



Integrating generative AI into undergraduate and postgraduate curricula: an interactive workshop

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Presentation abstract

The emergence of generative Artificial Intelligence (AI) presents both opportunities and challenges for higher education, requiring holistic approaches to developing students' AI literacy. This interactive workshop addressed the critical need for a holistic integration of AI literacy at module and programme levels, supporting educators in developing comprehensive integration strategies. Drawing on the AI in teaching and learning framework (Zhou and Schofield, 2024), this session engaged Learning Developers and educators in practical approaches to embedding AI literacy across the curriculum. The framework encompassed four essential dimensions developed by Ng et al. (2023): know and understand, use and apply, create and evaluate, and AI ethics. The workshop provided participants with practical strategies through mapping learning outcomes to AI literacy dimensions, aligning teaching and learning activities with AI tools and embedding ethical considerations in AI-enhanced learning activities. Participants engaged in interactive activities to develop practical implementation plans suited to their practice/module. Drawing on two case studies (one at the module level and the other at the programme level) of the framework implementation, the session demonstrated how holistic AI integration enhances student AI literacy at a progressive level. During the workshop, participants engaged using Mentimeter to discuss linking learning outcomes, teaching activities, and AI tools, developing plans for adopting the frameworks within their own practice. This session contributed to the growing discourse on AI in higher education by providing practical, framework-based approaches to AI integration.

Keywords: generative AI; curriculum development; AI tools; AI literacy; AI framework.

Community response

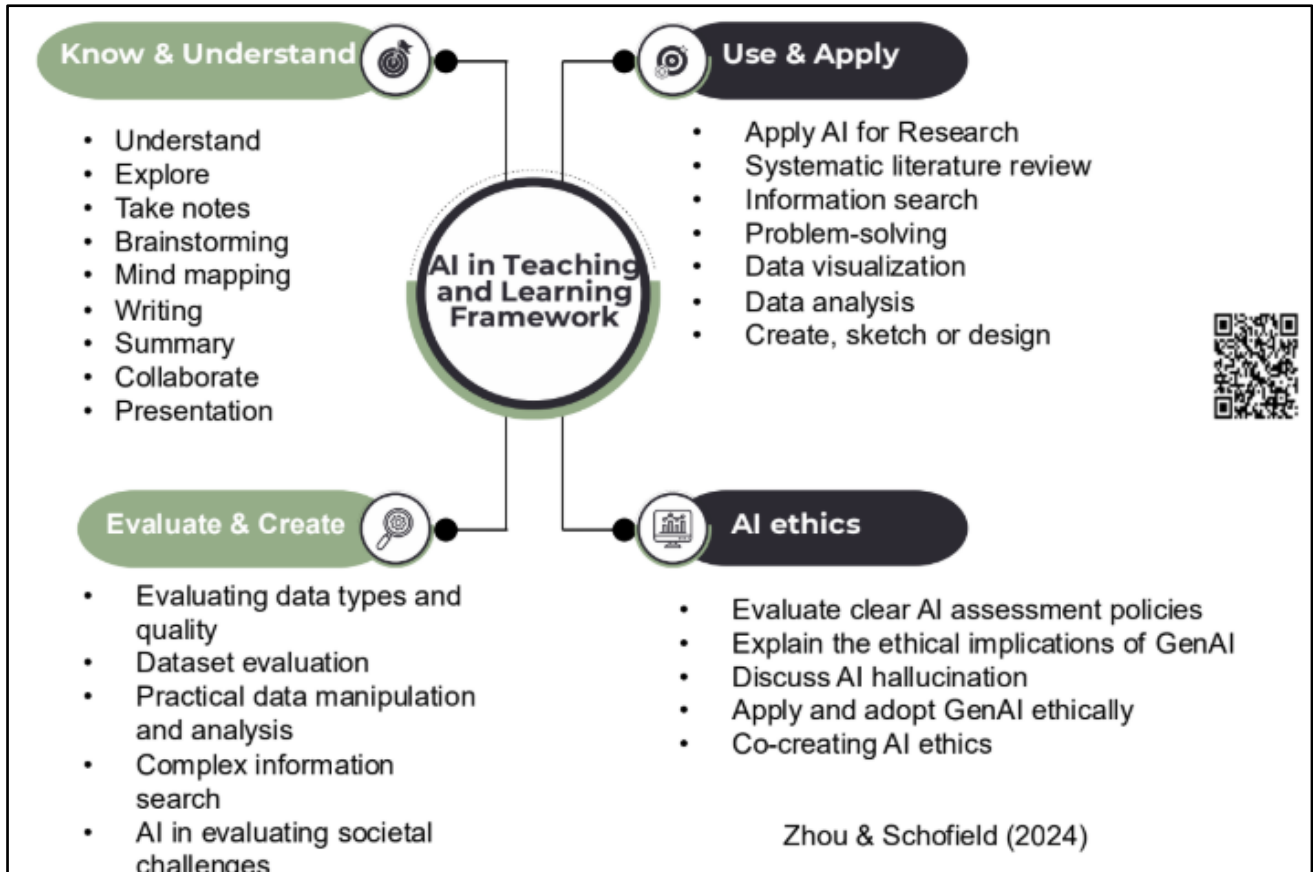
Generative AI is often met with a feeling of uncertainty, particularly within educational contexts. One audience member expressed feeling 'overwhelmed by the challenges' that generative AI brings. This uncertainty is particularly prevalent in education where institutions are navigating the implications of students using generative AI tools to complete assignments. In response, many Higher Education Institutions have adopted AI policies, outlining acceptable uses of AI engagement for both staff and students. Central to these concerns is the potential over-reliance on such technologies. Emerging research suggests that excessive dependence on generative AI may contribute to cognitive decline and 'lazy' thinking (Georgiou, 2025).

Though perhaps this is more indicative of the lack of AI literacy that is present in staff and students, as highlighted by one attendee, particularly in terms of confidently using these tools to enhance knowledge, critically evaluate their outputs, and understand the limitations of their use. This observation underscores a broader concern around preparedness and digital competence in navigating the complexities of AI in education.

One such respondent noted being 'impressed' by the number of colleagues who adopted the framework, suggesting a degree of surprise at the willingness to engage in a domain that is currently an under-researched area and often perceived as complex or challenging. However, this is an area which is gaining significant momentum, with increasing interest in both research and teaching, aiming to explore and establish best practices for the integration of AI in teaching, learning and assessment.

Research has increasingly highlighted the opportunities that generative AI brings in promoting effective teaching and learning. These benefits span multiple areas of educational practice including generating prompts for formative assessment (Baidoo-Anu and Owusu Ansah, 2023), the enhancement of active learning strategies (Pahi et al., 2024) and the improvement of accessibility (Evmenova, Borup and Kang Shin, 2024). Despite these recent developments, there remains a critical need for a more thorough understanding of how generative AI can be meaningfully and ethically incorporated into the curriculum. A recent systematic review into the use of generative AI for teaching and learning practice (Ogunleye et al., 2024) emphasised this gap, calling for further approaches to integration.

Figure 1. AI in teaching and learning framework by Zhou and Schofield (2024).



The framework presented conceptualises the integration of AI through the lens of Bloom's Taxonomy (Bloom et al., 1956). It begins with the foundational stage of 'Know and Understand', encouraging students to engage with tools such as ChatGPT for brainstorming and idea generation, and scaffolding through increasingly complex integration, ending with 'AI Ethics', an advanced stage that involves critically examining the ethical implications of AI use (Zhou and Schofield, 2024).

There was a general positive consensus that the framework presented in the session was 'practically useful'. One respondent noted that a more thorough exploration beyond the session content and into the accompanying article (Zhou and Schofield, 2024) provided 'detailed descriptions' of the framework, along with 'possible tools' that they found particularly valuable for practical integration. Another audience member described the framework as an 'excellent starting point' adding that it helped them to recognise the limitations of their own AI literacy.

Such reflections suggest that the framework not only provides a structured pedagogical approach to curriculum integration but also prompts critical self-awareness from researchers and educators alike. It presents an opportunity to embrace AI in a way that encourages students to engage with these tools constructively and ethically. By doing so, students are supported in developing an evaluative awareness of when and how to appropriately use AI tools, reducing the potential of using such tools unethically and ultimately preparing them to navigate complex technological advances both within and beyond the classroom.

Next steps and additional questions

While the framework offers a structured and pedagogically grounded approach to integrating AI into the curriculum, several important questions remain. One of the key considerations is how this framework can be adapted and scaled across diverse academic disciplines. While it may align well with subjects that naturally lend themselves to digital tools (for example, Computer Science, Media, or Business), disciplines in the Humanities, Arts, and Social Sciences may require tailored approaches to ensure meaningful integration.

AI literacy continues to emerge as a central concern, particularly with the 'bottom-up' approach that requires a module organiser to integrate this framework. This not only requires technical knowledge but also a critical, ethical, and evaluative understanding of AI tools. This raises the question of professional development: what training or support structures are needed to empower educators to confidently use and teach with AI?

Related to this, there needs to be greater consideration of students who may lack overall technological literacy, as well as those who are neurodivergent or have specific learning needs. There is a need to ensure that these tools are genuinely accessible to all students. This includes evaluating whether these tools support assistive technologies and for students with limited digital skills, additional scaffolding may be required to ensure they are not disadvantaged by their more technologically fluent peers.

One audience member raised a particularly pertinent question around institutional adoption and whether 'top-down' conversations would ensure that the framework was embedded at all levels of programme design and delivery. This points to a broader issue of strategic

alignment: how can institutions ensure coherence between policy and practice when it comes to AI?

Other considerations include how to monitor student engagement with AI ethically and effectively and what role AI might play in inclusive education practices. These questions represent areas in need of further exploration as we continue to navigate the role of AI in education.

Authors' reflection

We were encouraged by the level of engagement and thoughtful contributions from participants. The session was highly interactive, and it was clear from the discussion that the framework we presented was received as practically useful. Following our presentation and the feedback received, we have been reflecting on several key considerations that emerged, particularly around the framework's adaptability across disciplines, and the ethical, and inclusive implications of integrating generative AI into higher education.

We continue to reflect on the importance of embedding the ethical use of generative AI within teaching and learning. We align with Lodge, de Barba and Broadbent's argument (2023) that it is not enough for students to simply know how to use these tools; they also need to engage with questions of responsibility, authorship, academic integrity, and taking responsibility for the decisions made based on the output of the GenAI. This requires creating space for students to think critically about how and why they are using AI, and what ethical use looks like within their discipline and level of study. Alongside this, we have been thinking about the inclusive potential of generative AI tools. Many offer features that can support diverse learners, for instance, through language assistance, personalised feedback, or compatibility with assistive technologies. However, there are also concerns about uneven access. Factors such as subscription costs, institutional licensing limitations, and differences in digital confidence can all shape who benefits. These reflections remind us that while AI tools hold promise for inclusion, their integration must be approached with attention to the varied realities of students' learning contexts. Our recent publication includes reflections and recommendations to support thinking around using GenAI tools (Schofield and Zhou, 2025). We propose that scaffolding activities to embed AI literacy is essential for ensuring that students can engage knowledgeably, critically, and

constructively with AI. This should be supported by assessment design that explicitly acknowledges AI integration, enabling its use to be evaluated as part of the learning process rather than treated as an external factor.

This means module organisers reevaluate their modules to ensure ethical and responsible use of AI. However, this comes with questions and concerns of module organisers carrying the responsibility for integration and the additional workload involved in integrating AI. Nonetheless, given that AI literacy is increasingly seen as essential by employers, module organisers will need to consider how to embed relevant competencies in ways that align with their subject area and appropriate to students' levels of study. This may be where a top-down approach is needed. We see the merit that a coordinated approach is needed to embed AI literacy at all levels of programme design and delivery. We also recognise that resistance can be a barrier if applied top-down, and that change needs to be supported through strategic planning, policy development, and ongoing professional development.

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