Written evidence by Dr Gemma Dale and Dr Michael Drummond (AIE0076)

Education Committee
The use of Artificial Intelligence and EdTech in Education inquiry

Our answers focus on the HE sector, the location of our work and research. We note that many of these questions addressed here are, to date, under researched topics, due both to the emergent nature of AI technologies and their rapid, ongoing evolution. Generative AI in particular, emerged and diffused at a pace that left the education sector largely unprepared. In the absence of a robust evidence base or detailed guidance and support, there are risks of fragmented responses, inconsistency, unintended consequences or even missed opportunities to gain educational benefits. Organisations are responding to AI and Generative AI – we can benefit from assessing these responses and understanding their outcomes, benefits and challenges. We therefore argue that more research is required to understand these issues and questions, including rapid evidence reviews, so that appropriate guidance and support can be given to educators and parents.

Challenges and Opportunities

The most significant challenges and risks currently shaping the use of EdTech and AI in the education system.

A critical risk is ensuring that current forms of assessment of students are resistant to misuse using AI technologies (especially Generative AI) and that pedagogical approaches are fit for the AI age. This goes to the heart of academic integrity, but is also an employability issue, as students need to be prepared to use these tools in the future jobs. Outright bans of AI tools are therefore unlikely to be sustainable nor helpful to students.

As we note in this blog post, cheating is far from a novel issue in education. Plagiarism and the use of essay mills are not uncommon, but the rise of tools like ChatGPT has escalated the problem, making it possible for students with only basic AI tools to cheat quickly and easily. Maintaining academic integrity is linked to educator AI literacy (discussed in our later answers). Academic integrity can only be maintained if educators themselves understand AI technologies and can design teaching, learning and assessment accordingly. This report into student use of AI suggests some use cases that might deviate from acceptable use policies.

Largely, institutions have taken individual approaches to their definitions of academic integrity with respect to Generative AI, developing policies and guidance to students on the topic. More research is needed to understand the nature and impact of these policies.

Attempts have been made to suggest how assessments in HE can be risk assessed and redeveloped; however, these are equally subject to the ever-developing suite of AI technologies easily and cheaply available. Examples are ARMS tool by the University of Greenwich and the Multi-dimensional assessment tool by Manchester Metropolitan University. We agree with this HEPI report that calls for all assessments to be continually reviewed in order to keep up with tool development and patterns in student use, as well as a requirement for all staff involved in assessment design having AI competence.

There is limited empirical evidence into whether redesigned or so-called AI resistant assessments measure intended learning outcomes, and the broader impact on learning and assessment validity with the advent of Generative AI.

Further risks are presented by the accuracy of AI tools and generated content. Content may be biased, inaccurate (but presented with confidence and authority) or hallucinated (made up). The term 'AI slop' is sometimes used colloquially to refer to this low quality AI output. This risk highlights the need for AI use in teaching and learning to be underpinned by a clear understanding of its limitations by educators so that these can be taken into account in pedagogical decisions but also communicated to students. Introducing tools without this framing and guidance may therefore amount to a risk in its own right.

Students will need to be guided to develop the skills to critically assess AI outputs and identify misinformation.

The Impact on Teaching

The confidence of teachers and other education and early years practitioners in using AI within their practice, including their understanding of its appropriate uses, capabilities and limitations and the management of any safeguarding risks.

In Higher Education there is some emerging evidence about educator use of AI technologies although some of this comes primarily from sector or survey reports. These indication that adoption is growing, although one survey from Jisc highlighted that uneven levels of support during this phase. This evidence suggests that educator responses vary on a broad spectrum from resisting AI technologies in teaching and learning through to encouragement and integration. Respondents to that survey reported teaching themselves how to use relevant tools, varying levels of confidence and concerns about the impact on academic integrity. Reports and opinion pieces frequently suggest that staff in colleges and universities need guidance, ongoing development on tools and resources to support effective use.

Despite the growing number of surveys, there is limited detailed evidence on how AI is being implemented within education. Adoption appears in part to be driven by individual educators, possibly in advance of formal guidance or training. Adoption and implementation varies across and even within institutions. This has the potential to provide uneven and confusing experiences for students. Drawing on our own discussions with and research amongst educators in HE, there are areas where staff lack clarity, including the redesign of valid assessments and maintaining academic integrity.

Robust evidence on how staff confidence affects learning quality, assessment validity, safeguarding remains limited, as does evidence on staff understanding of risks, limitations and the maintenance of academic integrity. These are research gaps that should be addressed.

Whether or not teachers, lecturers and other practitioners currently have enough support and training on how to use AI effectively, including initial teacher training and CPD.

Data on this topic is limited. A Jisc survey found that 24% of HE teaching staff are using AI within teaching activities but only 18% of them has been offered training on the use of these tools. The same survey highlighted issues with respect to the time available for engaging in the development necessary to learn how to use the tools and incorporate them. Other research has highlighted reluctance and readiness gaps within academics, resulting from the necessary time investment, preference for traditional and known forms of assessment. However, it is clear that students are using Generative AI tools. A 2025 HEPI survey found that 88% of students were using Generative AI in their studies for a range of purposes; only 12% of students said that they had not used Generative AI in some form for assessed work. Accordingly, educators need to have familiarity with such technologies, not least to ensure that academic integrity is maintained. HEIs (and indeed education providers at all levels) need to ensure that teaching staff are AI literate.

CPD for academic staff is typically provided at an institutional level making it difficult to have a holistic view of how this challenge is being addressed. One research study has identified a range of approaches in US universities to supporting AI literacy including training courses, provision of resources and examples of use cases. However, the paper also identified gaps in provision of professional development and support at many institutions. A similar study of UK universities would be beneficial, as would developing an understanding of how HEIs are maintaining academic integrity with the advent of Generative AI.

At Liverpool John Moores University, we have undertaken the following, the goal of which was to enable educators to teach with and about AI:

- Training, delivered by AI specialist organisations, on AI and Generative AI fundamentals.
- Development targeted at ensuring academic integrity: addressing signs of misuse of AI and designing AI resistant assessments.
- Opportunities to undertake formal qualifications in AI.
- Seminar series – case studies in AI teaching, learning and assessment.
- Supported redesign of the curriculum, where applicable, to ensure AI-mitigated use

This has been supported by the creation of new programmes at undergraduate and postgraduate level with AI Literary embedded to prepare graduates for the AI-centric workplace

Other universities have published on their approach to teaching, learning and assessment and AI and how they are supporting staff to build AI literacy and incorporate AI into their practice. Examples include networking sessions, collaborative spaces for discussions about key areas of concern and challenge, provision of staff resource hubs, developing guidance on AI use, AI champions and spotlights on specific technologies. This leadership survey from Jisc highlights some of the interventions undertaken by HE and FE institutions.

We recommend that AI literacy for educators should follow the broad definition of AI literacy by Ng et al (2021) encompassing three elements: knowing and understanding AI, using and applying AI and evaluating and creating AI. Consideration should be given to what each of these elements mean in a different educational contexts and disciplines.

The Russell Group identified a series of principles on the use of Generative AI tools in education related to ethical and responsible use and preparing staff and students. These principles highlight the need for different approaches across academic disciplines as well as different student groups (including those with specific learning needs). We suggest that these principles should be adopted more broadly across the HE sector.

How the growing availability of EdTech and AI in education settings is affecting the reliability and validity of traditional assessment methods - including coursework completed outside the classroom.

Traditional forms of assessment commonly in use in HE (such as the traditional essay format or other unsupervised coursework undertaken outside of the classroom) have been undermined. As we highlighted previously in our response, this presents a significant risk for educational institutions and presents important questions about assessment and qualification validity.

Practically, most Generative AI tools can generate passable (if not necessarily sophisticated) essay style work in seconds. It has therefore been suggested that written work is no longer a reliable indicator of student competence or knowledge. This prompted some institutions to return to traditional in-person examinations – these assessment types however are also subject to pedagogical concerns. The emergence and availability of Generative AI tools demands a greater focus on other forms of assessment, including authentic and practical forms. These may have potential resource implications for a sector already experiencing financial strain. The impact of Generative AI use on academic integrity is unknown.

The latest survey from Jisc on AI found that 65% of students say that assessment have changed in response to AI. However, the same survey found that students are anxious about being falsely accused of using AI; this aligns with our own internal research that found that students are not always confident that they understand the boundaries between acceptable and unacceptable use of AI tools in their assessed work.

Further research is required to understand more about how students use and apply institutional guidance on AI in assessment. There is also a need for systematic evaluation of revised forms of assessment, designed to be resistant to AI misuse and support assessment validity, including whether they measure desired learning outcomes and support future student employability. This

may also consider the long-term implications on assessment change for degree standards and public confidence in HE qualifications.

Regardless of the approach taken by any HEI, the rapid development of AI technologies is likely to mean that assessment practices will need to be constantly evaluated and adapted, both to meet employability needs but also labour market skill requirements.

The continuing professional development (CPD) needs that arise from the increased adoption of AI in teaching.

The increasing adoption of AI in education and general life is generating new and significant CPD needs for educators at all levels. These needs incorporate technical skills, pedagogy, assessment design, ethics, managing risks and maintaining academic integrity. A variety of industry survey and reports (referenced in the answers to this call for evidence) have highlighted the need for AI literacy for educators. As highlighted by the Jisc reports, many staff are currently self-taught which risk variance in terms of information provided to students. We suggest that role appropriate AI literacy training is essential at all levels of education in order to manage risks, safeguard students, maintain academic integrity and ensure future employability. Specifically, staff need to be taught both technical and cognitive skills encompassing:

- Foundational understanding of AI concepts
- Awareness of use cases of AI in teaching, learning and assessment and pedagogical implications
- Competent and responsible use of AI tools (especially Generative AI skills)
- Ethical, safe and transparent classroom integration
- Context / discipline specific application
- Risk management and tool limitations

These will need to be supported by learning agility, critical evaluation, analytical and reflective practice. Such development will be an ongoing requirement, reflecting the developing nature of not only the technology, but the research into AI and teaching, learning and assessment that will follow.

It is worth nothing here that almost no academic subject at the level of Higher Education is untouched. For example, AI and Generative AI has or will influence the majority of knowledge-based work taught in universities including marketing, law, finance, human resource management, IT and leadership. Accordingly, it cannot be taught as a standalone discipline by AI literate staff; all staff will need to understand the impact of AI on disciplines, the future of work and how students utilise technologies. For example, at Liverpool John Moores University, we have an employability module in our Business School focusing on professional and personal development designed to help students develop the skills for employment as well as job seeking. Built into the module is now teaching and learning content on how AI tools can be used to support job applications, from CV and application creation to preparing for interviews and researching employers.

The Impact on Learning

The ways in which AI is reshaping learning and education for learners of all ages. These may include how the use of AI affects learners' cognitive abilities (such as critical thinking), how content is personalised and assessed, and how emerging skills are developed.

This is an area that demands more research, especially longitudinal studies. Many of the papers to date focus on Generative AI tools like ChatGPT, rather than broader AI technologies.

One early paper has found some interesting results, highlighting potential cognitive costs including a likely reduction in learning skills and reduced memory recall of created work. The authors call for careful consideration of tools and further research into

'cognitive development, critical thinking, and intellectual independence'. Similarly, Bai et al (2023) identified the potential for reduced capacity for critical thinking and memory retention.

Other research points to areas of concern in relation to learning, albeit benefits are highlighted as well as risks. A 2024 paper by Rahyuni et al established that whilst ChatGPT can support critical thinking, largely through supporting HE students in analysing information and constructing arguments, over reliance hinders motivation for self-reflection and critical evaluation. They also highlight the risks relating to academic integrity in respect of generated content. In contrast, the potential of Generative AI to support learning through reinforcing basic cognitive skills, where students can engage meaningfully with learning materials and ideas is highlighted in this research, which also identified opportunities (carefully scaffolded to avoid risks) to enrich learning experiences. Large Language Models (LLM) such as ChatGPT have been found to be capable of supporting autonomous learning, providing the option of real time responses to student questions. This of course has to be balanced with potential accuracy issues.

Other papers that may of interest to this inquiry include a systematic literature review by Hueng and Chiu (2025) that identifies the potential for ChatGPT can be an effective learning tool, can support student cognitive and emotional engagement with learning, but also that students can become over reliant on the technology resulting in disengagement.

This growing body of research suggests that AI in education has a dual nature – there is a complex picture of both potential benefits and challenges in relation to learning that has an impact across the entire lifecycle of education. Using AI might enrich education – it may also present significant risks to academic integrity and learning itself. As we highlight across our response to this call for evidence, this underscores the importance on having educators with the necessary knowledge, skills, confidence and professional judgement to integrate AI in ways that enhance learning whilst balancing known risks.

We suggest that there needs to be a fundamental redesign of how student skills and knowledge is assessed within HE, focusing on assessment that either incorporates AI in ways that replicates how AI will be used in the workplace or using assessment design where the outputs cannot be created by Generative AI, thereby ensuring validity. Assessments also need to assess the journey to knowledge and understanding, rather than the production of a final artefact, common in traditional assessment formats.

The availability and quality of digital literacy education. The extent to which learners are supported to use AI safely, critically and responsibly as part of their education. How the education system can support learners to develop the skills and knowledge needed for responsible digital citizenship.

Safe and critical AI use is part of AI literacy. Given the likelihood of AI technology development and its increasing use in work, society and general life, this should be considered a critical area for government. However, and as noted in previous answers to the call for evidence, the extent to which learns are supported is variable and dependant on individual institutional responses and even their own specific teacher / teacher competence. Many AI technologies are complex, in respect of how they work and the risks associated with this. For example, recent research has established the emerging phenomenon of 'delusional spiralling' which occurs when users of AI chatbots, which have been found to hold a bias towards validating user claims and beliefs, become dangerously confident in outlandish beliefs. Being able to educate children or students on this relies on educators having sufficient understanding of these risks to communicate them. Furthermore, evidence consistently shows that Generative AI systems are prone to bias and the production of inaccurate or fabricated content (hallucinations), reflecting both limitations in training data and model design. Again, educators need to have specific competence to educate others on such risks.

This situation is clearly unsatisfactory in the longer term. In the future it is increasingly likely that students will be taught with AI

in some form; they also need to be taught *about* AI too, including its broader risks and challenges.

Whether parents, guardians and other family members currently have the information and support they need as AI is increasingly available to their children and embedded in their children's education. The way in which AI-enabled learning affects family dynamics and home-based study, and whether disparities in digital literacy amongst adults perpetuates inequalities for children.

As highlighted in the discussions on AI literacy, the need for knowledge, understanding and awareness of AI (including its risks such as privacy issues) are critical. Once again, we note that this is an emerging issue, but that the early limited evidence suggests that parents may not have the necessary knowledge or information to support their children to use AI in education, but also to be safe and aware users of technologies. This is likely to relate to the recent evolution of these tools as well as their complexity in some cases (privacy settings and the nature of algorithms are such examples).

Some evidence supports this view, although more is required. Children of all ages are using AI (expressly or in unknowingly, through tools like Netflix, Alexa, YouTube etc). The Turing Institute has found that children attending public schools are more likely to report using Generative AI, as well as higher use of AI technology in higher income households, raising potential equality issues. The same research also found that parents and carers have concerns about the impact of these technologies, especially in relation to the potential for exposure to inappropriate or inaccurate information and their development of critical thinking skills. Other research has found that whilst parents may be aware of AI tools, their knowledge is not deep and it is influenced by media portrayals.

The organisation Internet Matters raises the concern that parents and teachers are having to navigate the risks of new technologies without support, noting that previous adoptions of new technologies such as social media have resulted in harm to young people only identified in later use stages, cautioning against similar mistakes with AI. They argue for the development of directed support for parents, teachers and carers in relation to AI tools. We suggest that this should happen at every level of education. Our framework, developed for business schools in HE, provides a practical overview (including activities, learning outcomes and assessments) on how this can be addressed at a HE level. A similar framework could be developed for teachers and for parents, including practical teaching materials to support age-appropriate conversations.

Areas for future research and action include assessment parental readiness (for conversations around AI risks and safety as well as supporting students with education in teaching and learning), design and evaluation of guidance and information for parents, carers and teachers, and consideration of the impact of parental AI literacy on student learning. Recent work from the Information Commissioner's Office (ICO) and their Switched On campaign argues that data privacy and safety should be as embedded in parental thoughts as road safety. This is a promising start but requires buy in from both parents and educational authorities.

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