

bett

● A Hyve Event

The Rise of AI in Education 2024



Foreword



The emergence of Artificial Intelligence (AI) in education is a significant milestone in teaching and learning. Some in the profession have welcomed its potential, while others, it has to be said, are not only uncertain but hostile. Few, however, would deny that it's here to stay and that its impact has to be addressed.

This whitepaper aims to provide a balanced view of AI's role in education, highlighting both its potential and the obstacles it faces. By understanding these factors, we can work together to shape an education system that harnesses AI's strengths while preserving the irreplaceable human elements of teaching.

The survey we commissioned from YouGov offers a compelling snapshot of AI's current standing in UK schools, revealing both promise and challenge, curiosity as well as scepticism. While most schools have yet to implement AI, those that have are beginning to see its benefits, particularly in reducing teacher workload. However, there's

also a clear need for more training and support to help educators fully grasp AI's capabilities.

Looking at the findings, it's important to note that these changes are not merely theoretical. As the portfolio director of Bett, I've witnessed first-hand the rapid changes in educational technology. This personal experience underscores the urgency and relevance of our survey's insights.

The journey ahead is both exciting and challenging. It requires careful navigation to ensure that AI enhances rather than disrupts the educational experience. Through this whitepaper, we hope to contribute to the ongoing dialogue about AI's role in education and help guide its thoughtful implementation in schools.

Duncan Verry
Portfolio Director - Bett



The challenges of student behaviour are complex, but they're not insurmountable. By working together, sharing best practices, and embracing innovative approaches, educators can create classrooms where both teachers and students thrive.

Duncan Verry, Portfolio Director - Bett



As Bett's Global AI Partner, Lenovo is proud to contribute to this significant report exploring AI's transformative potential in education. AI is reshaping educational ecosystems, enhancing student engagement, streamlining teacher workloads, and personalising learning experiences.

Reflecting on my experience at last year's Bett, after many discussions with education and business leaders, one key takeaway emerged: everyone is trying to find their way with AI. Lenovo with Intel® and Bett share the common goal of enabling educators and students to discover practical use cases while helping you overcome challenges, ensuring AI is a powerful tool for education.

Marine Rabeyrin
EMEA Education Segment Director - Lenovo

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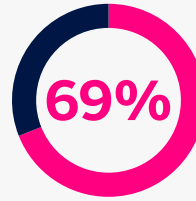
Introduction

The education sector stands at a crossroads. As AI technologies advance, they offer new possibilities for enhancing teaching and learning. Yet, their integration into schools remains limited, and opinions on their efficacy are divided.

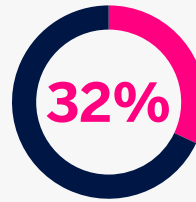
To gain a clearer picture of AI's current role and prospects in education, we commissioned YouGov to carry out a comprehensive survey of teachers across the country. The results offer valuable information on AI implementation, its perceived benefits, and the concerns it raises among educators.

Recent government initiatives have further highlighted the growing importance of AI in education. In August, the Department for Education announced a £4 million investment to develop AI tools for teachers, focusing on lesson planning and homework marking. This development underscores the increasing recognition of AI's role in supporting educators and potentially reducing workload.

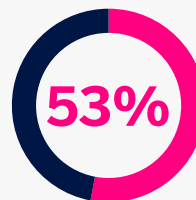
This whitepaper examines these findings, providing a nuanced view of AI's place in education today and its outlook. It aims to inform educators, policymakers, and EdTech developers about the current landscape and the steps needed to maximise AI's contribution to education.



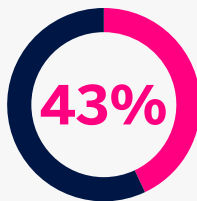
of schools have not yet implemented AI technologies



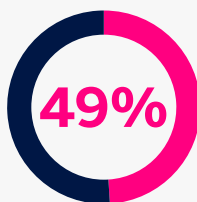
of teachers using AI report a decrease in workload



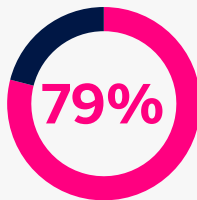
of teachers believe AI could help with automated marking and assessment



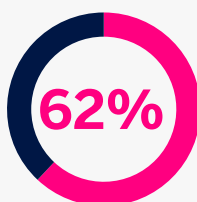
of teachers believe AI could assist in generating student reports and feedback



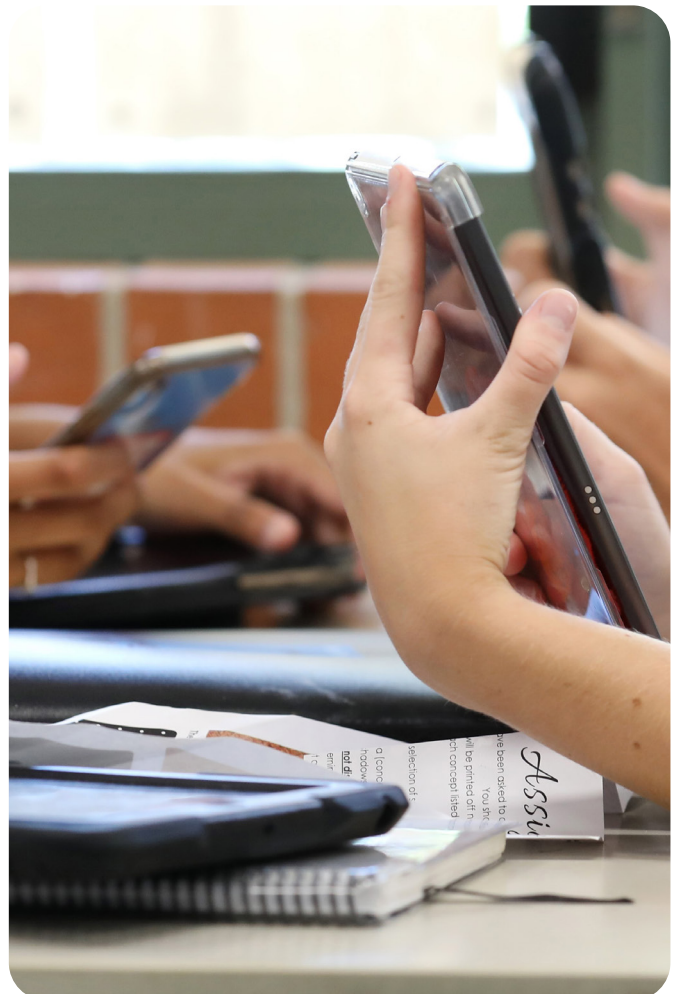
of teachers who received AI training from their school found it helpful



of teachers think AI won't be able to replace teaching essential life skills



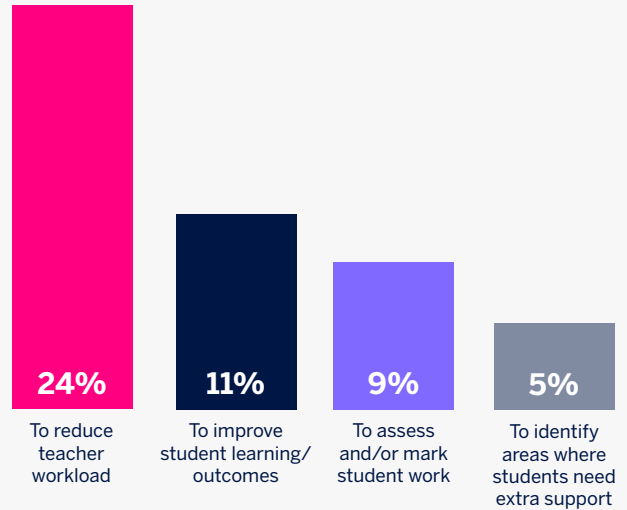
believe AI will make academic cheating more difficult to detect



AI implementation

Our survey reveals that AI adoption in UK schools remains in its early stages.

A significant **69%** of respondents report that their schools have not yet implemented AI technologies. Of those that have, the primary motivations include reducing teacher workload (**24%**), improving student outcomes (**11%**), assessing student work (**9%**), and identifying areas where students need extra support (**5%**).

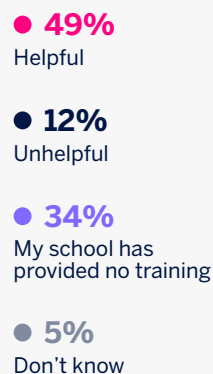


What are the main reasons your school implemented AI?

Among schools that have adopted AI, opinions on training are split.

While **49%** found the AI training provided by their school helpful, **34%** reported receiving no training at all, and **12%** found the training unhelpful.

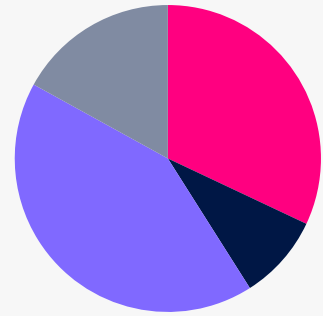
How helpful has the training on AI carried out by your school been?



To what extent has using AI within your job increased or decreased your workload?

As to AI's impact on workload, 32% report a decrease, 9% report an increase, 42% say it has remained unchanged, and 17% say AI isn't applicable to their job. The figures suggest that while AI can reduce workload in some cases, its effects are not uniform across all teaching roles and contexts.

- 32% Decreased my workload
- 9% Increased my workload
- 42% Made no change to my workload
- 17% Not applicable

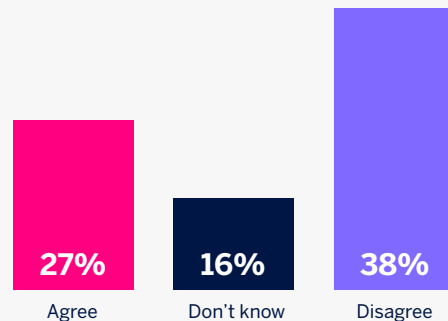


Teachers' view on AI's potential

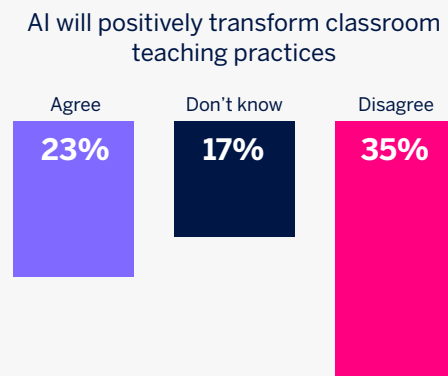
Thinking about AI and its likely development over the next 5 years

Looking ahead to AI's development in education over the next five years, teachers' views are varied. While 27% believe AI will free up teaching time for more meaningful student interaction, 38% disagree. Similarly, 23% think AI will positively transform classroom teaching practices, while 35% disagree.

Notably, a substantial proportion of teachers remain uncertain. When asked about AI's ability to free up teaching time and transform classroom practices, a significant number of respondents were either neutral or unsure, suggesting they are open to persuasion.



AI will free up teaching time, allowing for more meaningful student interaction



AI will positively transform classroom teaching practices

Scepticism and concerns

Despite the optimism of some, scepticism about AI's capabilities remains widespread. 62% believe AI will make academic cheating more difficult to detect, 68% don't think AI-powered tutoring systems (tutor bots) will help address teacher shortages, 53% don't believe AI will increase their confidence in their teaching methods, and 49% don't think AI will help fill subject expertise gaps in schools.

Clearly, advocates for AI solutions have their work cut out if they are to address these concerns and demonstrate clear benefits to teachers in these areas.

Thinking about AI and its likely development over the next 5 years

AI will make academic cheating more difficult to detect

● 62%

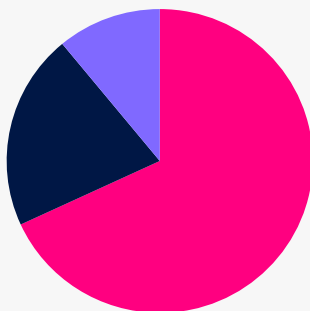
Agree

● 19%

Don't know

● 10%

Disagree



AI-powered tutoring systems (tutor bots) will help address teacher shortages

● 11%

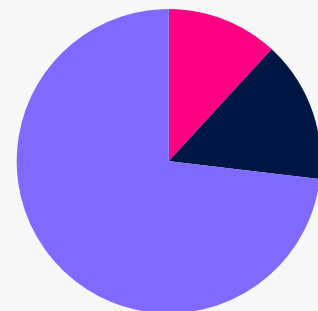
Agree

● 14%

Don't know

● 68%

Disagree



AI will increase confidence in my teaching methods

● 13%

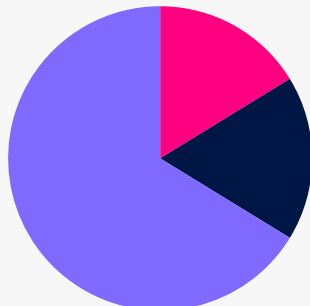
Agree

● 14%

Don't know

● 53%

Disagree



AI will help fill subject expertise gaps in schools

● 22%

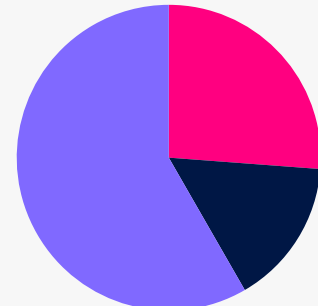
Agree

● 13%

Don't know

● 49%

Disagree



AI's role in teaching

Teachers are particularly unconvinced that certain aspects of education, the more 'human' elements, could ever be duplicated. When asked which classroom activities AI won't be able to replace in the foreseeable future, they cited teaching essential life skills (79%), facilitating hands-on practice (72%), providing personalised support (67%), delivering engaging lessons (66%), guiding collaborative problem-solving (59%), and teaching basic academic skills (42%).

Which classroom activities do you think AI will not be able to replace in the foreseeable future?

79%

Teaching essential life skills

72%

Facilitating hands-on practice of learned skills

67%

Providing personalised support to students

66%

Delivering engaging classroom lessons

59%

Guiding collaborative problem-solving sessions

42%

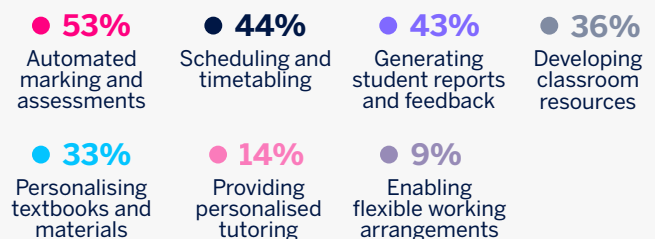
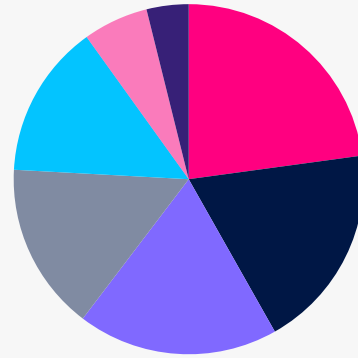
Teaching basic academic skills

Improving routine tasks

That said, while teachers see limits to AI's role in direct instruction, many believe it could streamline administrative tasks. The top areas where teachers think AI and other tech solutions could help include automated marking and assessment (53%), scheduling and timetabling (44%), generating student reports and feedback (43%), developing lessons and classroom resources (36%), and personalising textbooks and materials (33%).

These figures suggest that AI could play a significant role in reducing teachers' administrative burden, allowing them to focus more on direct student interaction and instruction.

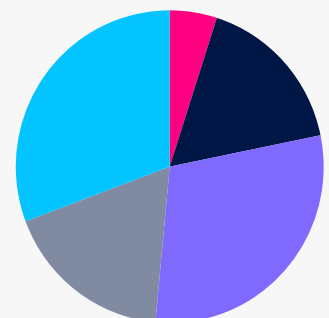
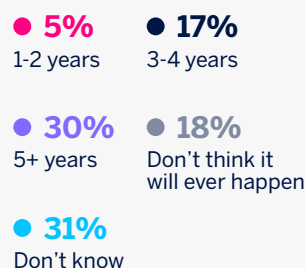
What parts of school life do you think could benefit from AI and other technological solutions?



Expectations for AI-powered assessments

Many teachers see AI-powered exams and assessments as inevitable, though opinions vary on the timeline. 5% expect them within 1-2 years, 17% predict 3-4 years, 30% think it will take 5+ years, 18% don't believe it will ever happen, and 31% are unsure. In other words, while overall there is an expectation of change, there is no consensus on when it might occur.

How long do you think it will be before AI-powered exams and assessments are introduced into the curriculum?



Conclusion

The survey paints a mixed picture of AI's current and future role in UK education. While most schools have yet to implement AI technologies, those that have are seeing some encouraging results, particularly in reducing teacher workload.

However, it also reveals significant scepticism among teachers about AI's ability to address key challenges in education. This scepticism, coupled with the large proportion of neutral or uncertain responses, suggests a need for more comprehensive training and information about AI's capabilities and limitations.

Overall, the findings indicate that teachers see AI as a tool to augment their work rather than replace it. There's a strong belief that many core activities – particularly those involving interpersonal skills and hands-on learning – will

remain their exclusive preserve for the foreseeable future. Nevertheless, there's clear enthusiasm for AI's potential to streamline routine and administrative tasks, freeing up more time for direct student interaction.

Recent government initiatives, such as the £4 million investment in AI tools for education, signal a growing recognition of AI's potential in the sector. However, as these tools are developed and implemented, it will be crucial to address the concerns and scepticism highlighted in our survey, ensuring that AI truly supports and enhances the teaching profession rather than adding to existing pressures.



Why AI in schools isn't about replacing teachers – it's about empowering students



Professor Yike Guo is a chair professor of computing science & engineering and the provost of Hong Kong University of Science and Technology. His expertise is AI, data mining and machine learning.

Artificial Intelligence is no longer a distant prospect for schools – it's already ringing the entry buzzer. Yet, as this paper shows, many schools in the UK remain unsure about how to handle its arrival. According to the findings, 69% of schools have yet to adopt AI technologies. This hesitancy is understandable; change always raises questions. However, it's also a missed opportunity to reshape how we prepare students for the world ahead.

AI doesn't aim to take away what makes teaching special. It's not about replacing human interaction or downplaying the critical role teachers play in shaping young minds. It's about lightening the load and allowing teachers to focus more on what they do best: teaching, guiding, and inspiring.

One statistic from this whitepaper stood out to me. 32% of teachers who are already using AI report that it has reduced their workload. Imagine if we could extend that benefit to more teachers across the country. By automating tasks such as quick checking and lesson planning, AI frees up time for deeper engagement with students. But this is just the beginning.

For those teaching in schools, the question isn't whether to use AI but how to use it effectively. AI can be a tool to sharpen students' thinking. It can provide personalised feedback, pinpoint areas where they need extra help, and even generate practice materials. But beyond the practical benefits, AI can also help us shift our focus toward the skills that matter most in the 21st century.

As students head toward university and the workplace, they'll need to bring more to the table than just academic knowledge. They will need to be problem-solvers, critical thinkers, and effective collaborators. AI has a role in helping develop these skills. We could see it as a partner in developing reasoning and analytical skills. When used well, AI could encourage students to ask better questions, check facts rigorously, and dig into complex topics more deeply.

Of course, teachers are right to raise concerns. This paper notes that 62% of teachers worry that AI will make cheating harder to detect. The fear about cheating is valid, but it's also a call for us to rethink how we assess students. Instead of viewing AI as a threat to learning ethnics, we should ask ourselves if traditional tests truly reflect the skills that we

As students head toward university and the workplace, they'll need to bring more to the table than just academic knowledge. They will need to be problem-solvers, critical thinkers, and effective collaborators.

want our young people to have. Perhaps the answer lies in moving toward assessments that focus on creativity, analysis, cohesiveness of ideas presentation and problem-solving – tasks that AI can support but not complete on its own.

Many teachers remain uncertain about how AI will affect their classrooms. But as I've seen firsthand at my own institution, the Hong Kong University of Science and Technology (HKUST), AI doesn't need to disrupt the human side of teaching. It can be used to create a space where students feel empowered to engage more deeply with their learning. For example, students can use numerous strategies with AI tools to hypothesise, receive feedback, explore contrarian views, or brainstorm ideas and then discuss results with peers and teachers. AI can help us shift away from rote memorisation and toward developing the skills young people need for the future.

Schools must be places that foster curiosity, open-mindedness and a readiness to tackle the challenges of tomorrow. With the right guidance and training, AI can help us meet this goal.

The future of education isn't about choosing between AI and teachers. It's about using AI to allow teachers to do what they do best—guide, challenge, and inspire the next generation. We must all work together to make sure our students don't just learn how to use AI, but how to work alongside it to solve the problems the world will throw at them.

An urgent need for AI literacy in education

AI has existed quietly in the background for decades. But the mass availability of Generative AI has brought background technologies into the limelight – shining a light on the endless possibilities of prompt text, image, video and sound creation. These easily created, creatively produced, and often mind-blowing examples, create a fresh energy that is both exhilarating and terrifying to most of us.

But one of the challenges surrounding the AI 'noise' at present, is that until we each engage with understanding (a) the potential of what AI can do, and (b) the widespread permeation of AI across our lives already, we often do not realise that this technology is not simply the latest EdTech for us to 'opt into', but instead a pervasive influence across our everyday lives.

Consequently, 'AI training' cannot just be about learning to use new tools. Instead, we must all learn about the influence that AI has on what we see, hear and interact with even when we are not aware that it is happening. As this report identifies, still not received any training around AI, yet AI awareness has become a core life skill – vital to us all.

Schools and MATs who are pathfinding in this landscape are those who are deliberately and explicitly providing awareness raising training for every child, member of staff, and family across their community.¹ These leaders recognise the importance of a shared understanding about the issues involved – spanning practical, moral and strategic considerations. Their provision sensitively combines greater insights into everyday tools that each and every one of us is already exposed to (e.g. public facial recognition, traffic management, personalised news feeds), as well as specific tools that may be useful in our professional lives (e.g. productivity apps and personalised workflows).

As highlighted in this report, schools who are already using AI are reporting significant time savings (e.g. 15 minutes to write and edit a weekly school newsletter rather than a 2 hour task, or 10 minutes to create a draft risk assessment for discussion with staff rather than 3 hours). However, the many and varied time savings such as these are just the gateway to a number of benefits which are arguably far greater. For example, one notable impact of AI generated time savings has been a reduction in staff stress and anxiety (as a result of greater productivity, diplomacy and accuracy), and an increase in confidence (as a result of the reassurance provided by well written, data informed materials).

As this report indicates, there are a number of themes which frequently rise to the surface when AI is discussed

by those in education – including whether AI might replace functions of a teaching (and administrative) staff, the security and usage of personal data by the systems which permeate our lives, and what trust means in a landscape of deepfakes and plagiarism. But much of this discussion is, at present, conjecture, aspiration or fear, and consequently, highly emotive.

So, what can we do, as a sector, to respond to this landscape? We can engage in discussion with those developing, integrating and utilising AI in education products and services. We can champion open, transparent, purposeful and thoughtful dialogue about where AI can offer solutions to existing problems, and open up possibilities to new opportunities. But we can also probe practical pitfalls and moral minefields together – coordinating our thinking to ensure a safe, purposeful and transparent future for us all.

Over the last year I brought together a group of colleagues from 23 Multi-Academy Trusts whose expertise set out a guidance framework that offers thoughtful support for any school or leader.² MAT colleagues across this group are working tirelessly with practitioners, developers, policy shapers and researchers to surface, challenge and share insights across the sector – and you too can be part of this journey.

As we look ahead with excitement, to the many and varied opportunities ahead at Bett 2025, let us each ask ourselves 3 questions:

1. Which suppliers are most open about their use and plans for AI? Reach out to them, engage in discussion, listen to their insights, and share yours.
2. Which schools and educational organisations are leading the way with their awareness, training and community support around AI? Look out for them, attend their workshops, listen to their successes and solutions, and ask plenty of questions.
3. What opportunities can we create ourselves to discover, experiment with, and discuss different AI tools – both Generative, and non-Generative? Look out for demos, trials and pilots, connect with peers, challenge your own perceptions, and feedback to the global Bett community of educators that we are all so fortunate to belong to.



Dr Fiona Aubrey-Smith

Founder of PedTech, Director of One Life Learning, best selling author and award winning teacher, leader and academic. Named in 2024 as one of the Top 5 Visionary Women in Education she is a Founding Fellow of the Chartered College of Teaching, and has been awarded Fellowships by RSA, NAACE and the HEA.

1. <https://www.woodlandacademytrust.co.uk/us/news/latest-news/we-host-our-aiempowered-conference/>
2. <https://bit.ly/MAT-AI-Project>

AI and the future of learning - Opportunities and challenges

The rapid advancements in AI, particularly with the emergence of user-friendly large language models like ChatGPT, have sparked a wave of both concern and excitement alike in the education sector. While many techno-evangelists claim that AI has the potential to revolutionise teaching and learning, offering valuable tools for educators and students, its impact on genuine student learning and academic integrity in particular demand careful consideration.

The first issue is with traditional assignments and assessments which represent an area of particular concern, indeed for many it's very much a looming crisis that many in the academic sector have yet to even address. In particular, the ease with which AI can generate human-quality text has raised serious questions about the future of traditional assignments, such as essays, reading responses, and problem sets. AI can now produce well-written essays, summarise complex texts, and even solve visual problems, making it easier than ever for students to bypass the kind of effortful thinking that underpins genuine learning. This "Homework Apocalypse", as Ethan Mollick calls it, could threaten to undermine the very purpose of assignments designed to foster critical thinking and knowledge acquisition.

Furthermore, there are genuine concerns about authentic student learning with one study¹ finding that GPT-4 significantly improved student performance on practice problems in maths classes. However, when access to GPT-4 was removed, student performance on exams was worse compared to students who never had access to the tool.

This "Homework Apocalypse", as Ethan Mollick calls it, could threaten to undermine the very purpose of assignments designed to foster critical thinking and knowledge acquisition.

This suggests that relying on AI assistance during practice can hinder the development of essential problem-solving skills and knowledge retention that characterises so many of our brightest students.

However, despite this, the development of LLMs and the remarkable speed with which they have developed, arrives at a time where there is a world-wide recruitment and retention crisis in education and a key driver of that crisis is workload. The findings published in this report reveal that despite the widespread scepticism surrounding AI in education, teachers recognise its potential to alleviate the workload crisis on a range of fronts however, a significant majority of teachers believe that AI will make academic cheating more difficult to detect, and they remain unconvinced about its ability to address teacher shortages or enhance their teaching methods.

The sensible consensus that I can see currently is that AI should be viewed as a tool to augment and support instruction, not as a replacement for the irreplaceable human dimension of teaching which is, at essence, a relational enterprise. There are some genuinely promising developments – with one particularly interesting area where AI potentially being an effective co-pilot for teachers – but the key areas where AI could sensibly make a difference in the short term are with automated administrative tasks such as data entry, marking retrieval assignments, tracking attendance, and organising schedules. If AI can deliver on those points and gain the trust of the profession, and then build on that, then we could be looking at something that could genuinely improve the lives of teachers at least in making the job less weighed down in administrative tasks.



Professor Carl Hendrick works at the Academica University of Applied Sciences in Amsterdam where his focus is on bridging the gap between research and practice. He was a secondary English teacher for 18 years in a range of different contexts and he completed his PhD in education at King's College London.

1. <https://bit.ly/40EXLIB>



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