruptions – and MIT needs to respond:

- Students are confused and concerned about a lack of clarity, consistency and justification about the use of AI, within a given subject and across the curriculum.
- Every subject taught at MIT will likely need to be re-examined and potentially revamped to make sure that how students are being taught, what they're learning, and how they're assessed are "AI-aware."
- AI is changing what students need to know and know how to do.
- Beyond its implications for specific subjects and disciplines, the advent of AI demands a broader, holistic reassessment of the nature, scope and purpose of higher education today.

Finally, AI presents substantial practical concerns for our community, from data privacy and confidentiality to questions around disparate access, bias, fairness, and accountability. AI's explosive growth and ascendance also raise important questions for society, from the environmental impact of AI data centres, to the use of intellectual property and training data, to the overall human impact of the technology and the industry – and MIT needs to engage with those questions too.

*Excerpt taken from: aiandeducation.mit.edu/report/*

## 9. *The challenge and opportunity is for everyone* – Government, school leaders, businesses, and parents and young people.

The starting point for this report is that AI presents the UK's biggest education opportunity – a chance to move to a hyper personalised, predictive and self-improving system in which every young person benefits from the opportunity presented. At the same time, we do not claim that AI is an unalloyed good. It is clear that there are myriad downsides with use and abuse of AI, and it is right that systems seek to put guardrails on the development, dissemination, use and interpretation of AI tools – as other countries and school systems in the world have already done.

But this is not something which can or should be the responsibility of Government alone. AI more broadly is a generational technology, which will surely upend and challenge the basis of the economy, society and geopolitics in much the same way as previous epochal technologies also did. The scope and scale of the opportunity and challenge is too big for Government alone.

**Government needs to set the boundaries and drive the market.** The UK is good at grand plans – but poor at implementing them. It is not right, nor equitable, for schools and school leaders to make several thousand unilateral decisions on this technology.

But it will be schools and school leaders who operationalise this on a daily basis – and who purchase it and roll it out to their own young people. They no longer face a decision as to whether AI enters their schools – it is here, and it is ubiquitous.

Businesses, whether directly involved in shipping AI products to education or not, also set the context. Businesses and other sectors are grappling with many of these same challenges. Though they have moved faster, they do not know everything, and the way forward is equally misted for many of them. It is inefficient for different sectors to grapple with the same challenges and not learn from each other.

Finally, it is parents and young people themselves who will be the users and beneficiaries of this technology, but who will also suffer the harms the most. Our polling is clear that young people have adopted AI wholesale – and that they simultaneously hold in their hands the opportunity and the risk from this technology. Our role is to learn from them but also develop a system in which they learn with the technology, at appropriate ages and in appropriate ways.

**It is only through a collective effort that the UK can exit the starting blocks.**

## 10. The best time to have addressed this was a couple of years ago; *but the second best time is now.*

This is not a challenge like others in the system – teacher recruitment, attendance, SEND support, for example. Those are real issues, to be clear – but they are issues which can, and must, be solved within the existing paradigm framework of the state funded schooling system.

Others have moved faster than us. Since the widespread launch of ChatGPT in 2022, we have seen other educational systems move quicker. Some of those have made mistakes, to be fair – but they have experimented, learned and rectified. And they have done so as part of a conversation with the sector and parents.

The warnings were there long before other systems started that conversation. Nearly fifteen years ago, Anthony was asked to present to a group of university leaders and technologists at 10 Downing Street, mapping out exactly which elements of school and university life technology was already displacing, and which remained stubbornly human. He presented the two diagrams below: the darker the shading of each box, the more that function had already been taken over from purely human delivery. Government heard this argument once already, at the heart of Whitehall, over a decade ago, and did nothing with it.

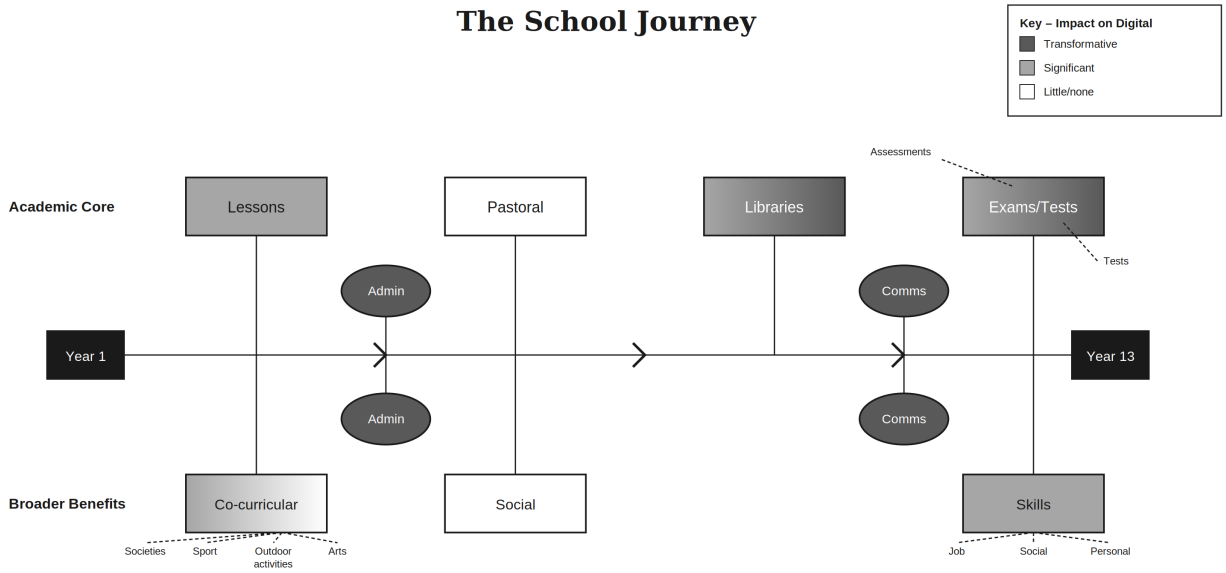



*Figure: The School Journey pre- and post-2012 — reproduced, as presented by Sir Anthony Seldon to a No.10 seminar on technology and education, 2011*

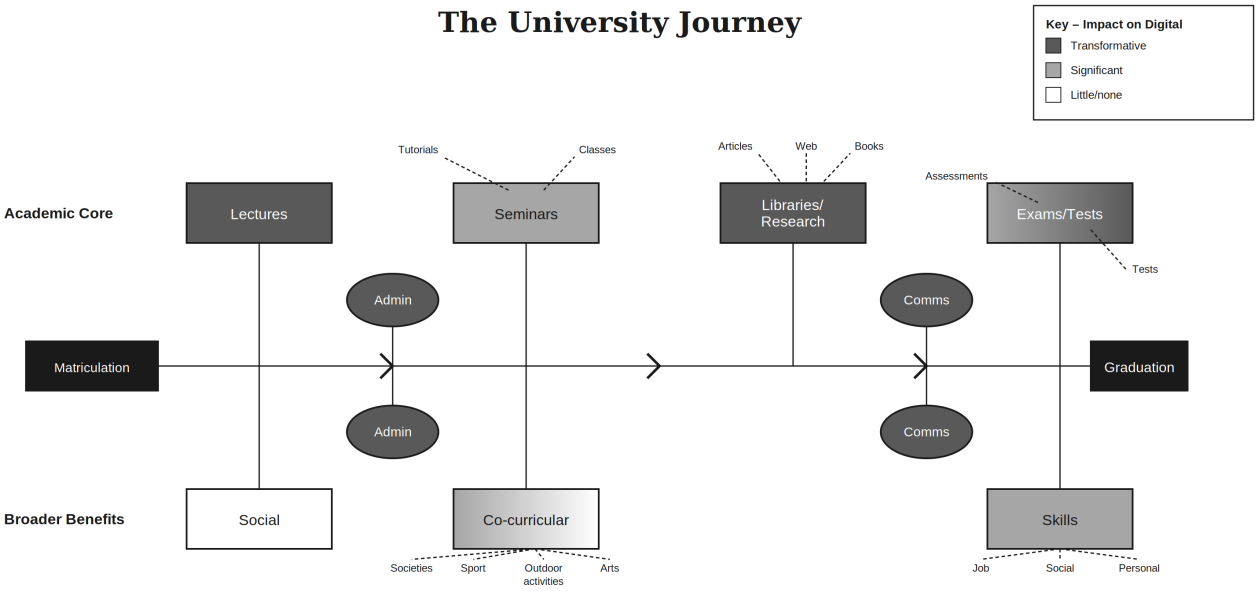



*Figure: The University Journey pre- and post-2012 — reproduced, as presented by Sir Anthony Seldon to a No.10 seminar on technology and education, 2011*

To treat AI the same as other challenges the English system faces is a category error. AI is an existential challenge to the very purpose of a state funded system – to prepare young people for future work, society, and life. All the evidence we see in business and in education systems around the world makes us uncomfortable with the current English response.

We cannot go back to 2022 – or even 2012 – but we can learn from our slow start and get ourselves out of the starting blocks now. We have many assets in the English system which make us well suited to both take advantage of this technology and ameliorate its downsides – as others are already doing, even as we write this report.

This report seeks to apply a level of urgency to that challenge and poses a series of scenarios for the future English system to grapple with the opportunity and risk of generative AI in education.

# What do young people currently think about AI and how do they use it in education? – The latest evidence

Much of this report is written in the language of systems, policy, and employers. But there is a simpler test of whether we are getting it right when it comes to AI and education – one that we have not applied nearly enough historically: what do young people themselves think? They are not bystanders in this debate. They are the ones already living it, adapting to a technology that they have largely been left to navigate on their own terms. And, if the case for urgency set out in the earlier chapter needs any further proof, it is this: **the gap between how slowly the adults in the system have moved, and how quickly and instinctively young people have already adapted, is stark.**

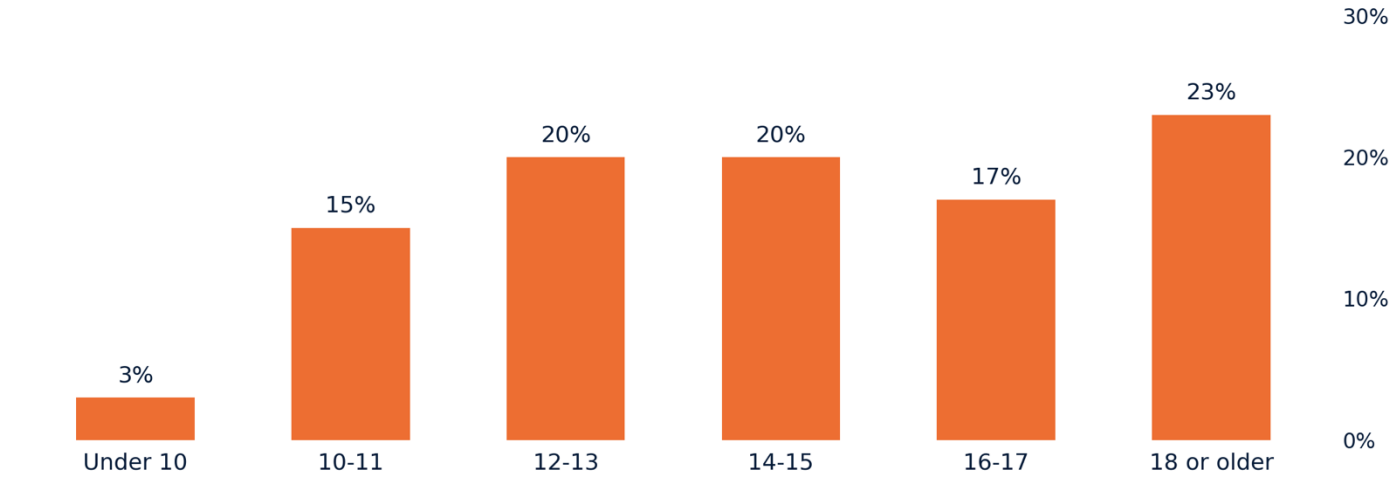
Between 18 and 27 August 2026, Public First conducted a nationally representative survey of 4,021 people aged 11 to 24 in England. The sample deliberately spans an age range wide enough to capture completely different experiences of AI's arrival and proliferation. The cohort now sitting their GCSEs started secondary school within months of ChatGPT's release to the public; their whole secondary education has run alongside generative AI. For those just starting secondary school, the technology will only become more capable as they move through the system, shaping how they are taught, how they learn, and the jobs that will exist for them when they leave it. For the oldest group of respondents, AI arrived in their early adulthood, just as they were starting to navigate life and work beyond compulsory education.

In these past four years, the scale of adoption has been extraordinary. **According to this latest survey, 87 per cent of 11-24-year-olds in England have used an AI tool** – a figure that might have once seemed improbable. Usage exceeds 80 per cent in every single age group we surveyed, and peaks precisely at the point that many AI companies' minimum age requirement kicks in: **90 per cent of 13-14-year-olds report they have used AI**. Though even that formal threshold has done little to hold back adoption. Amongst today's 11-12-year-olds, 16 per cent say they were already using AI before the age of 10. Few technologies have ever spread through an entire generation this quickly, or this completely.

**87%**

of young people in England have used an AI tool.

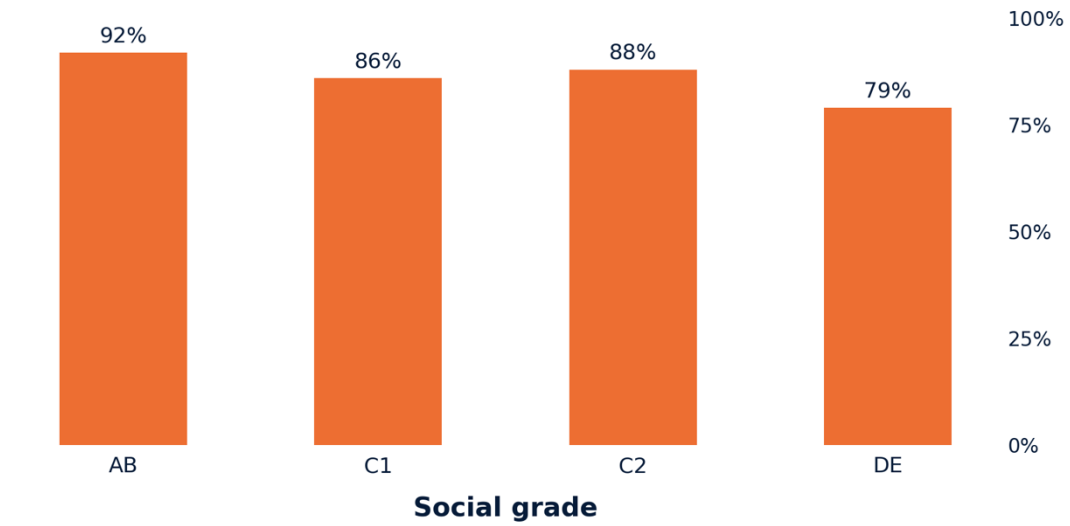
**How old were you when you first used an AI chatbot or tool (e.g. ChatGPT, Google Gemini, Snapchat's My AI, Meta AI or Character.ai)?**




*Source: Public First AI in Education survey, n=4,021 aged 11-24 in England, Aug 2026. Amongst those who have used AI.*

That scale of adoption, though, conceals sharp differences in who is using AI, and how often. Plenty of research has already pointed to an emerging AI divide compounding existing digital inequalities.[44] Our findings confirm this gap exists in England: young people's socio-economic background, measured here by social grade, shapes whether they (knowingly) use AI. And we can quantify the size of that gap: there is a 13-percentage point gap between AI usage amongst young people in the highest social grade (AB) and the lowest social grade (DE), at 92 per cent against 79 per cent.

**Have you ever used an AI chatbot or AI tool?**




*Source: Public First AI in Education survey, n=4,021 aged 11-24 in England, Aug 2026. Respondents that answered 'yes' to using an AI tool.*

**1 in 5**

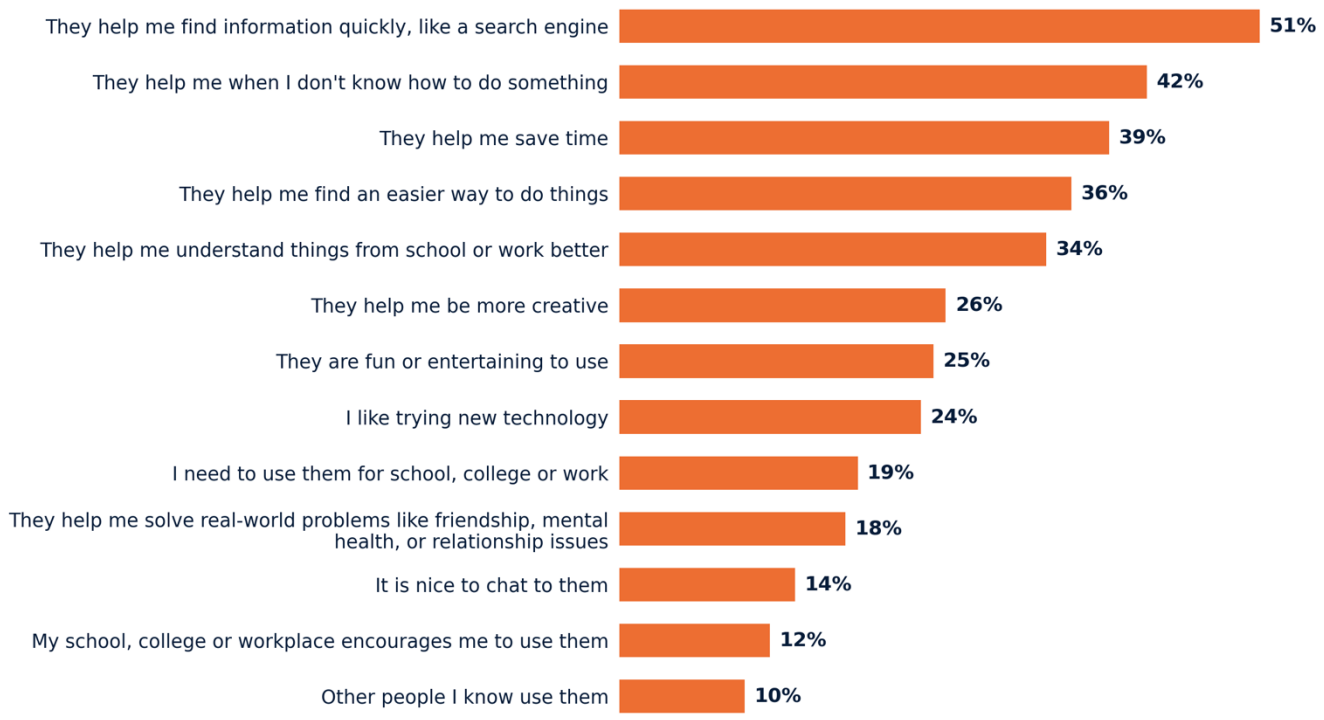
NEET young people in England have never used an AI tool.

But a second, distinct fault line has also emerged. Young people not in education, employment or training, commonly referred to as 'NEET', report the lowest AI usage of any group we measured. **One in five (20 per cent) NEETs say they have never used an AI tool at all.** By contrast, young people currently studying for a postgraduate degree at university report the highest usage, at 93 per cent, with only 6 per cent saying they have never used AI.

## How are young people using AI? And why?

When Google launched in 1998, it retrained a generation to expect any piece of information to be a few keystrokes away. AI is teaching this generation that any answer can be immediate, tailored, and conversational. Over half of young people say they use AI to "find information quickly" (and search engines have already adapted to meet this expectation, with roughly one in three Google searches in the UK now triggering an AI-generated summary).[45] Beyond information alone, 42 per cent of young people report AI tools help them when they don't know how to *do* something. What they have identified is the value of AI's tailored explanation and guidance – the back-and-forth, conversational nature of chatbots and the freedom to (more or less) ask as many questions as needed to successfully tackle practical tasks or intellectually problem-solve.

### Why do you use AI tools?




*Source: Public First AI in Education survey, n=3,474 aged 11-24 in England, Aug 2026. Select all that apply.*

Crucially, it can take young people to that point with speed and efficiency. Looked at together, the top five AI use cases most commonly cited by young people indicate this is a key driver of their extensive usage and the ways in which young people derive value from AI across virtually every corner of their lives. 36 per cent of 11 to 14-year-olds report using AI tools to "save time" and 38 per cent to "find an easier way to do things".

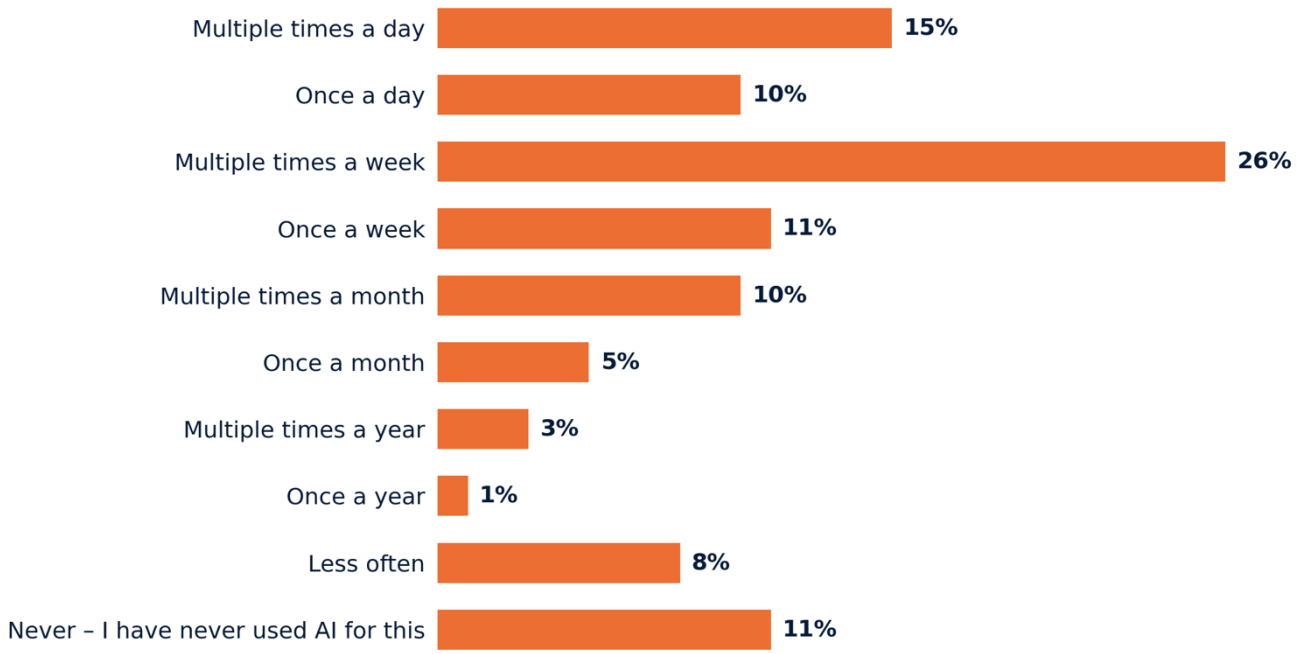
AI tools allow young people to bypass what might have been, for earlier generations, a much longer process: asking a person with more experience or expertise, observing a master at work, attending classes or formal training, reading an instruction manual, watching a YouTube video – even reading a book. For a generation raised in today's on-demand culture, AI tools, rightly or wrongly, offer a shortcut.

**46%**

of young people say that, because of AI, they now read physical books less than they used to.

Quite logically, then, for a significant number of young people, usage extends to their school work. In our survey, of those currently in secondary school, 63 per cent have used AI to help them with homework or coursework. 77 per cent have used AI to understand something they're stuck on, and 77 per cent for research. And they are using it regularly. One in four AI users say they use it once a day for work related to school or for work, and 62 per cent report using it weekly. For what might have once been a role played by teachers, parents, tutors or friends, AI tools are now, for many young people, offering something more convenient and accessible. Quietly, AI has become a default studying tool.

**How often do you use AI for work related to school, college, university, or in the workplace?**




*Source: Public First AI in Education survey, n=3,486 aged 11-24 in England, Aug 2026.*

**2 in 5**

young people have used AI to talk through problems or how they are feeling.

The AI shortcut also fills a void for young people where other frontline human services do not. 40 per cent of 11 to 24-year-olds report having used AI for health advice, and two in five young people have used AI to talk through problems or how they are feeling. With over 1 million children having an active referral to mental health services, but wait times for support exceeding 300 days, it is understandable that some young people prefer to turn to the tools that they have at their disposal – tools that require no waiting list or fear of judgment: 41 per cent say there are some personal questions they would rather ask an AI than a person.[46]

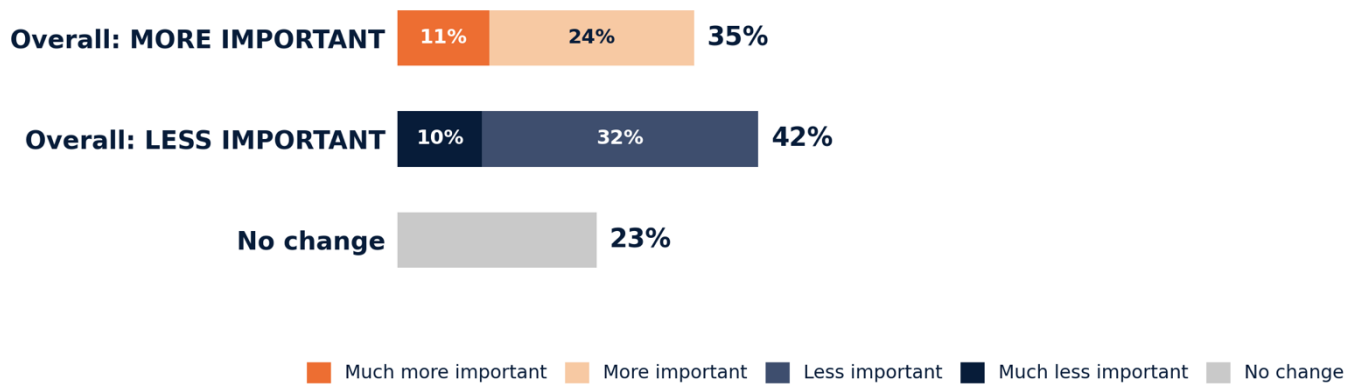
## How is AI changing young people's perceptions of education and work?

Of course, AI does not render any of these things – learning with a teacher, therapy, reading a book – any less valuable. But, for a generation of young people who are, at least, supplementing if not replacing 'traditional' processes for a more convenient approach, AI may raise questions about their usefulness.

This risk is not hypothetical. A sizeable share of young people think AI is devaluing formal education. Asked whether AI has made school education more or less important, 42 per cent said less important, against 35 per cent who said more important. Over half (51 per cent) of young people say they've used AI to "teach myself a subject without help from a teacher." Over a third (37 per cent) agree that "AI has made school too easy" – and our survey suggests usage tracks with attainment: those who expect to attain the highest GCSE grades in Maths (8-9), for example, are more likely to use AI at least weekly for schoolwork (60 per cent) than those predicted grades 7 and below (51-53 per cent). A quarter say AI has made university degrees useless, and 40 per cent think AI could replace most teachers within ten years.

**Which of the following comes closest to your view?**

*AI has made school education more important – or less important?*




*Source: Public First AI in Education survey, n=4,021 aged 11-24 in England, Aug 2026.*

**Put simply, education has not kept pace with how – and how much – young people are already using AI, and that gap is starting to show up as a loss of perceived value in the institution itself.** That is a very dangerous place to find ourselves in.

In the absence of a robust, human response to AI in education, young people are placing their trust in AI. As many as one quarter of young people think it is acceptable for AI to advise them on which medicine to take for an illness, instead of seeing a doctor. This is notably truer of young men (31 per cent) than young women (20 per cent). And AI is now trusted over a person for checking a fact (47 per cent vs 21 per cent) and for explaining something they don't understand (38 per cent vs 24 per cent). Again, young men, in particular, are more likely to trust an AI tool with fact-checking than a human (52 per cent).

**2 in 5**

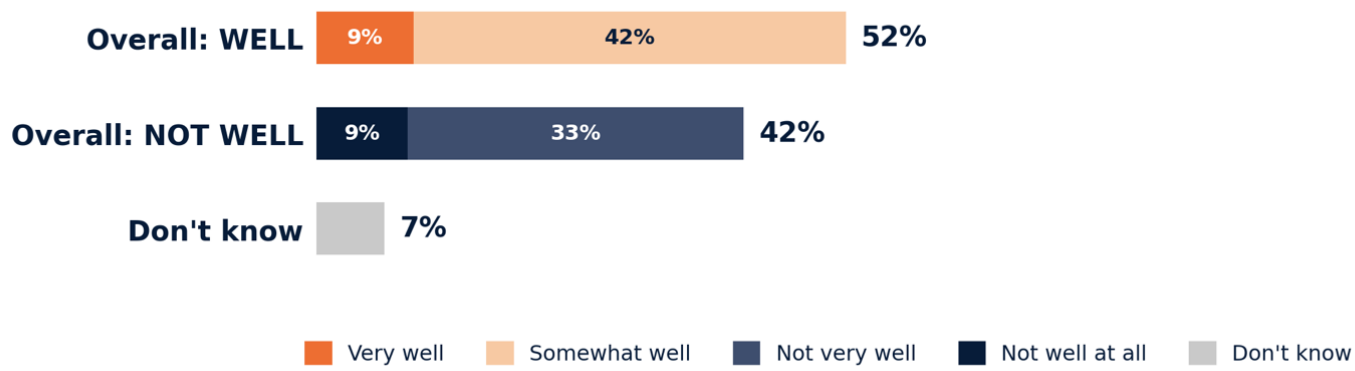
young people have used AI to talk through problems or how they are feeling.

Part of the problem is that young people see that schools' response to AI has been weak or unclear. Only 30 per cent can say that their school has clear rules on AI use that they could explain to someone else. 38 per cent agree that "I am better at using AI than my teachers" (11 per cent strongly agree). Young people have virtually unfettered access to AI, without the accompanying education or support to navigate it.

And the stakes of getting this wrong are not abstract to young people themselves. Public First's own modelling of the displacement, augmentation and transformation of roles typically held by young people, conducted for The King's Trust, found that 55 per cent of jobs currently held by young people are likely to change because of AI.[47] Young people feel this keenly: the majority (71 per cent) think there will be fewer jobs available as a result of AI, and over half (52 per cent) think people will earn less money than previous generations.

Yet, the response from education does not meet the scale of this challenge that they believe will affect them very personally. **Only 9 per cent of young people think schools and universities are preparing them very well for a world with AI.** Young people want education to step up and deliver: 57 per cent agree that young people need to be taught how to use AI, and two-thirds think it is the school's job to teach them to use these tools responsibly.

**How well are schools and universities preparing young people for the future?**




*Source: Public First AI in Education survey, n=4,021 aged 11-24 in England, Aug 2026.*

Any education system serious about serving the next generation must start by listening to it. That is why acting faster, and more intentionally, on AI in education is not optional. It is not just a matter of AI literacy, though that gap is real and urgent. It is that the tools young people now expect as standard are moving further ahead of what education, and the wider systems around them, currently offer – and that gap is only getting wider. The risk, if it isn't closed, is that young people vote with their feet.

The best schools are navigating AI in a way that acknowledges the pace of AI adoption amongst young people, as well as the world they will enter when they leave as adults. That needs to be more widespread, and is why this report listens to the views of young people to present a new way of thinking about education delivery in Britain.

# Navigating AI in schools – Wellington perspective

Dealing with AI in schools is challenging and exciting. It is multi-faceted and impacts every part of schools. It opens up exciting opportunities for schools but does not remove the need for excellent teaching, judgement and effort. The challenges are significant; from polarised attitudes from parents and staff, shortage of time and money and a bewildering landscape of products, advice and claims. In spite of this, inaction is irresponsible. Pupils and staff are already using AI and need guidance. Approaches to assessment need urgent review to ensure high quality AI production does not replace learning. Schools must make difficult and imperfect decisions now, whilst knowing that technology and adoption is rapidly changing and that decisions will need to be constantly revisited.

Something that will not change is that learning remains the core purpose of schools. Anything that can demonstrably improve learning should be embraced and anything that diminishes it should be rejected. AI brings new potential, but it should not be the only tool. There are tried and trusted approaches to learning and teaching in both the analogue and digital domains. No technology has yet replaced sound pedagogy and excellent teaching, or the importance of human connection on which education depends.

For over a century, education systems have been primarily designed to develop knowledge, skills and qualifications. AI challenges that model because it increasingly performs tasks such as retrieving information, generating content, analysing data and providing feedback with remarkable speed and sophistication. The fundamental question facing education is therefore not, "How do we use AI in schools?" but rather, "What should schools be for in an age of AI?" The answer matters because AI increases the value of those human capacities that machines cannot replicate.

We can neither stop or slow down AI's extraordinary pace of development, but the OECD's Education for Human Flourishing framework provides a compelling answer to it. Education should develop not only knowledge and skills, but also agency, judgement, ethical competence and the capacity to participate meaningfully in the world. Technology should strengthen those human capacities and relationships, not diminish them or reduce pupils to data points. This means we actively seek opportunities where technology can create capacity for teachers and pupils to spend time together, rather than be subsumed by administrative work.

Learning is a verb; it takes effort. AI cannot do the learning for the learner.

At Wellington College, we are enthusiastic about the potential for AI to improve teaching and learning, but the fundamentals of learning science and cognitive development hold true. AI can provide excellent explanations, feedback and support, but it also readily provides output that reduces the learning opportunity by shortcutting thinking, remembering and understanding. Approved AI tools are available for staff who are encouraged to experiment responsibly to understand both the benefits and limitations of AI to support teaching, reduce administration and support school operations. We are much more circumspect about AI use by the pupils, particularly younger children where the risks of learning loss and lack of critical evaluation are much greater.

Our digital learning framework focuses on:

- **No learning being lost;** digital platforms make learning durable, accessible, retrievable and revisable. Using a consistent system means that staff and pupils know where to find learning materials, tasks and feedback and reduce cognitive overload.

- **Inclusive by default;** digital tools can reduce barriers and improve access for all pupils whilst providing discreet and effective support for SEND pupils and anyone with additional learning or accessibility needs or preferences.
- **Independence and agency;** within a consistent structure it is increasingly practical to use technology to give pupils greater choice and adaptation within their learning, which can be a powerful motivational and learning tool for pupils.
- **Enhanced learning;** digital and AI provide additional tools for staff and pupils that can expand and strengthen learning opportunities and provide valuable data, insight and feedback to staff. Teaching can meet pupils where they are, whilst enabling multiple paths to fuel curiosity and support self-motivation.

Our priorities for implementation in the academic year 2026/27 include:

- **AI fluency for staff and pupils.** This includes integrating an age-appropriate AI curriculum from 3-18 and providing an AI induction for new pupils at 13 and 16. It also means building staff confidence through core training, optional development opportunities, departmental champions and peer support. The aim is not simply for people to use AI, but to understand its capabilities, limitations, risks so they can identify the areas of opportunity with greatest impact.
- **Digital & AI experimentation in teaching and learning.** We will test ideas in controlled environments, including exploring alternatives to traditional homework, changes to the way that lessons are taught and re-thinking whole sequences of learning. We believe that AI can make learning more fun, stimulating and effective, and teaching can be less taxing and more satisfying – but we have to prove it through rigorous experimentation to understand what works, where, when, for whom, what cost.
- **Investments in digital platforms.** We are investing in three areas to support this work. First is a consolidated data platform (based on Open Education AI) to bring disparate data together and put it into the hands of teachers and leaders to support decision-making. Second is in AI platforms to support organisational work – including teaching and back office. For maximum impact, AI requires local context and local integration. Third is in EdTech products that align with our needs, such as spaced retrieval practice or SEND support. If a third party is deeply invested in a particular area and we can successfully integrate with our schools, it continues to represent better value to buy.

Schools need clear frameworks for safe and responsible adoption, investment in staff capability, robust evidence about what works, and national conversations about the purpose of education in an AI-enabled society. The reality is not whether AI will change education. It already is. All schools need a clear and regularly reviewed approach to AI that covers learning, governance, safeguarding and staff development and the challenge is that every school, region and country are determining their own approach, with limited consensus developed so far. The choice facing us is whether we use AI merely to make existing systems more efficient, or whether we use this moment to create a more human-centred education system that develops the knowledge, character, judgement and agency needed for people to flourish.

As artificial intelligence becomes more powerful, education must become more human.

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***Chris Rothwell*** *is a senior leader in education and technology, including 15+ years at Microsoft. He now leads the AI Institute at Wellington College Education and provides consulting and product services to education organisations globally.*

# The scenarios

## Introducing the scenarios

Any publication confidently predicting the future direction and scale and impact of AI in education is setting itself up to be fooled. The pace, and non-linear development of change, means that forecasting change and designing it is harder than in any other area.

But this is not an argument for freezing, and demanding certainty before action. Change is happening – our polling results show a significant increase in usage and young people's familiarity even over and above research and opinion work from 2024 or 2025.

So, evidence matters, and we draw on it throughout. Yet the evidence base is still emerging, and by the time it settles many of the conditions it measured will already have shifted. Models will improve. Behaviours will change. New forms of dependency, creativity, advantage and harm will appear.

To help policymakers think through how to approach the question of AI – and accelerate the UK out of the starting blocks – the following chapters of this report adopt a scenario-based approach. We cannot stop the rate of AI progress. But we can decide how education responds to it. The goal should not be to mimic these systems, nor to retreat from them, but to deepen the capacities that make human beings more than the sum of isolated, automatable tasks. That means protecting attention, agency, ethical judgment, creativity, relationship, responsibility and purpose. It means asking what makes us distinctive, and what an education system should now do to preserve and deepen that distinctiveness. If the age of abundant machine intelligence is really upon us, then the educational question becomes unavoidable: what, in the end, is education for?

So, our aim is not to eliminate disagreement. It is to make it more honest. Many of those in education, technology, the creative industries or business that we have discussed this with, come at this challenge from a system-legitimacy perspective. Some take a more cautious approach; others are more bullish. Some are more cautious about the capacity of the system to change or to address questions at the scale of AI; some think that a revolution is desirable and manageable.

But as authors, we both agree that education needs to change.

To help think through change in which areas, and to help consider what this would look like, we present five scenarios. They are not on a spectrum from "less change" to "more change", or "traditional" to "progressive" or "better" to "worse" (or vice versa). These are all plausible paths, each optimising for different goods, each carrying different risks, and each requiring different acts of leadership.

- We begin with **the Status Quo+**, because extending the present system's approach to AI – more deliberately and somewhat faster – is itself a strategic choice. We then sketch four alternative responses.
- The second scenario leans towards **human flourishing**: an education system that takes more seriously the cultivation of judgment, character, purpose and distinctively human capacities.
- The third optimises for **multi-disciplinary learning**: broader, less prematurely specialised, and more aligned to a world in which synthesis, transfer and judgment matter more.

- The fourth is one of flexible, **accelerated learning**: using AI and adaptive tools to personalise pace, strengthen support and move closer to the virtues of one-to-one tutoring at scale.
- And the fifth is a scenario for education built around **curiosity and lifelong learning**: treating education less as a narrow race through prescribed content and more as the ignition of a durable appetite for exploration, self-direction and re-learning over time.

There are common themes to many of these. Broadly speaking, each scenario considers change in five of the principal areas which govern how a school runs: curriculum; the model of teaching and learning; assessment; the funding system; and the way in which schools run day to day.

Each scenario would require different types of reforms in these and other areas, different beliefs about what education is for, and different judgments about what is worth preserving and what is no longer defensible. These are set out clearly in each scenario.

Some of the scenarios – like the latter hypotheses set out by Susskind – will seem implausible at the current time. But that was also true of where we find ourselves now, had we been writing as late as 2021. The huge uncertainty about the future of AI is a critical factor. Will AI improve to the point where it can be a brilliant personal tutor? Will it become cheap and effective enough to be able to power much academic administration? No one knows if or when those things (and many others) will happen. The capability of AI today represents huge opportunity for schools, as well as risks. But it is only through pushing the extent of what seems feasible now, that policymakers can consider the implications of paradigm shifts.

**In all of the scenarios, AI adoption moves faster than the gentle "evolution not revolution" of current orthodoxy. That is deliberate. The point is not to predict what will happen. It is to force a more serious argument about what might happen, what should happen in response, and about where on the risk curve England wishes to sit.**

# 01 "Status Quo +"

## – A faster, bounded adoption of AI within England's existing system architecture

This scenario posits a world in which education in England retains the core architecture of its current system – knowledge-rich curriculum, structured progression, teacher authority and high standards – but adopts AI more deliberately and somewhat faster within those boundaries. Its central claim is that the Government's instinct towards caution is not wrong: schools are custodial institutions, not testbeds, and the risks of careless AI adoption are real. But caution need not mean drift. In this model, the system optimises education for continuity with practical gains: a more responsive, credible and better-supported version of the current system, using AI to improve delivery, reduce friction, widen access to support and prepare young people more plausibly for life and work in the age of AI, without fundamentally redesigning the system itself.

## The building blocks for this scenario

### The current English system rests on serious convictions worth preserving

England's education system rests on hard-won convictions: that knowledge matters, and that standards matter. That clear expectations, structure and continuity are often the precondition for learning rather than an obstacle to it. That early literacy and numeracy permit later freedoms, and that a child who cannot read fluently at 11 has had options closed off long before anybody offers them a choice.

These convictions were not arrived at easily. They were contested for decades, and the settlement that emerged from that contest, reaffirmed rather than overturned by the *Curriculum and Assessment Review*'s final report in November 2025, commands some degree (but by no means universal) of cross-party and cross-professional agreement.[48] The Review Panel was explicit that it intended to maintain and build on the knowledge-rich approach and the structural architecture established by its predecessor.

Schools should, therefore, be careful about surrendering too quickly to fads, whether political, pedagogical or technological. That instinct is a form of institutional seriousness. The first duty of an education system is to safeguard the intellectual and moral formation of children as they grow into citizens, and that duty sits above the obligation to be fashionable or even efficient.

The point bears restating plainly because it is so often lost in the technology debate. Schools are not venture-backed start-ups. Children are not beta testers. An education system that treats a cohort of 11-year-olds as a pilot population for wider AI introduction has misunderstood what it is for.

### The risks of careless adoption are real enough to justify caution

The Department for Education's preferred approach is to look to the evidence. On the evidence available, the case for caution is not fanciful.

The most substantial recent synthesis is the Brookings Institution's Center for Universal Education study, published in January 2026, after a year-long global inquiry involving more than 500 students, teachers, parents, education leaders and technologists across 50 countries, alongside a review of more than 400 studies and a Delphi panel. Its conclusion was unambiguous:

> *"At this point in its trajectory, the risks of utilizing generative AI in children's education overshadow its benefits."*[49]

This is not the verdict of a technophobic fringe. It is the verdict of a mainstream centre of education research that set out explicitly to conduct a premortem, rather than wait a decade for a postmortem.

The specific mechanisms of risk are increasingly well characterised. Generative AI, when overused or introduced too early, may encourage cognitive offloading, diminish critical inquiry, blur the line between genuine effort and generated output, and weaken trust between students, teachers and families. Daniel Willingham's formulation captures the underlying cognitive point:

> *"Unless the cognitive conditions are right, we will avoid thinking."*[50]

Thinking is effortful, humans are therefore disposed to avoid it where possible, and a tool that removes the effort will often remove the thinking with it.

Stanford's SCALE Initiative reviewed more than 800 academic papers on AI in K-12 education and found only 20 that rigorously estimated causal impact. Where the review did find some, it showed that tools that reduce productive struggle may limit long-term learning gains, even where they improve short-term output.[51] The MIT Media Lab, which tracked 54 participants writing essays under EEG monitoring across four months, found that participants using an LLM showed weaker neural connectivity and poorer recall of their own work, and that these effects persisted when the tool was withdrawn. The authors named the phenomenon, 'cognitive debt'.[52]

In another study of 26,811 pupils aged 12-18 in China, around 80 per cent of pupils reported using generative AI tools such as Doubao and DeepSeek; the remaining fifth formed a natural control group.[53] After six months, homework scores amongst AI users rose by 18 per cent and the time taken to complete assignments fell from an average of 64 minutes to 45. Yet, come exam time, the same pupils scored 20 per cent below classmates who had not used AI at all. Homework performance had previously predicted exam performance; amongst AI users, the relationship reversed, so that pupils with the highest homework scores were, perversely, more likely to underperform in exams. As such, whilst the tool improved measured short-term performance, it quietly eroded the underlying capability that exams are designed to test.

The information environment compounds the problem. In a world increasingly shaped by synthetic content and machine-generated confidence, any weakening of young people's ability to distinguish falsehood from truth would be especially damaging. The Commission into Countering Online Conspiracies in Schools found in its 2026 research that the proportion of parents reporting their child had raised a conspiracy theory with them rose by a third in a single year, from 28 per cent to 38 per cent, with 81 per cent of teachers reporting that a pupil had brought a conspiracy theory to them. The Commission's written evidence to the Education Select Committee attributed a significant part of this step change to the growing impact of generative AI.[54]

There are social and emotional risks alongside the cognitive ones. AI companions, blurred boundaries, emotional dependence and a thinning of the relational core of education are documented features of children's

lives rather than speculative concerns. Internet Matters found that around a third of children using AI chatbots felt as though they were talking to a friend, rising to half amongst vulnerable children, and that 12 per cent of child users said they talked to chatbots because they had nobody else.[55] UK reporting over the past two years has underlined how severe such harms can become in individual cases, and the Government has signalled that it is considering extending online safety legislation to cover AI systems explicitly.

### The Government's current instinct is understandable

The official HM Government position is supportive and restrained. The DfE's latest policy paper states that generative AI can make certain written tasks quicker and easier but cannot replace the judgement and deep subject knowledge of a human expert, and it is more important than ever that the education system ensures pupils acquire knowledge, expertise and intellectual capability.[56]

The prevailing instinct of policymakers is to adopt AI slowly and selectively, building on what has been tried and tested elsewhere. Under this scenario, faster progress is made with teacher-facing tools than with learner-facing ones. Oak National Academy's *Aila*, an AI lesson assistant designed to keep the teacher as decision-maker throughout and now the subject of an Education Endowment Foundation trial evaluated independently by the NFER, is the clearest expression of this preference.[57] So is the guidance developed with the Chartered College of Teaching and the Chiltern Learning Trust to support the safe and effective use of generative AI. So is, more recently, the generative AI product safety expectations framework, which the Department formalised into standards for the edtech sector in January 2026 and which cautions specifically against systems that encourage emotional attachment or dependency.[58]

Together, this is the 'evolution not revolution' instinct visible throughout current curriculum thinking, and it has a clear rationale behind it. The education system has lived through many waves of technological enthusiasm, most of which delivered considerably less than promised. Institutional memory is a defence against credulity, and a system that had adopted every previous wave with enthusiasm would be in a worse position today, not a better one.

### But caution can become drift

Caution can be right in diagnosis and yet wrong in conclusion. A scenario focussed on slow adoption risks becoming managerial and inward-looking. It optimises on how to protect the current system from AI, and as a consequence does not sufficiently ask how to use AI to strengthen that system where educational value is clear and risk is containable. Prudence in theory can become paralysis in practice, meaning that students and teachers cannot benefit from generative AI in the way that they can and should.

Meanwhile, as noted above, the risk of this scenario and model of policymaking is that AI moves quicker than any other external shock. The consequence is a system in which the actors (students, parents, teachers) are aware of AI; that usage is widespread but erratic; and the system as a whole is practically underprepared for it. As a result, young people are more exposed, not less. This is the central charge against this scenario: a mismatch between the pace of institutional deliberation and the pace of change in children's actual lives.

### A more ambitious version of the same instinct

A Status Quo+ scenario does not posit that AI should force a wholesale rethink of educational purpose. It is that the core architecture of the current system can be maintained whilst being supported far more actively by AI where the benefits are clearest and the risks are most containable.

That means moving faster on bounded, evidence-led uses of AI that improve the experience of teaching and learning, reduce administrative burden, widen access to support and address the most pressing challenges

the system already faces. It means acknowledging that schools, colleges and universities must prepare young people more credibly for life and work in the age of AI, even whilst operating within a broadly familiar institutional model.

The ambition here lies in making the system more responsive, more capable and more defensible. Its first principles remain untouched.

## What does this scenario look like in practice?

### The system moves to faster adoption where educational value is clearest

The system overall, and individual schools, are supported and empowered to move more quickly on uses of AI that already look useful, credible and politically workable. The emphasis remains on bounded, evidence-led adoption. What changes is that investment in research, and in the institutional capacity to understand and act on research, becomes serious and strategic rather than incidental.

The Stanford finding that only 20 of more than 800 papers rigorously estimate causal impact is an argument for commissioning better evidence quickly, not for waiting until better evidence appears of its own accord. The EEF and NFER trial of Aila is the right model at the wrong scale. Similarly, the funded pilot of AI tutoring, which has a promising evidence base, is far too small scale, at only tens of schools, with results perhaps not for a year or more, at a time when private investment in AI tutoring is growing hugely.[59] [60] Under this scenario, DfE (or through third parties such as Oak, Chartered College, and the EEF) moves more quickly to rapidly apply a "test, learn, grow" model to all aspects of AI, and place a premium on rapid findings. Similarly, individual schools and MATs are encouraged to invest (with public funds) in AI and to scale this quickly when it finds promising findings.

### Teacher-facing AI becomes routine

AI is used much more widely to ease the pressures the system already acknowledges. DfE utilises well understood networks of how new methods and learnings percolate through the system to push hard for wider uptake for lesson planning, resource generation, adaptation of materials and low-stakes marking support. This has a particular focus on groups of schools and/or students who might especially benefit. For example, an immediate focus could be placed on greater use of translation, communication and accessibility tools to support inclusion of pupils with special educational needs and disabilities, and to reach young people currently outside education altogether.

### But student use remains more bounded and supervised

Under this scenario, student-facing AI becomes more widespread without becoming a free-for-all. Teacher judgement (or school or MAT-level judgement) is still the gatekeeper for rollout. It is used for tutoring, practice, accessibility, feedback and support in clearly defined contexts, with more caution retained around open-ended generative use in high-stakes or developmentally sensitive settings.

The critical enabler here is a need for more guidance and active support for schools and parents, sufficient to drive a genuine culture change towards proportionate use. The NEU's finding that 49 per cent of schools have no AI policy at all, and 66 per cent have none specifically covering students, describes the current vacuum precisely.[61] Under this scenario, the gap between knowledge and policy vanishes. The system moves to supervised use from unsupervised use.

### AI literacy becomes an explicit part of preparation for life and work

AI literacy becomes embedded across the curriculum as a capability all young people should develop – more than in the Francis Review recommendations. Schools and colleges begin to acknowledge more openly that AI is part of the world young people are entering, and students are given structured support in understanding what these tools are, how they are changing work and communication, and how to use them with judgement. This is happening at some greater speed in the Higher Education sector, but under this scenario, a similar approach operates in compulsory secondary schooling as well.[62]

### Assessment remains recognisably conventional, and adapts where needed

Under this scenario, the system continues to rely on formal assessment and external standards. GCSEs, A Levels, SATs and all formal summative exams are still utilised both for student facing judgements and institution level accountability purposes. Greater online use is made of these exams, but this is for administrative ease more than as an AI-augmented, portfolio-style approach to assessment. But more flexibility starts to emerge in vocational and technical qualifications, where there are already different models of end-point assessment. Ofqual actively encourages awarding organisations to make greater use of supervised work, clearer rules on permitted AI use, more in-class assessment where needed, and selective oral explanation or process evidence, where the judgement is made (and can be evidenced) that this allows for valid and reliable assessments of student competence in an area.

### As AI usage accelerates, national guardrails and implementation support become stronger

Government moves beyond speeches and pilots of AI in education towards a clearer national framework. That emphasises stronger guidance on safeguarding, privacy, age-appropriate use, procurement and accountability. As schools and colleges are encouraged to utilise AI more, Government emphasises practical, hands-on support for schools deciding what good adoption looks like in their context – recognising that smaller schools and stand-alone institutions will be the slower to move on average, and need to be supported to do so otherwise AI usage will become unacceptably skewed.

Estonia's AI Leap programme demonstrates what this coherent national framework involves in practice. Launched in August 2025 with 20,000 upper secondary students and several thousand teachers, expanding to vocational education and further cohorts in 2026, it combines centrally negotiated licensing, university-delivered teacher training, professional learning communities, school-level agreements on acceptable use and a central monitoring dashboard, backed by a €4 million pilot-year investment split between the state and private partners.[63] Its Chief Executive has been explicit that the goal is not to increase AI use, but to provide a pedagogically guided alternative to the commercial models students are already using. That is a defensible objective, and it is being pursued with an infrastructure England currently lacks.

### Teacher training then in turn builds AI capability further.

Teachers and leaders need greater confidence in what AI is, where it helps and where it harms. But AI models also need evidence at scale about what is working. Under this scenario, DfE utilises the Content Store more assertively to maximise access to high quality data to allow AI organisations to further refine their models on the basis of real life student data.[64] In turn, AI companies place a greater focus on teacher training – but recognising that often times, teachers learn better from other teachers, and have higher trust in them than what they often perceive as tech companies selling products.[65]

### But the system may still move too slowly compared to the pace of AI innovation, and wider adoption

Even a more active version of the current approach may struggle to keep pace with the speed at which AI is evolving. Institutional memory, political caution and the sheer difficulty of coordinating 24,000 schools all impose friction. The gap between a two-year professional development programme and a two-month model release cycle is not closed by good intentions.

The critique is that this scenario buys time and capability rather than resolution. Whether that is sufficient depends on how fast the underlying technology continues to improve, which nobody can currently forecast with confidence.

### It may not close the legitimacy gap, and may avoid or delay the wider question

This scenario rests on an assumption that the rest of society is moving at a comparable pace. It is not obvious that this holds. The world of work is adapting faster than schools, and public adoption in daily life faster still. If schools modernise only around the edges whilst employers restructure entry-level hiring, the gap between what education claims to prepare young people for and what it actually prepares them for will widen.

For some, this scenario avoids or delays the deeper question. If the current system is already too brittle, too narrow and too politically constrained to respond adequately to the world AI is bringing into being, this scenario, arguably, does not focus on how the country could harness AI to create a better educational future for young people, rather than a better-defended version of the present one.

# 02 “Human Flourishing”

## – An education system that takes more seriously the cultivation of judgment, character, purpose and distinctively human capacities

This scenario starts from a question of purpose: what should education ultimately be for?

That question carries more weight in an age of generative AI, because a fork in the road has emerged. AI could empower human agency, or it could disempower it. At its best, it widens access to knowledge, personalises support and frees people from drudgery. At its worst, it ushers in a slow retreat from effort, judgment and responsibility, a gradual yielding of human powers to systems designed to anticipate, persuade, recommend and decide. Much of our culture currently points in the second direction. This scenario attempts to correct that balance, and optimises education to become more deliberate about cultivating the qualities that remain essential to a mature human life: intelligence, judgment, relationship, meaning, contribution and security.

## The building blocks for this scenario

### The human capital model no longer explains the whole task of education

Education organised mainly around the accumulation and testing of cognitive skills, and around preparing young people for labour market participation, still explains part of the task of education. It no longer explains enough of it.

This is the central argument of the OECD’s *Education for Human Flourishing*, published in 2025 and developed since 2020 through policy dialogues with seven high performing PISA systems.[66] The human capital model shaped what students learn for several decades and did so with considerable success. It prepared young people for relatively stable work through cognitive examination and credentials. The OECD’s judgment is that this model now prepares young people for *yesterday’s* jobs, and that flatlining PISA results and persistent equity gaps are symptoms of a narrowing of purpose, rather than of insufficient effort within the existing frame.

AI destabilises the existing education settlement further. Earlier waves of technology mainly changed access to information. Generative AI changes access to explanation, synthesis, drafting, simulated reasoning and tailored feedback. Capabilities once treated as evidence of human mastery are no longer uniquely human, and a credential that certifies the production of fluent written output certifies something that is now cheap to produce.

The educational question therefore shifts: from how we get more pupils to produce correct answers, towards what education should prioritise when apparently intelligent performance can be simulated cheaply, quickly and convincingly. Education has to prepare young people for changing jobs, and also for agency, judgment and meaning in a world of powerful machine systems.

The OECD frames three challenges that the human capital model handles poorly:

- Environmental and social damage caused by unchecked growth.
- Meritocratic sorting that manufactures winners and losers on a scale that corrodes social trust.
- A crisis of meaning amongst young people who lack a sense of purpose despite considerable material prosperity.

None of these is primarily a skills problem, and none of them will be solved by a system that measures its own success in cognitive attainment alone. The English data on youth wellbeing, and on the proportion of young people reporting anxiety about their futures, suggests we are not exempt from any of the three.

### The case for cultivating human qualities began before mass adoption of generative AI

Concern about the erosion of human capacities predates ChatGPT by some years. This scenario is, therefore, a response to a longer arc of technological convenience displacing cognitive effort, and a belief that education ought to be more than preparing widgets for the world of work.[67]

For most of the twentieth century, measured cognitive performance in industrialised countries rose by roughly three IQ points per decade, the pattern documented by James Flynn.[68] Since the early 1990s, that trend has stalled or reversed in Norway, Denmark, Finland, France, the UK and the US. The strongest evidence comes from Bratsberg and Rogeberg's within-family analysis of Norwegian conscription data, which found that brothers born later scored lower than brothers born earlier, ruling out genetic selection and immigration as explanations and pointing firmly at environmental causes.[69] Dworak, Revelle and Condon found the same reversal in a US adult sample of nearly 400,000 responses between 2006 and 2018, with declines in verbal reasoning, matrix reasoning and numerical series.[70] Always-on internet access, smartphones and social media are amongst the candidate explanations, and are associated with thinning attention, memory, reading stamina and verbal reasoning.

The case for a model of education organised around essential human qualities is sharpened by AI, and its access in both work and education to the type of cognitive effort which English education has traditionally optimised for, and sorted for, in its curriculum and assessment and accountability structures.

### But AI also raises the risk of a world in which lower-order thinking dominates

With AI, outsourcing of cognitive effort becomes easier, faster and more socially normal. But the risk of this extends well beyond cheating to the erosion of the learning process itself. Surface performance can rise whilst genuine understanding weakens, which is the most dangerous combination available to any accountability system, because it looks like success.

Brookings' year-long study concluded that on current trajectory the risks of generative AI in children's education overshadow its benefits, and located those risks in identity, agency and wellbeing as much as in attainment. [71] The Alan Turing Institute's *Doing AI Differently* makes a parallel argument about the transformation of human cognition, warning that as people engage with interconnected systems of artificial and human agents, AI is reshaping thinking and work in ways that risk diminishing rather than enhancing human agency and capability.[72]

The concern is not confined to children. The clearest evidence of what over-reliance does to expert capability comes from medicine. A study of 19 experienced endoscopists across four Polish centres found that after three months of routine AI assistance, their adenoma detection rate during unassisted colonoscopy fell from 28.4 per cent to 22.4 per cent, a 20 per cent relative decline.[73] These were practitioners who had each conducted more than 2,000 procedures. If three months of assistance can measurably degrade the skill of highly experienced clinicians, the question of what 12 years of assistance does to a developing child deserves a serious answer. Similarly, some of the studies on various models of AI tutoring shows a decline in performance at university and the senior end of secondary school when the AI model is removed.[74]

Children are also growing up in a world where reality can be simulated, creativity outsourced and agency dulled. Some young people will gain confidence and expression from these tools. Others will retreat from effort, from social life and from reality itself.

## What does this scenario look like in practice?

### The foundations of the English curriculum become stronger, not weaker

Contrary to what is sometimes argued, foundational literacy and numeracy remain central to the English system under this scenario, and deep subject knowledge remains non-negotiable. This is because knowledge is needed to interrogate AI. A student cannot detect AI slop without knowing the subject. A teacher cannot judge AI-generated materials without pedagogical and disciplinary expertise. Knowledge is what protects agency, and a system that softened its academic core in the name of flourishing would be handing young people over to the machines, rather than equipping them to hold their own.

So, the flourishing scenario begins with substance. Phonics check, the times tables check, spelling and grammar, the disciplinary breakdown of subjects and the habits of sustained reading all remain within the state funded education system, and in several respects are pushed harder, because reading stamina and working memory are precisely the capacities under pressure if thinking and mental capabilities are weakened through the risk of cognitive offloading.

### But alongside this, the curriculum broadens around what makes a human life go well

The curriculum tilts more deliberately away from content-full subjects towards a greater exploration of philosophy, ethics, literature, rhetoric, the arts, civic understanding, physical development, environmental stewardship and practical contribution. These topics stop sitting at the margin as enrichment and become part of the main business of education. Students spend more time learning about and mastering concepts such as ambiguity, beauty, obligation, dialogue, moral difficulty and personhood.

Singapore offers the closest working model to what this looks like in practice.

CASE STUDY: Singapore's 21st Century Curriculum

Singapore is the clearest example of a high-performing system that has refused the trade-off between academic rigour and holistic formation. Its Desired Outcomes of Education framework sets out what a student should be at the end of each stage, expressed as qualities of person rather than as grades, and its 21st Century Competencies framework builds outwards from a core of values through social and emotional competencies to critical and inventive thinking, communication and collaboration, and civic and global literacy[75]. Neither framework was presented as a softening of standards. Both were layered onto a system that continued to top international assessments.

The Learn for Life phase, running since 2020, turned that architecture into structural change. Streaming in secondary schools was replaced by Full Subject-Based Banding, piloted from 2020 and implemented across all secondary schools from the 2024 Secondary 1 cohort, allowing pupils to take individual subjects at the level that suits them and removing the stream labels that carried stigma. Mid-year examinations were removed across primary and secondary levels by 2023 and progressively at junior college from 2024, with schools explicitly barred from substituting additional weighted assessments in their place. The stated purpose was to create time and space for competency development and to shift the system away from an over-emphasis on testing.[76] Singapore reduced assessment load whilst retaining a rigorous curriculum and demanding terminal examinations.

The OECD provides the international scaffolding for what Singapore has been doing empirically. Its Education for Human Flourishing framework, published in 2025, organises education around five competencies: understanding the world, appreciating the world including beauty and the sublime, acting in the world, adaptive problem solving and ethical competence. It argues that the distinctively human capacities worth cultivating as machine capability advances are social intelligence and meta-intelligence, the capacity to understand others and to understand oneself as a learner[77]. The framework emerged from the High Performing Systems for Tomorrow project, run with NCEE since 2018, in which Singapore has been an active design participant.

In England, this means the Francis Review's suggested cautious rebalancing towards oracy, citizenship and the arts is taken considerably further: on the grounds of human formation, rather than on the grounds of curriculum breadth alone.

### The reworked educational model applies across all phases of education – from pre-school to tertiary

Early years provision and the curriculum prioritises language-rich interaction, play, movement, attachment, curiosity and emotional regulation. AI is much more controlled at this phase: screens remain largely out of this phase. The early years workforce is treated as the most consequential part of the system (with implications for pay, training, pathways and qualifications), on the basis that the capacities this scenario cares about are instilled in part even before a child reaches Reception.

Within primary and secondary, as noted above, schools continue to teach a demanding academic core alongside sustained practice in speaking, deliberating, serving, collaborating, creating and judging. These are timetabled and assessed rather than left to chance or to the enthusiasm of individual departments. Personal development stops being the residual category that Ofsted inspects last and becomes a substantive entitlement with curriculum time attached to it.

Colleges and sixth forms extend students' independent learning and focus on greater teaching of inquiry, public presentation, ethical reflection, project work and the transition to adulthood. Specific qualifications

which aid this, such as the Extended Project Qualification, becomes a more central feature of the 16-19 offer. Vocational routes are reconceptualised so that they too become valued explicitly for the human formation they involve, as well as the competence they certify – moving them from a utilitarian framing to one which also instils flourishing.

Universities place more emphasis on disciplinary depth, public reasoning, moral seriousness and the responsibilities attached to expertise. They rely considerably less on generic written output as the primary evidence of learning, which is the change the sector has been avoiding since 2023 and which the flourishing scenario forces.[78]

Lifelong learning – often desired, never prioritised as a policy instrument – becomes more central. But its focus also shifts from preparing adults for new forms of work, to one which recognises the importance of lifelong learning as a good in and of itself. Areas of Further Education which have been consistently squeezed – including Adult Community Learning – become prioritised (and manifest in things such as the re-emergence of night schools).[79] The University of the Third Age becomes more prominent, alongside the Open University, as a commitment that human flourishing is never mastered and can and should continue to be developed.

### Teachers become more central

AI does not displace the teacher in this scenario. It underscores the indispensability of the human element and puts the teacher at the centre of the system rather than at its administrative margin. The teacher operates as mentor, exemplar, builder of culture and guardian of standards. Automation of routine work from both teacher and their students frees more classroom time for conversation, trust, challenge, encouragement and judgment. AI technology is integrated pedagogically rather than being allowed to lead pedagogy.

Estonia's AI Leap illustrates what public leadership looks like when teachers hold the driving seat.

#### CASE STUDY: Teachers driving AI in education in Estonia

Estonia's AI Leap sequenced its national rollout so that teachers encountered the technology before students did. A national support programme for upper secondary teachers launched in August 2025, giving them access to ChatGPT and Gemini alongside training. Students did not get the AI Leap learning application until late January 2026, roughly five months later. By March 2026 more than 60 per cent of participating teachers were using AI tools weekly, and teacher use across the cohort had risen by 20 percentage points over the year[80]. The pilot covers all 154 Estonian upper secondary schools, around 20,000 students in grades 10 and 11 and about 4,900 teachers, funded by a €4 million investment split equally between the Ministry of Education and Research and private partners.

Estonia was always an early adopter. Between 64 and 90 per cent of Estonian students were already using commercial AI tools for schoolwork before the programme began, frequently to finish assignments faster, placing Estonians amongst Europe's heaviest users of large language models.

The structure that carries the practice is the professional learning community. Schools established these so that teachers could learn the tools together, share what worked and develop subject-specific approaches rather than receive a centrally specified method. Implementation follows each school's own academic schedule.

As of March 2026, 7,700 students had activated accounts and 47 per cent of those used the application weekly, well short of universal adoption. A University of Tartu impact study with Stanford and OpenAI – ie the commercial provider that helped design the system, to give due caution to the findings - is under way, with findings due for peer-reviewed publication in 2027.

### Teacher flourishing matters too

Human flourishing cannot be reserved for students. Under this scenario the same logic is applied to the adults, because adults need confidence and seriousness of their own, before they can cultivate those qualities in anybody else.

Teacher preparation programmes (and national programmes such as the Early Career Framework, as well as further in-service programmes, such as National Professional Qualifications or Chartered Teacher Status) emphasise stronger collegial culture, greater autonomy, restored authority and genuine teamwork. Over-regulated systems of teacher practice are seen to weaken the very relationships they claim to protect, and the accountability architecture is loosened accordingly, with more trust placed in professional judgment and more emphasis on collective responsibility within schools and trusts. Retention and morale gains of the profession are treated as a central objective (which Ministers are increasingly held accountable for) rather than a welcome side effect, and the workforce crisis is reframed as a problem of professional standing, rather than one of pay and workload, which are symptoms of the wrong way in which teaching has been conceptualised to date.

This is where the scenario carries real political risk, because loosening accountability has historically been the prelude to declining standards, and any English government proposing it risks a backlash on these grounds. This scenario accepts the risk on the basis that a profession asked to model judgment, seriousness and moral confidence cannot simultaneously be managed as though it possesses none of those things.

### Assessment frameworks change to emphasise thought, judgment and formation more truthfully

Assessment in this scenario depends less on decontextualised written output and terminal performance. It makes more use of oral defence, supervised discussion, presentation, long-form project work and evidence of service, collaboration, iteration and revision. Students are asked to explain what they think, why they think it, how they changed their mind and what follows from what they know. The system remains rigorous and continues to distinguish stronger work from weaker work. It simply draws on a richer range of evidence to do so. This scenario requires substantial changes to some awarding organisations, especially in subjects which don't lend themselves as intuitively to such a model.

Ofqual needs to support this conceptual shift. Australia's Higher Education regulator provides one option for how to do it. Under this scenario, Ofqual and the awarding organisations would adopt a comparable architecture, and the qualification system is rebuilt around what can be trusted rather than around what is administratively convenient.

CASE STUDY: Australian assessment reform in higher education

Australia's higher education regulator has gone further than any other in reframing assessment around trust rather than detection. TEQSA's 2023 discussion paper on assessment in an age of AI sets out two guiding principles. The first is that assessment and learning experiences should equip students to participate ethically and actively in a society where AI is ubiquitous. The second is that forming trustworthy judgments about student learning in a time of AI requires multiple, inclusive and contextualised approaches.[81] The paper abandons the premise that individual tasks can be made AI-proof and shifts the burden onto the design of the assessment system as a whole.

The University of Sydney has operationalised this. Its two-lane model sorts every assessment into one of two categories[82].

- Lane one is secure assessment of learning, conducted in person under supervision, operating mainly at programme level, using interactive orals, vivas and in-class tasks to support judgments that can be relied on.
- Lane two is open assessment for and as learning, operating mainly at unit level, where AI use cannot be banned or restricted and is instead scaffolded and acknowledged. The division is deliberately binary. Secure tasks assure learning at a small number of high-stakes points; open tasks, which make up the bulk of assessment, develop it.

### But under this scenario, there is a risk that human flourishing can dissolve into vagueness

The most serious weakness of this scenario is definitional. "Flourishing" is admirable language, and admirable language is easy to agree with and hard to operationalise. Who decides what flourishing consists of? Which values are genuinely shared, and which are contested?

The risk of this scenario is a system that adopts the vocabulary without the substance, in which flourishing becomes a wrapper for whatever schools were doing anyway. England has been here before. Every well-intentioned framework of the last 30 years, from *Every Child Matters* to British values to character education, began with a defensible account of formation, and ended as a compliance exercise generating evidence for inspection. There is no obvious reason to assume flourishing would escape the same fate, and the more the concept resists definition, the more easily it is captured by whoever is holding the clipboard.

There is a related risk, which is that in an increasingly polarised society, it is hard to find a set of universal values which can gain national consensus. Even the very high level British Values guidance attracted some opposition within the sector. Any serious attempt to focus on a set of values via flourishing leaves the system open to political or sector opposition, and leaves education in a scenario in which AI is seen as the problem, not part of the solution.

### This scenario is a serious practical ask

A richer curriculum, a richer assessment model, a stronger adult culture and a more explicit account of purpose add up to a very substantial reform load, applied to a system already absorbing curriculum change, funding pressure and workforce shortage.

Assessment reform of this kind is particularly demanding. Oral defence and long-form project work are expensive in teacher time and difficult to moderate reliably at national scale, which is why previous English attempts at coursework and modular assessment were curtailed. The scenario could easily become rhetorically ambitious and operationally weak.

### Technology companies must be servants of human flourishing, not its master

Wisdom cannot be outsourced to product vendors. Commercial incentives do not equal public good, and a model built on human formation because lower level content is borne by AI requires educational judgment at its centre, which makes governance of content and practical delivery of this in the classroom a question for society and its democratic leaders, not technology companies selling products or classroom materials.

# 03 “Multi-disciplinary learning”

## – Crossing traditional subject boundaries and emphasising interdisciplinarity and skills

This scenario asks what education should optimise for if AI weakens the value of narrow answer-production and increases the value of synthesis, transfer and judgment.

Its core claim is that in a world where both work and public life are becoming more fluid, complex and interdisciplinary, education should become broader, less prematurely specialised and more deliberately organised around helping young people connect knowledge across domains.

Some English universities, English independent schools, international school networks and several national systems have all built versions of this model. This scenario builds on these for a system which optimises for breadth, for synthesis, and for the ability to think in the gaps between disciplines, rather than for narrowing and single subject focus.

## The building blocks for this scenario

### The hardest problems do not sit inside a single discipline

Technological disruption, climate change, war, migration, disinformation, trust in democracy, energy security and public health all cut across disciplinary boundaries. None of them can be understood, let alone addressed, from within one subject.

Serious problem-solving therefore demands the ability to think across disciplines, and the interesting and difficult work usually happens in the gaps between them. Anyone who has worked on energy policy has needed physics, economics, planning law, public opinion and geopolitics in the same room. Anyone who has worked on disinformation has needed statistics, psychology, media history and constitutional theory. This is as true in business, innovation and organisational life, as it is in public policy and global affairs.

The English education system is not organised around this reality and, up until the age of 16, it actively organises against it.

### AI further weakens the case for the narrow system we have

The model of schooling that dominates in England was well suited to a world in which the premium lay in acquiring codified knowledge, demonstrating procedural competence, and succeeding within relatively stable academic and professional lanes. The subject disciplinary boundaries cogently reflect the disciplinary knowledge within each domain, and allow for students to master that self-contained disciplinary knowledge.

Whilst there is still a place for such domain specificity, its use case is rapidly diminishing outside of academia, or very specific jobs that exist only within one domain. AI and automation are reshaping the tasks within occupations, as well as the occupations themselves, which makes the labour market more changeable, more hybrid and considerably harder to predict. PwC's 2026 AI Jobs Barometer, drawn from more than a billion job advertisements across 27 countries, found that occupations with the greatest AI exposure are experiencing roughly double the rate of skills transformation of the least exposed. The same analysis found AI-exposed entry-level roles were seven times more likely to require skills traditionally regarded as senior, including judgement and leadership, and that those roles grew 35 per cent since 2019, whilst other entry-level roles declined by 10 per cent.[83] This shows that the typical graduate job now demands, on day one, capabilities that our education system defers until much later, or never develops at all. In that context, education organised around content delivery and narrow examination performance is insufficient. Young people need to be able to connect knowledge across domains, to act in the world, to adapt to changing roles, and to exercise judgment in situations where the answer has to be constructed rather than recalled.

### AI strengthens the case for synthesis and judgment

The premium in an AI age rises on people who can connect across disciplines intelligently, rather than master one of them. Specifically, the labour market (and more advanced thinking within a discipline) places a premium on people who can connect technical, historical, ethical and economic understanding; identify what kind of problem they are facing; test the adequacy of an answer, not merely produce one; and navigate ambiguity and competing goods.

At the end of education, adults also need something similar. Citizens in the UK in the 21st century expect – and deserve – a knowledge base with historical, scientific, ethical and political literacy to remain self-governing in an age of AI-generated misinformation, synthetic media and automated persuasion. This is also important for equity reasons. Analysis of usage data of AI amongst adults in England suggests adoption is concentrated amongst higher-skilled workers performing tasks where the technology works reliably, and that the pattern looks like augmentation rather than wholesale replacement of routine tasks.[84] What that implies is a labour market in which the return to being able to direct, interrogate and improve upon machine output rises sharply, and the return to being able to produce competent output unaided falls.

The World Economic Forum's Education 4.0 framework and its subsequent learning taxonomy attempt to codify what this means for curriculum, setting out the abilities, skills, attitudes and values that education systems should be building deliberately rather than incidentally.[85] The framework is imperfect, but a list akin to this would be central to this scenario.

### CASE STUDY: The World Economic Forum's Education 4.0

Launched in January 2020, Education 4.0 is the most widely cited international attempt to specify what a broader curriculum should contain.

The framework, set out in *Schools of the Future*, proposes eight shifts split evenly between content and experience. Four skill sets: global citizenship, innovation and creativity, technology, and interpersonal skills. Four learning experiences: personalised and self-paced, accessible and inclusive, problem-based and collaborative, and lifelong and student-driven. The report identified 16 exemplar schools and systems reaching around 2.5 million children, amongst them the Green School in Indonesia, the Innovative Schools of Peru, the British School Muscat and the UK's Skills Builder Partnership.

The 2023 successor, *Defining Education 4.0: A Taxonomy for the Future of Learning*, produced with the LEGO Foundation, breaks the framework into three aptitudes: abilities and skills, attitudes and values, and knowledge and information. Its stated purpose is to give educators and employers a shared vocabulary for skills, which the Forum found they currently lack.

There are limitations. The framework was produced through stakeholder consultation, not empirical evaluation. Its exemplar schools were selected as illustrations, not assessed against outcomes. And its organising logic is the labour market, not an educational purpose. In other words, it describes a destination without providing evidence on the route.

## Higher education in England shows what is possible

The most instructive evidence for this scenario comes from higher education, which has been quietly restructuring itself around interdisciplinarity for the better part of two decades.

In recent years, some of the highest tariff universities, who have recruited for generations on achievement in a curriculum specific area at 18, and produced graduates with advanced skills within that one discipline, have introduced new, broader degrees. King's College London, Durham, Warwick, Exeter, and Birmingham have all created combined liberal arts and natural sciences programmes. The Cambridge and Oxford tripos and PPE models – seen as the apotheosis of content rich knowledge teaching – have always contained a version of the same instinct of cross cutting ideas and concepts.

Most notably, UCL launched its Bachelor of Arts and Sciences (BASc) in 2012, explicitly in response to employer demand for graduates able to work across disciplines. Students combine arts, social science and science pathways with a compulsory interdisciplinary core designed to teach the conceptual and methodological differences between fields, alongside a modern language and an internship.[86]

This pattern is significant because universities are the part of the English system with the most direct exposure to what employers want and the most freedom to respond. Given that freedom, they have moved consistently towards breadth. Schools, which lack the freedom, have moved consistently towards narrowness. That divergence is a policy choice, rather than an educational choice.

The clearest single expression of the trend is a brand new institution built from nothing on precisely this premise – the London Interdisciplinary School.

CASE STUDY: The London Interdisciplinary School

The London Interdisciplinary School opened to its first undergraduate cohort in Whitechapel in 2021, having been granted degree-awarding powers by the Office for Students in 2020. It was the first new provider in over 50 years to open with full degree-awarding powers from inception, and the first institution to receive New Degree Awarding Powers under the framework introduced after the 2017 Higher Education and Research Act.

LIS was founded in 2017 by Ed Fidoe, co-founder of School 21, Chris Persson and Carl Gombrich, who had built UCL's Arts and Sciences BASc. Its undergraduate degree, a BASc in Interdisciplinary Problems and Methods, has no subject departments. The curriculum is organised around complex problems, with students studying methods drawn from philosophy, epidemiology, statistics, design, behavioural science and the arts, and applying them to briefs set by external organisations. Faculty are recruited as problem-focused generalists rather than disciplinary specialists.

Around 89 per cent of BASc graduates are in skilled employment 15 months after graduating. LIS has since added a Master of Arts and Sciences and professional programmes.

Whilst the model remains small and young, and its long-run outcomes are unproven, it shows the possibilities of a different way of conceptualising study.

### The English school system is narrower than many of its international peers

England already has one of the narrowest upper secondary curricula in the developed world, and few comparable countries force students to specialise into a small set of subjects at 16. Research by the Education Policy Institute for the Royal Society found that the proportion of students taking qualifications spanning at least three of the main subject groups has halved since 2010, and that the average student now takes subjects from fewer than two.[87] The British Academy found that the proportion of students combining a STEM subject, a social science and a humanities subject fell by almost two thirds from 2015/16.[88] Pressures of funding, teacher supply and accountability are combining to encourage a shift to narrower study in post-16, at precisely the time when options ought to widen.

The drive to breadth over depth does not follow a traditional left-right spectrum. It was the Gove-led DfE who narrowed GCSE choices through accountability metrics such as the English Baccalaureate. Yet, it was also a Conservative administration under Rishi Sunak that proposed the Advanced British Standard in October 2023, which proposed all students study five subjects over 1,475 taught hours over two years, with maths and English being compulsory to 18, explicitly on the grounds that A Level students typically take three subjects whilst competitor nations study seven.[89] It was the *Curriculum and Assessment Review* (Francis Review) under a Labour administration which left the 16-19 architecture substantially intact, and the same Labour administration that removed the large programme funding uplift in October 2025 that made the most common way in which a cross-disciplinary education is viable in the state sector – via the International Baccalaureate Diploma Programme – harder to deliver.

CASE STUDY: The International Baccalaureate in England

The IB Diploma is the closest thing to a working baccalaureate available in England. Students take six subjects across language, a second language, individuals and societies, sciences, mathematics and the arts, alongside a compulsory core of Theory of Knowledge, an Extended Essay and Creativity, Activity, Service. It is broad, inquiry-based, internationally portable and academically demanding.

Since 2013, the Large Programme Uplift (LPU), worth 20 per cent on top of base funding for students achieving 28 points or more, made the additional teaching hours affordable for state institutions. Around 20 state schools in England offer the Diploma Programme, receiving roughly £2,400 extra per pupil.

On 1 October 2025, the Department for Education wrote to affected institutions withdrawing the uplift from the 2026/27 academic year, with transitional arrangements. There was no consultation and no impact assessment. The IB estimates around 5,000 students are affected and describes the savings as minimal. The Education Secretary explained that the uplift was being refocused on maths and STEM for students taking four or more A levels, alongside £800 million of additional 16-19 investment. A Westminster Hall debate in October 2025 heard from schools such as Hockerill, where the Diploma is the sole post-16 provision.

The IB's own comparative evidence, drawn from matched-cohort analysis, reports that Diploma students were three times more likely than matched A Level students to enrol at a top 20 higher education institution, 21 per cent more likely to continue into a second year or complete, and 40 per cent more likely to graduate with a first or upper second. That evidence is produced by the IB and should be read accordingly, but it has not been seriously contested.

### A baccalaureate instinct looks increasingly compelling, and has been delivered in schools – but many specific programmes should be treated with caution

A baccalaureate-style model begins from a different educational instinct. It assumes that young people should not specialise too early, and that serious education combines disciplinary rigour with breadth, and that the skill of inquiry matters alongside instruction.

There are a handful of examples of where independent schools have moved well beyond the constraints of subjects – and even beyond the well-evidenced and well-structured qualification which is the International Baccalaureate – though many of them show as many weaknesses as strengths.

### CASE STUDY: Bedales School

Bedales, in Hampshire, is the most developed English example of a different curriculum and accompanying assessment system.[90]

Dissatisfied with the increasing centralisation and prescriptiveness of GCSEs, the school introduced Bedales Assessed Courses in 2006 as an alternative qualification, externally moderated, graded on the same scale and recognised by UCAS and universities.

Students currently take a core of five I/GCSEs in English, maths, science and a modern language, alongside up to five BACs. From September 2027 the school plans to move to a two-GCSE model, retaining only English and maths. BAC options include Ancient Civilisations, Global Awareness, Outdoor Work, Philosophy Religion and Ethics, and Digital Game Design, the last of which is explicitly interdisciplinary, running six modules from the history of games through coding to the business of game design before a mentored individual or collaborative project. Assessment mixes written assignments, presentations, projects, performances, portfolios, vivas and terminal examinations.

Year 9 at Bedales involves no external examination preparation at all. Humanities are taught through an interdisciplinary real-world approach across geography, global perspectives, history and philosophy, culminating in the Bedales Humanities Research Project.

Two things are worth noting. Bedales achieves this whilst producing strong conventional results, which undercuts the assumption that breadth and rigour trade off against each other. And Bedales is a fee-paying school with a self-selecting intake and no accountability regime to satisfy, which is precisely why it can do it.

### CASE STUDY: Hole in the Wall and Self-Organised Learning Environments

The intellectual antecedent most often invoked for this kind of flexible model is Sugata Mitra, whose Hole in the Wall experiments from 1999 placed internet-connected computers in walls in New Delhi and elsewhere, and who argued that children working in unsupervised groups could teach themselves to use them and to reach beyond their grade level. Mitra won the TED Prize in 2013 to build School in the Cloud, and developed Self-Organised Learning Environments (SOLE) as a structured method: a big question, 40 minutes of group investigation, then review.

The underlying idea speaks directly to this scenario. A big, open question that cuts across subjects, investigated collaboratively with the whole internet available, is close to what interdisciplinary inquiry looks like in practice, and Mitra was describing it two decades before generative AI made the tooling considerably more powerful.

But this programme also suffers from a significantly negative evidence base. Payal Arora's fieldwork found little independent evidence beyond that generated by the project itself, and that the original installations had largely fallen into disuse. Comparisons between time spent at the terminals and time spent in school were not constructed in a way that supported the conclusions drawn. Although SOLE has been widely adopted in schools, there is not a serious independent evaluation behind it – and Mitra's stronger claims, that teachers and even schools are not necessary conditions for learning, do not survive contact with the evidence on explicit instruction.

### Other state-funded education systems build interdisciplinarity into the national curriculum with some success

Many other state funded systems accommodate emerging interdisciplinary demands, including global competency and digital literacy, by embedding cross-curricular themes across existing learning areas rather than by adding new subjects. The OECD's Future of Education and Skills 2030 project has mapped curriculum content across participating systems and shown how countries are handling exactly this question. Their premise is explicit that cross disciplinarity is a deliberate response to curriculum overload, and that adding subjects is the failure mode to be avoided.[91]

Finland is the system most often cited, but the reality is more modest than the international reporting suggests. Its 2016 national core curriculum requires schools to run at least one multidisciplinary learning module each year, in which teachers from several subjects work together on a single phenomenon. Subject-based classes remain, and phenomenon-based learning was never a wholesale replacement for them. Finnish teachers report real difficulty in moving from identifying a phenomenon to constructing a manageable interdisciplinary unit around it, and in balancing student-led inquiry against curriculum outcomes.[92] It should also be noted that Finland's PISA scores – also assessed by the OECD – have also fallen substantially over the period.

Singapore takes a different route to a similar place, holding disciplinary rigour and interdisciplinary application together through its 21st Century Competencies framework and its Learn for Life phase, without loosening the academic core. Japan's Period for Integrated Study, introduced in 2002, allocates dedicated timetabled hours for cross-subject inquiry.

Taken together, the international evidence supports a specific conclusion: that interdisciplinarity works when it is built on strong subject teaching, given protected curriculum time, supported by structured teacher collaboration, and assessed properly.

## What does this scenario look like in practice?

### Breadth is maintained for longer and specialisation comes later

Students continue to study a wider range of subjects and domains for longer, and the hard break at 16 that currently defines English education softens into a gradual narrowing across the whole 14-19 phase. This scenario takes the Burnham administration's early thinking on widening pathways at 14 and turbocharges it.

In practice, this means a series of curricular pathways opening up and being funded. It could mean a revived Advanced British Standard in some form at 16-19, with majors and minors; restored funding for the IB Diploma and Career-related Programme; or a properly funded AS level that functions as a mechanism for breadth, as opposed to a residual qualification; and a 16-19 funding formula that stops penalising institutions for offering more than three subjects. It also means a widening of options of technical and vocational qualifications, including ones closely linked to workforce skills and recognising the cross boundary challenges that workforces face.

And alongside all of those, it means a reworking of curriculum content. If a student moves from studying three specific subject A Levels to four or five, this is not interdisciplinary thinking.

Under this scenario, the Extended Project Qualification becomes a universal core component, not an optional add-on for higher achieving students.

### But strong disciplinary foundations remain the starting point

Under this scenario, students still study maths, science, history, literature, languages and the arts, taught with rigour. The disciplines, and their core knowledge, are the material this scenario builds from and are not replaced.

Knowledge gives students the mental models needed to interpret, connect and test ideas, and it is what enables transfer across contexts. It also gives students something solid from which to interrogate machine-generated output. A student cannot think critically about an answer without having something to think with, and the capacity to assess whether an AI-generated response is reliable rests entirely on knowing enough about the subject to notice when it is not.

This scenario spends time carefully reconfiguring how subjects are taught, not reducing the content of them. It allows schools to bring lessons together; or to teach lessons from different subjects in one block; or to break from traditional lesson delivery towards more interactive, student-led activities that teach cross-disciplinary skills, such as group work.

### Student inquiry sits at the centre of schooling, and this is planned collaboratively by teachers

In a successful delivery of this scenario, students are expected to ask questions, investigate claims and connect ideas across the domains they are taught. The skills to do this – to do independent investigation, research, communication, self-management and social skills – are taught explicitly and assessed.

In this scenario, cross-subject connection is designed into the curriculum. This requires specialist and different models of lesson planning, rather than being left to whichever teachers happen to talk to each other. School structures – including whether teachers are grouped into departments; and how CPD and planning sessions are structured – change to reflect this.

### Achievement is evidenced in more than one way

At Key Stage 4, the reduction in examination time recommended by the Francis Review is extended – such that a reduction of approximately 20 per cent to 30 per cent is delivered. This curriculum time is used to create space for extended investigation rather than absorbed back into revision.

The model of assessment also changes. Extended inquiry, oral defence, project work, reflective writing and interdisciplinary tasks sit alongside formal examinations rather than replacing them. Using the example of Bedales, external moderation, university recognition and a common grading scale become core parts of the new system, with Ofqual and the awarding organisations developing the moderation infrastructure to make it reliable.

### AI expands the capacity of the teaching workforce to deliver this richer drawing together of content across disciplines

This scenario treats AI as a critical part of the infrastructure that makes breadth affordable.

Teacher-facing tools within approved AI programmes compensate for gaps in subject knowledge, provide scaffolding for teaching outside a specialism, and support planning, resource creation and cross-disciplinary teaching. The evidence base for support for teachers via AI is the strongest available in the whole field. The EEF's randomised controlled trial with NFER, involving 259 teachers across 68 English secondary schools, found that teachers using ChatGPT with a structured guide cut lesson and resource planning time from 81.5 to 56.2 minutes per week, a 31 per cent reduction, with an independent panel finding no noticeable difference

in the quality of materials produced.[93] The Aila trial now running with NFER across 86 primary schools tests the same proposition for a curriculum-aligned tool[94].

The Finnish difficulty, that teachers struggle to construct manageable interdisciplinary units from broad phenomena, is precisely the kind of design problem that AI support addresses well. If a history teacher can be supported to teach a second subject in economics to a decent standard, and a physics teacher supported to run an interdisciplinary project on energy policy, the workforce constraint ought to be resolvable.

### The risk is breadth can become vagueness and lose its credibility

A broader curriculum slides easily into worthy rhetoric unless it is anchored in demanding content and sharp assessment. Interdisciplinarity is a word that sounds serious and can mean almost nothing, and a project on climate change that touches geography, ethics and economics without going far into any of them teaches less than a good geography lesson. Daisy Christodoulou's work, for example[95], shows that high student engagement in group work and interdisciplinary thinking often leads to surface compliance and little deep thinking.

Such models can also come under attack with a lack of political or parental confidence. The competence-based curricula of the 2000s, and the thematic approaches that followed the Rose Review, were argued for in language very close to the language of this scenario, and the knowledge-rich reaction that displaced them was in large part a reaction to how thin they turned out to be in practice.

### AI can also create a new workload trade-off

If the 25 minutes a week that ChatGPT saves a science teacher is immediately reallocated to preparing a minor subject they have never taught, the retention benefit that made the tool attractive disappears. The workload gains and the curriculum ambitions are drawing on the same finite resource, and a government that promised both would be promising the same hour twice.

### And counter pressures – particularly in the accountability system - may mean that the architecture stays unchanged whilst the rhetoric broadens

The final element of the scenario has been seen in places where such an approach has been rolled out. In practice many IB schools remain highly examination-conscious, and the broader elements of the programme can become things students complete rather than things that shape how they think. A baccalaureate structure does not by itself produce baccalaureate habits of mind.

The same qualification applies to almost every example in this scenario. Bedales works in a fee-paying school with a self-selecting intake and no accountability regime. LIS is small, young and unproven at scale. Finland's multidisciplinary modules are only one module a year and have been rolled out against a backdrop of falling measured attainment.

England is particularly susceptible to the gap between rhetoric and architecture. The accountability system is powerful, it measures what is easy to measure, and it will reshape any new qualification around whatever generates the headline metric within about three years. The risk is a system that adopts the language of breadth, synthesis and inquiry whilst the underlying architecture of terminal examinations and league table pressure carries on exactly as before.

# 04 "Accelerated Learning"

## – A fully personalised system that moves by stage, not age

This scenario asks, what would education look like if England chose to optimise for mastery, pace, responsiveness and the stretching of individual potential – underpinned by a fully integrated AI system that supported teachers and learners?

Under this scenario, AI makes it newly possible to move away from the industrial classroom and towards personalised, tutoring-rich learning, with routine instruction compressed and human time redirected towards coaching, projects, challenge and support. Pupils progress when they have understood something rather than when the calendar says they should. Different versions of this scenario allow for such flexibility for individual students, individual schools, or the system as a whole.

## The building blocks for this scenario

### Technology revisits the previous systemic need for standardisation

England has run a version of the same model since the late 19th century. One teacher in front of 30 same-age pupils, receiving standardised content at a standardised pace, is predominantly an answer to the problem of educating an entire population at affordable cost. Variants of the system (for example, small group support for stretch or catch up, or merged classes taught by a highly competent teacher) are edge cases, and their use is predominantly restricted either by cost or practical barriers (i.e. a lack of large classrooms to have 60-90 students taught together with one instructor and multiple support staff). Even in high-end independent schools where cost and physical constraints are less, the dominant model still prevails (except with smaller group sizes on average).

Access to technology now offers, for the first time, a way to break the practical barriers of workforce, instructor availability, and cost.

### The current stage-not-age model hampers both those who need additional support and those who could accelerate away

It has long been known that summer-born children in England are systematically disadvantaged relative to autumn-born children throughout compulsory schooling. The DfE's own analysis found gaps of around five percentage points still present by Year 10, and the Institute for Fiscal Studies found that August-born pupils were nearly a third more likely than September-born pupils to be under-assessed by their teachers at Key

Stage 2, relative to external assessment.[96] Around 11 months of chronological accident produces measurable, persistent differences in outcome. Despite significant efforts by schools, a system that teaches to the middle often means that insufficient support is given to those who need additional support (because of age, or SEND, or who simply fall behind in understanding and mastering content).

At the higher end, one US study – the Curriculum Compacting Study – found that when teachers removed 40 to 50 per cent of the standard content for high-ability pupils, there was no fall in achievement test scores, and in some subjects the scores rose. The pupils had, in effect, already been taught much of what the curriculum was still requiring them to sit through. Other studies in both the UK[97] and US[98] have found only minor curriculum modification for gifted pupils in every type of school, and in the UK, shown directly that a failure to teach to the top end can lead to lower exam results than might have been forecast.[99]

### Talent is everywhere, opportunity is not

This is a phrase regularly uttered by politicians and policymakers and is often used (fairly) to justify additional intervention and resources to lower socio-economic areas or young people who may otherwise not have the opportunity to make the maximal use of their cognitive or educational ability.

This matters because high achievement at school often correlates with later success in life – but these can correlate with wealth, rather than implicit talent. For example, Bell, Chetty, Jaravel, Petkova and Van Reenen's analysis of 1.2 million US inventors found that children from the top one per cent of the income distribution are ten times more likely to become inventors than children from below-median-income families.[100] But crucially, they found that gaps persisted event amongst children with similar maths test scores in early childhood. In other words, wealthier children with the same measured ability as their poorer classmates were more likely to become inventors. There are, in the authors' phrase, many "lost Einsteins".

### Generative AI makes a different model scalable for the first time – particularly the role of AI tutoring

The potential game changer in this space is Intelligent Tutoring Systems, known colloquially as AI tutors. The development of Intelligent Tutoring Systems (ITS) began in the 1970s to enhance computer-based tutoring with AI methods. ITSs are software programmes equipped with AI programming that can detect, comprehend, and adapt to the learner's progress. Their aim is to support learning by simulating human tutors' pedagogical skills and subject expertise and produce the same kind of learning and flexibility that might occur between teachers and students.[101] Examples of AI tutoring platforms or services include Duolingo and Third Space Learning.

Several meta-analyses have shown ITS to enhance student learning.[102] For example, a meta-analysis examining the effectiveness of ITS in improving reading comprehension for students from pre-school to the end of secondary school found that ITS produced a small effect size when compared to human tutoring.[103] In another recent US study by Middlebury College, undergraduates learned about an unfamiliar topic in class, either with or without the help of an AI chatbot. Students using AI performed better in tests, and the advantage persisted when they repeated the task a week later.[104]

However, it is difficult to quantify the impact of ITS due to the absence of universally accepted pedagogical principles, robust evaluation frameworks, and comprehensive benchmarks[105]. A systematic review of AI-driven ITSs from pre-school to the end of secondary school found that the success of ITS integration into an education ecosystem is dependent on several factors, including student engagement, sustained use and individual learner characteristics.[106] The review found that the effectiveness of an ITS can vary based on learner individual factors, including prior knowledge, cognitive load, gender, and development stage, with lower performing students often displaying greater benefits due to the tailored scaffolding these systems provide.[107]

Overall, the research indicates that ITS may enhance students' learning and performance in certain conditions. However, it is difficult to generalise due to great variations in experimental designs.[108] By contrast, a recent summary of research on generative AI in tutoring for Brookings put a more positive gloss on the same body of research, drawing the conclusion that ITSs can match the success of human tutoring.[109]

Although the evidence is still in its infancy, huge amounts are being invested by major AI labs into AI tutoring and the field is expected to continue to advance exponentially.[110] Within the UK, a small scale trial has been launched by the DfE to fund and monitor eight organisations to roll out AI tutoring in English schools to study the impact.[111]

## What does this scenario look like in practice?

### The system is limited only by the extent of its desire – this can be an individualised, school level or systemic solution

There are three levels on which this personalised approach could operate. For an individual, this could mean a pathway increasingly shaped around their own needs and desires and abilities. For schools or groups of schools, this could mean institutions themselves become much more flexible, or wholly new and specialist institutions being created on this model. At the most scaled – and perhaps the biggest leap overall – every school would have elements of this programme, with the pillars of the old system – exams, curriculum, teacher training – responding to this need for greater flexibility.

### The common principle is that mastery is rewarded, not time in a subject – this leads to much more flexibility with student grouping and teaching

However the system is structured, and whether this operates at individual or school level, the key driver is that students progress when they demonstrate understanding. Adaptive platforms handle a meaningful share of practice and diagnostic work, and progression pathways become more flexible both within and across subjects, so that a pupil can be two years ahead in mathematics and on track in English without either being treated as an anomaly.

Catch-up becomes faster, more targeted and continuous rather than an intervention bolted on after a summer of drift. Fewer pupils are carried forward with unresolved misconceptions, which is the compounding failure at the heart of the current model. Advanced learners move deeper or faster, and the choice between the two is made deliberately rather than by default.

This means that in practice, classrooms are mixed more by ability than by age – and smaller groups can splinter off as needed, with technology providing the solution to workforce and cost. This takes the premise of setting (very commonly used, especially in subjects such as maths) further, as well as the premise of moving children up or back a year (much less used). A class for GCSE maths could include students from across Years 8, 9, 10 and 11, for example.

### An individual chooses their own pathways to the maximum extent

At university, a student is free to choose modules from across the institution, that can fit within their own degree framework (once the mandatory modules have been completed). At FE, to a lesser extent, subjects across academic and technical domains can be combined. The policy architecture of the Lifelong Learning Entitlement (LLE), and within tertiary education more broadly in the UK and the US, emphasises "stackable"

qualifications and "bite sized" modules of learning[112] which can be combined in a highly personalised way and then cumulatively accredited (or, even if not, can be built into a portfolio that can be shown to employers using concepts such as a digital skills wallet[113]) and ported. Within the school system, such flexibility is almost impossible to deliver – a combination of the accountability system and funding architecture means that, to take one example, the numbers of 14-16 year old students merging their learning between schools and FE has collapsed in recent years, now down to fewer than 10,000 students overall, including those electively home educated.[114]

Under this scenario, technology underpins a much wider access to learning – both credentialed and non-credentialed. This can blend courses from the home school or college, other educational institutions in the UK or even potentially abroad (including universities) and potentially work-based education (such as professional learning). Solutions like skills wallets allow for a mixture of credentialed and non-credentialed courses to still allow a student to demonstrate what they can do and what they have learned.

### New institutions emerge to service this demand

Within a 'mainstream' school, such flexible pathways are offered to some or all students. But specialist institutions also begin to open up whose entire architecture – funding, timetabling, teacher recruitment – is designed around this flexibility.

A very small number of specialist 14-19 institutions already exist who offer some level of flexibility – for example studio schools, University Technical Colleges, 16-18 maths schools, and highly specialist institutions, such as the BRIT School. There are also other specialist private institutions that meet a need, such as Chetham's School of Music. Under this scenario, the DfE makes it much easier for new institutions to open in the state sector by flexing regulations on the management of institutions which act as a bar to innovation. Specialist institutions could focus on particular domains (such as languages, engineering, humanities or sciences), or groups of students (for example gifted and talented schools, or special schools which offer high standard support for SEND pupils in a way which current funding can sometimes tell against).

### Assessment still exists, but much formative assessment is underpinned by technology

Assessment is used first for diagnosis and direction. Low stakes checks for understanding run continuously, generating real-time insight into errors, misconceptions and working habits, and the information goes to the teacher and the pupil rather than upwards to the accountability system.

Ranking and summative assessment still exists, because credentials require it (even in stackable qualifications) and because employers and universities need to distinguish between candidates. But the school system reduces its dependence on failure as the primary feedback mechanism, which is the change most likely to alter how the bottom third of the attainment distribution experiences school.

### Curricula still exist but elements of them can be mixed and matched with more adaptive assessment

Flexibility over how a student studies, and in what combination, does not mean that there is a total free for all over curricular content. Within either "full fat" existing qualifications (e.g. GCSE maths), or newly designed modules of qualifications, there is still a system of quality control. For many, this will remain the Ofqual approval. For others, it may be the institution themselves (for example, universities award and quality control their own qualifications or modules, with their own internal systems of review and quality assurance).

At the maximum end, all funding could be devolved to students to hold full purchasing power over whatever they choose to study – akin to the wider debates around personal budgets in policy circles[115], or akin to how adults choose their own CPD in many workplaces – but in all likelihood, some form of greater control is needed

to maintain quality amongst under-18s. However, the system allows greater mixing and matching of modules within different qualifications, and certification systems recognise this. For example, a student could study modules from Biology, Geography and Geology to create a personalised qualification in Marine Biology. Or a student could combine qualification badged study with non-credentialed aspects of learning – e.g. work experience – and together, have this certified as a broader experience – which is exactly how the Prime Minister sees his Manchester Baccalaureate working at scale, or how many schools offer their own broader 'diploma' to recognise the importance of undertaking wider experiences within a school setting (such as undertaking volunteering, or reading a set number of books). The assessment system flexes to allow maximal use of recognising these more flexible pathways and providing a way of demonstrating them to a student's next destination (work or study).

### Personalised AI tuition is combined with strong human teaching

AI is at the heart of this scenario. It provides tailored explanation, practice, feedback and pacing to a student. But though there will be some students whose educational experience becomes a series of 1:1 or small group interactions predominantly delivered via a screen, this is not the dominant model, which still has a human teacher at its heart. In this scenario, the teacher, freed from delivering the same explanation 30 times, operates as coach, mentor, culture-builder and quality assurer, and the role shifts from broadcaster to diagnostician and designer.

The emerging evidence on AI tutoring is clear about the need for humans. One study in Turkey ran a randomised trial with nearly a thousand Turkish high school students across three year groups, comparing a standard GPT-4 interface, a version with pedagogical safeguards, and a control group with textbooks and notes. During assisted practice, the standard interface improved performance by 48 per cent and the safeguarded tutor by 127 per cent. When access was removed and students sat an unassisted exam, the standard interface group performed 17 per cent worse than the control group. The safeguarded version eliminated that harm and produced no significant positive learning effect either.[116] Similarly, the summary from Stanford in late August this year is clear that "high-impact tutoring remains defined by live human-led instruction. Current research supports leveraging AI tools to **enhance tutor effectiveness and educator capacity, rather than serving as a replacement for high-impact tutoring**."[117] (our emphasis)

This is the risk of cognitive outsourcing or cognitive offloading discussed earlier. Mindless dependence on a technological solution fundamentally misunderstands how humans learn.

Conversely, the most interesting finding in a UK context utilises technology and humans together. A study between Google LearnLM and Eedi, run across five English secondary schools, kept students in an ordinary maths lesson taught by a human teacher and deployed the tutor only for individual practice after a wrong answer. Three conditions were compared: a human tutor, a human-supervised LLM tutor, and a pre-written static hint. The static hint performed worst, and there was little to choose between the human and the model. The LLM error rate was 0.14 per cent.[118] Importantly, in this model, the teacher teaches the concept to the class, and the AI tutor handles the practice loop afterwards. Daisy Christodoulou sets out four tests any student-facing tutor should pass: it should ask questions rather than deliver explanations, since explanations are overrated as a means of learning; it should not hallucinate; it should beat the pre-LLM alternatives of textbooks and intelligent tutoring systems, which have near-zero error rates; and it should preserve the structure and discipline of a classroom rather than replace it.

### SEND is properly supported

Under this flexible model, content is delivered in multiple modes as standard: text, audio, captioning, visualisation and pacing control. Interfaces are customisable and adaptive technologies are built in rather than requested. Learners with auditory, visual, communication or processing difficulties get better support, and the stigma attached to differentiated access falls away because everybody's provision is differentiated. Technology makes these multiple delivery models possible.

### Everything is underpinned by data

Real-time learning data identifies strengths, weaknesses, pacing problems and hidden potential, and feeds back into instructional response. Interventions become more precise. Learning data is used for talent development rather than accountability compliance, which requires a firewall between the two that England does not currently have and would need to build deliberately.

### An accountability system recognises proficiency – but caution should be taken over design

At the moment, the accountability system measures both attainment and progress – but against a fixed model of qualifications, and progress only on a cohort basis (looking at where a student was at 11, forecasting where they ought to be by 16 statistically, and rewarding or penalising a school based on their actual results at 16). In this scenario, the accountability system has to dramatically change, focussing on recognising proficiency at student level and institution level. But previous attempts to look at this have often come into difficulty. For a reform to succeed, universities and employers need to be brought in early to changes rather than presented with a finished product, and parents need to be reassured explicitly that their child's route to the next stage is protected.

#### CASE STUDY: Maine's proficiency-based diploma

In 2012 the Maine legislature passed LD 1422, requiring that high school diplomas be awarded on demonstrated proficiency across eight content areas rather than accumulated credits. It was bipartisan, it was well funded, and it drew on a decade of philanthropic investment including Gates Foundation money channelled through the Nellie Mae Education Foundation and the Great Schools Partnership.

Implementation ran into three problems:

- Districts could not agree what proficiency meant, so a standard in one part of Maine did not mean the same as a standard in another.
- Teachers struggled to explain the new grading to students, with some schools retaining letter grades and others moving to a four-point scale on which a two felt like failure to a pupil who was working hard and progressing.
- And the change collided with the abolition of key aspects of the old system which families cared about: honour rolls, class rank, valedictorians, scholarship applications and selective college admissions all changed.

The change hit rapidly diminishing public opinion. Deadlines to fully introduce the new system were postponed repeatedly, from 2018 to 2025.

In July 2018 the legislature made proficiency-based diplomas optional rather than mandatory. Most districts reverted back to the old system. A later evaluation by Education Development Center found that after four years remarkably little had reached actual classroom practice.

Overuse of poor quality and screen dominated models of learning could lead to further disengagement, and harm to wider pastoral and social development.

Easy access to fluent help weakens student originality, persistence and deep thinking. In the model of cognitive offloading, students become dependent on the AI-generated first response, ideas homogenise towards the model's defaults, and output becomes generic. The most dangerous version of this scenario is the one where surface competence rises whilst underlying capability weakens, because a system optimising for measured mastery will read that as success and accelerate. Learning becomes frictionless in exactly the wrong way, and the frictions that were removed turn out to have been the mechanism by which students actually learn.

Similarly, over dependence on the technologies that personalise learning risks the downsides that are already emerging from these same technologies that are designed to wholly colonise attention. Children are already vulnerable to overstimulation, fragmentation and novelty. A badly built accelerated model could deliver more screen dependence and less human formation. The political backlash in both the UK and US against screen time (whether via mobile phones, or social media, or screen time in schools) is growing and represents a threat to the acceptability of this scenario.

Any serious version of this scenario has to say plainly that more screen time is not the objective. The goal is cognitive liberation rather than digital immersion, and the distinction has to be built into every aspect of how this plays out in the daily life of students in schools, at home, or in colleges.

# 05 "Curiosity driven lifelong learning"

## – Upending our assumptions about for whom, and when, education is funded

This scenario focusses on a shift of focus from compliance to engagement, and from performance to exploration.

In an age when AI makes it easier to complete work without deep thought, education should become far more deliberate about placing curiosity at the heart of the system. It optimises for exploration, self-direction and lifelong motivation, using AI not to automate schoolwork but to make learning more interesting, and more porous to the outside world.

At the same time, it takes the thesis of lifelong learning, extended lifespans and a changing labour market and turns it from rhetoric to reality – and makes a new claim on where the greatest return to investment now lies.

## The building blocks for this scenario

### The current system is weak at cultivating intrinsic motivation and AI can make that worse

Too often, for too many students, learning is presented as a quid pro quo. Learning in classrooms does not excite or engage, but is to be tolerated, in exchange for a qualification. For these students, schooling is an arrangement that rewards compliance and extrinsic motivation (i.e. get a qualification, go on to the next stage which you might enjoy more, whether that is in school, college, university or the workplace) considerably more than it rewards curiosity, initiative or genuine engagement.

A system built on this type of task completion without intrinsic interest or motivation is vulnerable to a technology that completes tasks effortlessly. Students can substitute AI-generated work for cognitive effort, and the gradual result is erosion of the knowledge and dispositions on which further learning depends.

The risk of cognitive offloading has been discussed several times already. The NEU's 2026 survey found 66 per cent of secondary teachers reporting a decline in pupils' critical thinking as AI becomes mainstream.[119] A system that optimises for performance without interest will find that AI accelerates coasting rather than deepening learning, because coasting is what the system was already rewarding.

At the same time, a system which under values intrinsic learning can widen gaps between those who do value learning, and those who don't. Access to AI tutoring, for example, offers potential benefits to those who

engage, and no benefit – or active harm – to those who engage with it superficially or choose not to engage when they are given a choice. And some early evidence suggests that student motivation is an issue. The most famous is the failure of "Khanmigo" – the AI tutoring tool from Khan Academy – which initially launched with grand claims of millions of use cases, but has rapidly been downgraded when it became clear that it depends on students' self-motivation to participate or engage, which was much less than initially presumed– and where the students who did engage tended to be the more self-motivated and higher attaining students already.[120] This reflects other evidence, for example, through access to MOOCs, where one study found that for each additional $20,000 of neighbourhood median income, the odds of participating in a Harvard or MIT online course grew by 27 per cent, with wealthier students more likely to complete, and the gaps widest amongst adolescents.[121]

### But AI could widen access to exploration, and that is the big goal

However, if the engagement model can be changed, AI offers significantly lower barriers to participation, and more importantly lowers barriers to experimentation, prototyping and trying things out without fear of failure. Tools for coding, design, video, simulation, writing and prototyping widen access to forms of creative and intellectual exploration that were previously gated by expertise, equipment or money.

This matters for social mobility and engagement because it breaks the link between "I am interested in this topic" and "I have to learn about this topic for school". AI expands the range of things a young person can become interested in and persist with, without it being seen as part of a standardised corpus of material to pass an exam.

Students who are intrinsically motivated are sometimes described as being in 'explorer mode'. For such students who are deeply engaged and taking initiative in their own learning, they do better academically and show greater prosocial behaviour, alongside having stronger motivation to learn.

Widening access to exploration requires infrastructure, but also a scenario in which curiosity and going down rabbit holes is valued, not seen as a weakness. This is still a prize that is valued in the independent sector, who encourage teachers to range widely across the knowledge base – aided by smaller classes, sometimes more intrinsically motivated students, sometimes teachers with greater subject knowledge, and lack of accountability pressure in the same way that state schools suffer from. A scenario which emphasises curiosity in state schools, and designs an architecture around it, offers huge potential upside.

### Adult learning is under supported in the UK at present

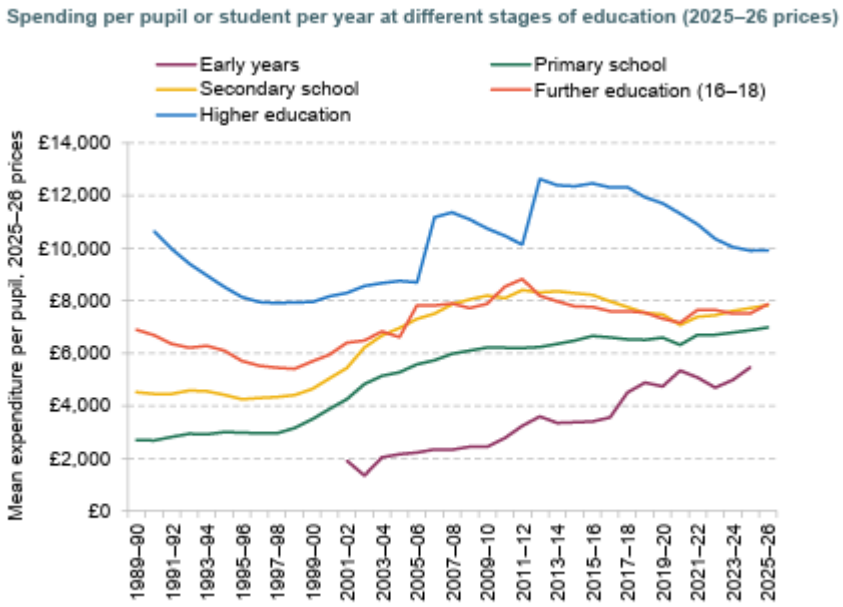
The disengagement of young people around the transition from primary to secondary school is well established. John Jerrim's study of more than 80,000 English pupils across 200 schools found that engagement drops sharply between the autumn and spring of Year 7 and never fully recovers, with enjoyment, trust, agency and sense of safety all falling through Years 7 and 8.[122] This is not just true in the English system. Symonds et al's 2026 meta-analysis of longitudinal studies found engagement declining most steeply in multiple countries precisely where a school transition occurs, both from primary to lower secondary and from lower to upper secondary.[123]

For some, this disengagement plays through beyond the end of compulsory education. This culture of lifelong learning is eroded and does not support the flexibility that a changing labour market requires. The Learning and Work Institute's annual survey found adult participation in learning falling to a record low of 33 per cent in 2019, equivalent to 3.8 million fewer adults learning than in 2010. Participation recovered to 52 per cent by 2024 before falling ten points again to 42 per cent in 2025, with only one in five adults currently learning anything at all.[124] The number of publicly funded classroom-based further education courses taken by adults

in England fell from 5.4 million in 2004-05 to 1.7 million in 2024-25, a reduction of around 70 per cent, driven by active decisions around the prioritisation of funding.[125]

### The focus on early education has been driven by an economic argument. But the economics have shifted, and they now favour learning across the life course

Successive governments since 2010 have pushed education spending to the early years and primary education. IFS data shows that since 2010 early years funding has doubled in real terms, and primary spending has grown by 12 per cent - against flat real spending for schools overall (driven by secondary spending dropping by 3 per cent over the period, and an 8 per cent fall in 16-18 spending). [126] Higher education spending has fallen by 5 per cent. Meanwhile, adult education (in both FE and apprenticeships) has declined the most. Total spending in 2025-26 will still be 25 per cent below 2010-11 levels for this group.




The long-run decline has been particularly pronounced in classroom-based adult education, where falling learner numbers and sustained real-terms reductions in funding rates mean spending is projected to be around 54 per cent below its 2010-11 level in 2025-26.

This is both a political judgement, and an education and economics judgement. Most famously, Nobel-Prize-winning economist James Heckman's work established that the rate of return to human capital investment for disadvantaged individuals declines with age, with early childhood interventions delivering far more per pound than adult training, and investment in adults past a certain age and below a certain skill level failing to return its cost at all. What is known as the "Heckman curve" has been enormously influential, and it has provided the intellectual foundation for a generation of policy that concentrates spending on the early years.

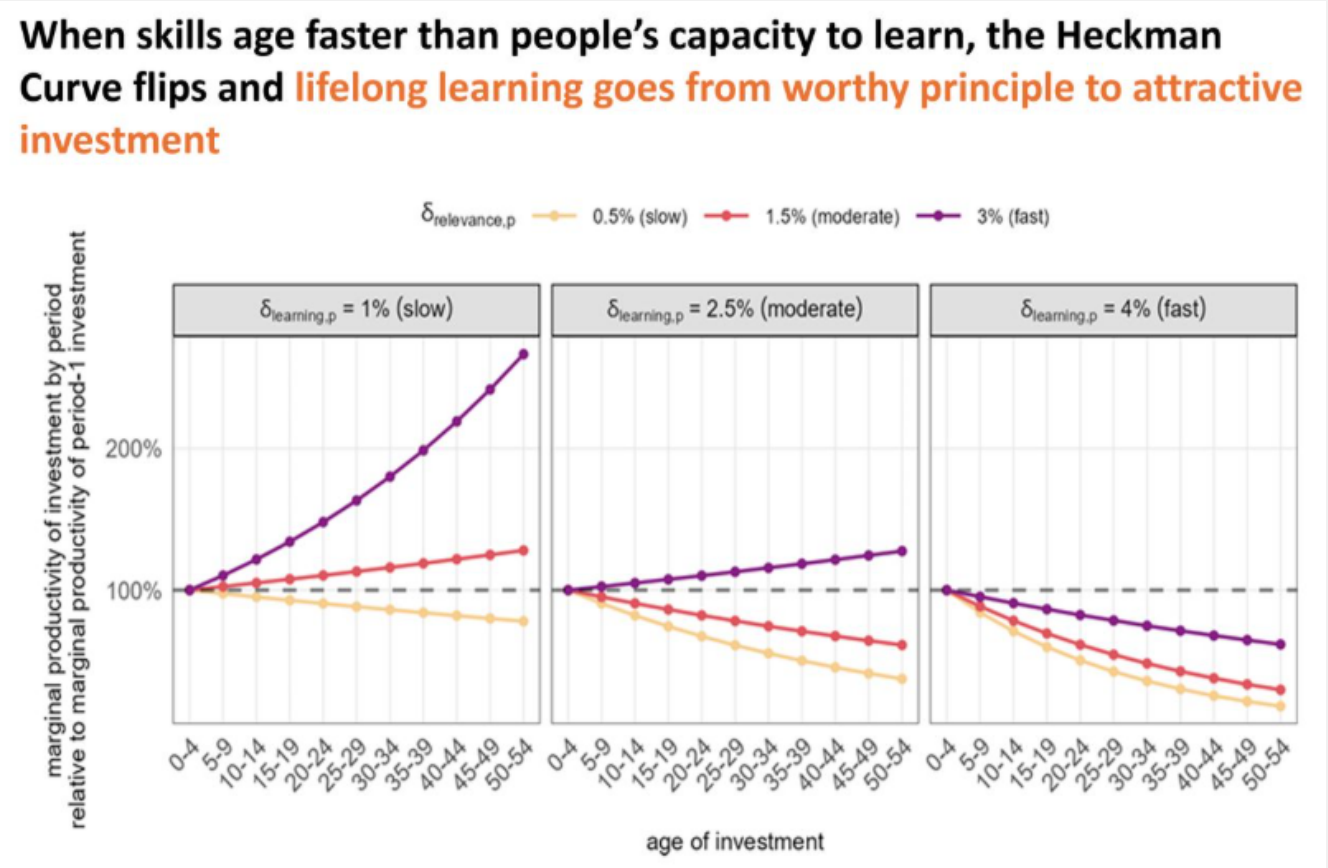
The changes to the labour market, and in particular the role of AI, offer a counterpoint to this thesis. As skills decay more quickly, and as the cost of learning new skills decreases, the calculus as to when to learn changes. In other words, placing a premium on investment for (say) 16 year olds over 46 year olds doesn't hold, because the 16 year old is likely to find their skills decaying in relevance very quickly, and the 46 year old can be trained and retrained more quickly and effectively than previously assumed.

Most recently, this has come to prominence with a study which looked at whether this thesis holds.

CASE STUDY: Upending the Heckman Curve

João Souto-Maior of the Burning Glass Institute and Mitchell Stevens of Stanford's Center on Longevity and Graduate School of Education, extended Heckman's own mathematical framework to derive returns by skill type rather than for human capital in aggregate. Their model incorporates two competing declines. Human capacity to learn declines with age, which favours investing early. But skill relevance also declines, which means an early investment risks being made in a skill the labour market later stops valuing. Their headline and bold conclusion is that in certain circumstances "this new research shows investing at 50 can yield twice the return of investing in teens."

Which decline dominates depends on the skill. For skills whose relevance decays quickly, and in an era of rapid technological change many do, investment in adult workers may align better with what the economy actually needs. Their conclusion is that optimal investment timing is skill-dependent rather than uniformly front-loaded.




Source: www.linkedin.com/posts/mattsigelman_careers-humanresources-economics-share-7490740260432138241-WB42/

Original paper: João M. Souto-Maior and Mitchell L. Stevens, "Bending the Heckman Curve: Competing Declines in Learning Capacity and Skill Relevance Over the Life Course", *Sociological Science*, vol 13, 4 August 2026, pp. 915-944. sociologicalscience.com/articles-v13-35-915/

Some emerging labour market evidence (i.e. not academic studies) on whether AI leads to job augmentation or job destruction also shows a more nuanced picture than early assumptions that technology would replace jobs. US Census Bureau data of companies shows that job losses in financial services are happening in sub fields where AI adoption is lower, and job growth is strongest where AI adoption is highest.[127] Similarly, some recent Indeed data suggests that software development roles – often most affected by AI – are now growing faster than overall job growth (as measured by job postings on the platform).[128] In other words, the labour

market reflects some correlation, potentially, between AI adoption and human growth of jobs – because there is more demand for a function where AI can augment its delivery.

The composite picture is that adult learning works, that it takes longer to work than politicians typically allow for, and that the returns are strongest where the learning is substantial rather than perfunctory. None of that supports the proposition that learning after school is a poor use of public money.

### Lifelong learning and curiosity driven learning is about more than labour market success

Labour market returns are only part of the overall return to learning. The Centre for Research on the Wider Benefits of Learning spent a decade establishing that adult learning produces measurable effects on health behaviours, mental wellbeing, social capital, civic participation, political trust and family life, and that these effects are largest for the most disadvantaged learners.[129] This also has intergenerational benefits. One study found that adult learning changes family dynamics and parental engagement, which means a parent returning to education is also an intervention in their children's education.[130]

The ageing population also changes the assumptions of politicians and policymakers. Half of today's five-year-olds in the US can expect to reach 100, and a working life may now run 60 years or more.[131] Front-loading formal education into the first two decades of a 100-year life is not merely inefficient. It is a category error about what a life now looks like, and how long working versus pension age needs to be.

## What does this scenario look like in practice?

### Lifelong learning becomes funded at the same level and eligibility as 5-18 funding

In this scenario, over time, adults are able to access state funded education even after the end of the 5-16 or 5-18 phase. Some of this may be loan funded (as in through the LLE). Some of it may rely on other innovative financing mechanisms that bring forward projected future economic gains. Some of it may encourage co-payment. But at the heart of this scenario is an abolition to the various age driven deadlines which prohibit adults accessing funding for learning, or who prohibit retraining because 30 years ago, they took another qualification theoretically at the same level.

### Companies are incentivised to support specialist training for all employees

A lifelong learning system that relies on employers to deliver the learning will fail, because English employers have been withdrawing from training for 20 years. Investment per employee has fallen 36 per cent in real terms since 2005, from £2,634 to £1,700, and now stands at roughly half the EU average.[132] Total employer spend fell from £59 billion in 2022 to £53 billion in 2024, the lowest since the Government began tracking it. Fewer than three in five employers offer any training at all, down from two in three in 2011. And employees qualified to degree level are three times more likely to receive training than those with no qualifications.

Firms underinvest in transferable skills because the returns accrue partly to whoever employs the worker next, so the training that individuals most need for a changing labour market is precisely the training employers are least willing to fund. The Apprenticeship Levy did not reverse the decline, and investment has fallen in every sector since it was introduced.

Under this scenario the government increasingly takes on general and transferable learning for adults directly as public infrastructure, rather than waiting for firms to provide it. Mechanisms for company specific training such as the Growth and Skills Levy are reformed to fund modular and foundational provision rather than only

apprenticeships, and other mechanisms (such as tax breaks) are introduced to fund additional training. Extra attention is placed on sectors where the structure of the labour force (rapid turnover, flexible contracts such as gig work and zero hours, lots of low qualified employees) will likely lead to under investment in training, and changes to government policies are introduced to compensate (as in the introduction of flexi-Apprenticeships[133]).

### Curiosity is treated as a central educational good within the school system

The system starts from the claim that education should ignite a durable appetite for exploration alongside transmitting knowledge and producing credentials. Curiosity sits in the statement of purpose of a school, and schools are asked to help students want to know more rather than only to get them through tasks. Things such as the enrichment framework[134] are treated as central rather than as an add on, are disentangled from the accountability system which turns them from intrinsically interesting experiences to tools of an extrinsic compliance culture and become specifically funded as such.[135]

### Institutions spring up to support lifelong learning and the Open University is turbocharged

If the economics no longer justify treating education as a front-loaded investment, the institutional architecture should stop assuming it is one. The Open University was created in 1969 on the proposition that a public institution could make serious learning available to people the existing system had passed over, and it worked. The BBC has operated for a century on the principle that a national institution can raise the general level of a culture. These institutions are supported as architects of a wider system of learning. Within the 5-18 phase, a new National Institute of Learning (NIL) is created from the existing aspects of the system currently buried within Whitehall basements, such as Skills England. The NIL would be the anchor institution for a system that treats curiosity as a serious national priority and learning as something that continues. It also takes on the demand-side problem for adult learning which the participation data exposes, since adults report time, confidence, caring responsibilities, feeling too old and difficulty identifying suitable courses as barriers at least as often as cost.

### In schools, students get real opportunities to enter explorer mode – through AI and face to face

Less emphasis on completing pre-set tasks and syllabus creates time and space for self-directed inquiry, experimentation and interest-led work. Students have room to pursue ideas, build things and follow a line of curiosity over months rather than a lesson. They are expected to take initiative, and taking initiative is assessed. Schools, colleges, universities, cultural institutions, employers, libraries and museums are connected through AI, so that a pupil in a small rural secondary has the same access to a working laboratory or a curator as a pupil in central London. AI expands what students can see, make, test and experience. That includes augmented reality, virtual classrooms, live links to other institutions and workplaces, simulation, and creative and prototyping tools. The purpose throughout is to make the world more explorable rather than to make schoolwork faster. Teachers are also encouraged to utilise face to face experiences for curiosity, so that this is not all experienced through screens.

### Assessment and credentialing become cumulative and portable

Credentials are modular and stackable rather than bound into a single qualification moment. Learning becomes genuinely easier to carry forward, and education stops being something completed at 16, 18 or 21.

The technical infrastructure for this is now available and largely unused. Verifiable digital credentials allow an individual to hold, combine and present evidence of learning from schools, employers, universities and

independent providers in a single portable record they own. Under this scenario the Institute operates that record as public infrastructure rather than leaving it to platforms whose interests are not the learner's.

### Teachers become guides, mentors and editors

Teachers help students frame questions and sustain effort, acting as intellectual companions rather than deliverers of content. There is more one-to-one and small group tuition, and a particular focus on helping students discriminate between shallow interest and serious inquiry, which is the judgement most at risk when everything is a search away.

A more exploratory, self-directed model does not reduce demands on teachers. It replaces the burden of standard delivery with the burden of constant mentoring, curation, personal guidance and quality control, and the second may be heavier than the first. The model only works if teachers are given the time, authority and support to play these more dialogic roles well. That is a resourcing commitment as well as a design principle for things like initial teacher training.

### Technology is the enabler, and is particularly scrutinised so that it doesn't exclude the people it is meant to reach

The scenario is delivered through technology, which makes digital confidence a precondition rather than a detail. But the digital divide matters, for adults and for students. The Learning and Work Institute found that whilst 98 per cent of learners report benefits from using digital technologies, only 34 per cent of people feel confident using video meetings for learning.[136] This means that adult learning delivered primarily through screens would recruit the first group and miss the second, widening the participation inequalities it was created to close. The adults furthest from learning are disproportionately older, lower qualified and out of work, and they are the same adults least likely to have the connectivity, the device or the confidence.

Under this scenario digital inclusion and capability sit at the centre of the NILs mission rather than being assumed as background infrastructure, and a substantial share of provision remains physical, local and human. The libraries, colleges, museums and community organisations that already do this work become delivery partners rather than decorative additions to the network.

### Safeguards are in place for when curiosity does not always meet economic need

What young people are curious about will not always align with what the labour market or the wider society most needs. A system organised too heavily around self-direction will underprovide capability in strategically important areas, and no amount of enthusiasm for exploration changes the fact that the country needs engineers, nurses and welders in roughly known quantities.

Education cannot simply follow individual appetite. It also has to prepare people for contribution, for work and for collective need, and the flourishing language of this scenario can obscure how sharp that tension is. The state maintains a role in core content knowledge for under 18s, and acts to nudge adults in the direction of which skills are likely to be more and less useful in the labour market.

### The accountability system changes, but the model needs to demonstrate that it is serious

In England especially, a system that loosens curriculum structure and reduces emphasis on conventional assessment will be attacked as vague, progressive and insufficiently rigorous, and the attack will come quickly.

Some of that criticism will be ideological. Some of it will reflect a real concern about whether freedom can be reconciled with standards, and that concern has 30 years of English evidence behind it. The model therefore

has to demonstrate that it is a different way of organising seriousness rather than an absence of it, which means the foundations component must be visible and defended rather than assumed.

In particular, a curiosity-led model needs to show that it supports progression in both study and the workplace. If universities, professions and employers continue to select on familiar credentials, tightly specified competencies and evidence of performance in conventional academic tasks, then a curiosity model will fail. Many workplaces remain organised around prescriptive roles and task structures even where AI is beginning to change them. There is a self-correcting mechanism in the workplace which is profit and loss, or the growth and shrinking of companies; this does not exist in education and so Government retains a role in ensuring that the wider quality outcomes for learners, especially under 18s, are delivered under this model.

# A Ten-Point Plan for AI in Education

AI is advancing at a blisteringly rapid pace. The children who started school this month will enter the world of work in the early 2040s. AI will make that world unrecognisable from today. The urgency of the moment must no longer be lost. The UK Government's response has been well-meaning, but not world-beating, cautious not brave. The pace of innovation means that optimising AI in education (as in every other sector) gives nations an exponential advantage. Meanwhile, our relative inaction compounds disadvantage. Britain remains, in the words of our own report, stuck in the starting blocks, whilst other countries accelerate down the track. This action plan sets out what a national response – one with the requisite urgency, dynamism, leadership, coordination and awareness of what is happening elsewhere – demands. It is intentionally quick: it has to be. It requires the same level of urgency that Britain exhibited during national crises in the past, including world wars and national epidemics.

1. **The Prime Minister should deliver a landmark speech on AI in education before the end of 2026, in the 50th anniversary year of James Callaghan's celebrated Ruskin College lecture, to signal the importance of aligning education with the real world, catalysed by AI.** He should announce a 'National AI Education Adoption Framework' that will be developed by Spring 2027 in time to be rolled out in schools, colleges and universities from September 2027, with an accompanying national plan by the start of the summer term 2027 for staff development and training (that accelerates the new Data and Digital Skills Pathway).

   For ten years, despite warnings and the efforts of some pioneering officials, a lack of political leadership and Ministerial nous on AI has left the Department for Education without the data structures, rapid decision-making culture and analytical capability it needs to grip the scale of the challenge on its own. Ten years of inadequate political leadership, despite plentiful warnings, means that AI in education in this country is now in a desperate position, and dramatic action is called for to get it back on track. The Prime Minister should therefore establish a Rapid Response Unit on AI inside the Department for Education, operational from 1 November 2026, temporarily transferring responsibilities for AI in education and skills to it – including development of the National AI Education Adoption Framework. Modelled on the Vaccine Taskforce, the Unit should be led by an outside expert and given the pace and authority to match the scale of the challenge, drawing on capability from across Government, including the AI Taskforce in the newly merged Office of Prime Minister and Cabinet (OPMC).

   The Adoption Framework itself should be framed with optimism about the historic opportunities this moment represents, paired with a clear plan to mitigate the risks. Only once the Framework is embedded and the Department has built the data structures, decision-making culture and analytical capability it currently lacks, should the Unit disband and powers return to the wider Department for Education.

2. **Schools and colleges should set out how they will fulfil the National AI Education Adoption Framework in their own contexts in their 'School/College AI Strategy' approved by their governing body, for activation at the start of the new academic year, 2027.** These should be based on a template issued by Government to institutions in Spring 2027. Each school should appoint 'AI Champions' within the staff and pupil bodies focussed on helping all develop understanding.

3. **The Government should immediately begin a mass AI information campaign, offering resources to all ages to make them aware of the need to learn about AI and data, the opportunities and the risks.** Public awareness and understanding will be the bedrock of success of the Government's AI reforms. From nursery through schools, colleges, universities, adult community learning and job centres – reaching learners, parents and jobseekers alike – the Government needs to educate the country urgently about the importance of understanding how to use AI safely and effectively, to acquire critical thinking skills about what AI is and is not, and to understand the role, risks and provenance of data.

4. **The Government should select the 100 leading primary, secondary and special schools and colleges in AI by the start of the academic year in September 2027 to form a network of 'AI Champion Schools and Colleges'.** All schools and colleges in the country should be affiliated to one (roughly 250 schools each) to learn from them and indeed each other. The Government should work with leading AI experts to quality assure the selection process.

5. **Ofsted should require schools and colleges to possess and be implementing 'AI Strategies' and demonstrate a commitment to innovation – and to downgrade those that aren't doing so.** This needs to come into operation by September 2027. Ofsted's inspectors should be trained to validate these plans against kitemarks for schools developed in consultation with approved third parties. It should also ensure that high-quality professional development is being implemented for all existing teachers and support staff, and that all new teachers are properly educated on AI in education and AI generally. This education must continue as AI evolves. In particular, Ofsted should look for innovative data collection, open data sharing, a desire to learn and work in networks to continuously learn. The adoption of AI in schools will need to be a continuous process.

6. **The Online Safety Unit in the Department for Culture, Media and Sport (DCMS) – with input and guidance from the AI Security Institute (AISI) – should be tasked with devising and promulgating state-of-the-art guidance and guardrails for schools and colleges to follow to mitigate the major risks of AI for young people, by the end of the spring term 2027.** It should work with online child safety campaign bodies like the NSPCC and Internet Matters. For future national security and safety purposes, the Government should accelerate and build on the sovereign AI foundations already underway – including the sovereign benchmark for AI and learning, and Oak's work on Aila and curriculum knowledge graphs – as the basis for a coherent national approach to sovereign AI in education.

7. **The Government should transform the way that schools and colleges collect and use data in the UK to advance pupil progress and education standards.** It should be open to collecting all data that institutions have found relevant to predicting success. It can start with the basic data we know within the education and training sector, and provide advice to schools and colleges about how to collect and utilise such data. A federated data model should be built in which schools and colleges retain their own anonymised data, but that data is openly accessible under secure governance, and is portable so that it moves with a pupil

through different institutions in their education journey. Education is not an island in this skillset – it should learn from the private data providers and third-party specialists already doing this effectively in other sectors such as health, commerce and sport. The Sovereign AI fund should be charged with putting investment behind third party providers to speed learning and adoption.

8. **The Prime Minister should establish a National AI Education Advisory Board (NAIEAB), modelled on the National Cyber Advisory Board (NCAB)**, to bring together the sector's leading initiatives and give them a formal seat at the table. This should include bodies such as the EEF, Open Education AI (OEAI) and the charity AI in Education – recognising work such as AI in Education's teacher certification on good practice – alongside innovative organisations from outside education, to provide rapid, data-informed evidence on what is working and what isn't. Evaluation must measure retained capability after the tool is withdrawn, not engagement or satisfaction. Co-chaired by the Minister for AI and a senior industry figure, the Board would replace the fiction of an "open door" with a mechanism for regular, meaningful engagement – anchored by a flagship annual 'AI in Education Summit'.

9. **The Government should adopt the OECD's 'Education for Human Flourishing Framework', deepening pupils' and staff's five uniquely human competencies – understanding the world, appreciating the world, acting in the world, adaptive problem solving, and ethical competence – all of which builds on the signal successes of the knowledge-rich curriculum.** It is seen as the best response to AI. It also addresses the other now widely recognised concerns with the exam-rich curriculum which has as a by-product squeezed out of schools the arts, sport and physical activity, character development, entrepreneurialism and individual responsibility, and has contributed to the epidemic of mental health concerns amongst the young. The OECD spent five years since Covid working with the seven top-performing PISA countries to develop this model. Building on the best of the current education model, it allows every young person's individual curiosity and talents to be identified, nurtured and developed, maximising young people's ability to use AI's benefits well, rather than becoming overly dependent on it or infantilised by it.

10. **The Government, working with Ofqual and the exam boards, should reform both what is examined and how it is assessed, using AI to make a richer model of assessment affordable at scale.** Until what is examined and how we examine changes, a School/College AI Strategy risks being another document rather than a change in practice. Building on the Francis Review's recommended reduction in Key Stage 4 examination time, the Government should introduce extended inquiry, oral defence, project work and interdisciplinary tasks that sit alongside formal examinations, testing the human competencies AI cannot replicate. The Government should adopt a "two-lane" assessment model, reserving secure, supervised assessment for a small number of high-stakes exams at key moments in the education journey, and opening up the rest of assessment to AI-supported, continuous evaluation of a student's understanding. This builds on Australia's higher education regulator, which sorts assessment into secure, in-person tasks that assure learning at key points, and open tasks – where AI use is scaffolded, rather than banned – that develop it throughout. Over time, this continuous picture of a student's understanding, built up over months rather than captured in a single exam, can reduce over-reliance on terminal, end-of-course assessment whilst keeping the system rigorous and trusted.

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