

Artificial intelligence in education: A practitioner-informed perspective on opportunities, challenges, and human-centered integration

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Abstract

The integration of artificial intelligence (AI) in education is transforming teaching and learning across global contexts. While existing literature highlights the potential of AI to support personalized learning, improve efficiency, and expand access, less attention has been given to practitioner-informed perspectives grounded in sustained classroom experience. This paper draws on 19 years of international teaching and curriculum development experience across Japan, the United Arab Emirates, and Canada to critically examine the role of AI in education. It argues that AI's effectiveness depends not only on technological advancement but on its alignment with pedagogical practice, ethical considerations, and human-centered learning design. By synthesizing research with classroom-based insights, this paper explores the benefits, limitations, and future implications of AI, emphasizing the need for balanced integration that enhances—rather than replaces—the role of educators.

Keywords: *artificial intelligence, education, personalized learning, pedagogy, teacher experience, AI literacy*

Introduction

Artificial intelligence (AI) is increasingly positioned as a transformative force in education, with applications ranging from intelligent tutoring systems to generative AI tools capable of producing human-like text. These technologies have introduced new possibilities for personalized learning, real-time feedback, and scalable educational solutions. However, the rapid adoption of AI has also raised critical questions about pedagogy, ethics, and the evolving role of educators.

While much of the discourse surrounding AI in education is driven by technological innovation, there remains a need to ground these discussions in classroom realities and practitioner expertise. Over the past

19 years, I have taught and developed English language programs in diverse international contexts, working with learners of varying linguistic, cultural, and academic backgrounds. This experience has consistently reinforced a central principle: effective education is not defined by tools alone, but by the relationships, adaptability, and intentional design that underpin learning environments.

This paper argues that AI should be understood not as a replacement for traditional teaching, but as a tool that must be carefully integrated within human-centered pedagogical frameworks. By combining academic research with practitioner insight, it examines the opportunities, challenges, and future implications of AI in education.

AI and personalized learning: Promise and practical realities

One of the most widely cited benefits of AI in education is its capacity to facilitate personalized learning. AI systems can analyze student data and adapt instructional content to meet individual needs, allowing learners to progress at their own pace (Holmes et al., 2019). In theory, this aligns closely with best practices in language education, where differentiation and scaffolding are essential.

However, from a practitioner's perspective, personalization is not solely a function of data—it is also deeply relational. In my experience teaching intensive English programs, effective differentiation often depends on subtle, real-time judgments: recognizing when a student is disengaged, identifying cultural factors influencing participation, or adapting explanations based on learner response. While AI can support these processes, it cannot fully replicate the nuanced decision-making of an experienced educator.

That said, AI tools can meaningfully enhance personalization when used strategically. For example, students can use AI for additional language practice, idea generation, or feedback outside of class time. This extends learning beyond the classroom and allows teachers to focus on higher-order skills such as critical thinking, discussion, and applied communication. In this sense, AI serves as a supplementary layer of support, rather than the primary driver of instruction.

Efficiency, automation, and the changing role of educators

AI's ability to automate administrative tasks is often presented as a major advantage. Tools that assist with grading, lesson planning, and content generation can reduce workload and increase efficiency (Zawacki-Richter et al., 2019). For educators managing multiple courses or large student cohorts, this has clear practical benefits.

In my own work as a curriculum developer and content creator, AI has proven useful in streamlining repetitive tasks, generating draft materials, and supporting micro-learning design. However, the value of



these tools lies in how they are used, not simply in their availability. Poorly designed or over-reliant use of AI-generated content can lead to generic, decontextualized materials that fail to meet learners' needs.

This highlights a critical shift in the role of educators—from content creators to learning experience designers. As AI takes on more routine tasks, educators are increasingly responsible for curating, adapting, and contextualizing content. This requires not less expertise, but more: pedagogical knowledge, cultural awareness, and the ability to critically evaluate AI-generated outputs.

Academic integrity and cognitive engagement

The rise of generative AI has introduced significant challenges related to academic integrity. Students can now produce essays, summaries, and responses with minimal effort, raising concerns about authenticity and assessment validity (Cotton et al., 2023).

However, framing this solely as a problem of cheating risks overlooking a deeper issue: the need to rethink assessment design. Traditional assignments that prioritize information recall or surface-level analysis are particularly vulnerable to AI misuse. In contrast, tasks that emphasize personal reflection, process-based learning, and in-class performance are more resistant to automation.

In my teaching practice, I have found that incorporating discussion-based activities, scaffolded writing processes, and real-time feedback encourages genuine engagement and reduces reliance on external tools. Rather than attempting to eliminate AI, educators should focus on designing learning experiences that require human input, creativity, and critical thinking.

Ethical considerations: Data, bias, and equity

The ethical implications of AI in education are substantial. Issues related to data privacy, algorithmic bias, and equitable access must be carefully addressed to ensure responsible implementation (UNESCO, 2021).

From an international teaching perspective, the issue of equity is particularly significant. Access to technology varies widely across contexts, and the benefits of AI are not distributed equally. In some settings, students may have limited access to devices or reliable internet, while in others, AI tools are readily integrated into daily learning. Without deliberate intervention, AI risks widening existing educational inequalities.

Algorithmic bias is another concern. AI systems trained on limited or biased data may produce outputs that disadvantage certain groups of learners. Educators must therefore play an active role in evaluating AI tools and ensuring that they are used in ways that are inclusive and equitable.



AI literacy and the future of education

As AI becomes increasingly embedded in society, the development of AI literacy is essential. Students must not only learn how to use AI tools, but also how to evaluate their outputs, understand their limitations, and engage with them ethically.

Based on my experience in curriculum development, integrating AI literacy into existing programs can be achieved through task-based learning approaches. For example, students can analyze AI-generated responses, compare them with human-produced work, and reflect on issues such as accuracy, bias, and authorship. These activities promote critical engagement and prepare students for real-world applications of AI.

Looking ahead, the most effective educational models will likely be those that combine technological innovation with strong pedagogical foundations. The concept of human-centered AI—which prioritizes human learning, agency, and well-being—provides a useful framework for this integration.

Conclusion

Artificial intelligence has the potential to significantly enhance education by supporting personalized learning, improving efficiency, and expanding access. However, its successful integration depends on more than technological capability. It requires thoughtful implementation, ethical awareness, and a commitment to preserving the human elements of teaching and learning.

Drawing on 19 years of international teaching experience, this paper emphasizes that AI is most effective when it is used to augment, rather than replace, the role of educators. The future of education lies not in automation alone, but in the intentional design of learning experiences that combine the strengths of both human and artificial intelligence.



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Author Bio

Staci-Anne is an educator, writer, and learning experience designer with 19+ years of international adult education experience. She develops instructional materials supporting literacy, communication, and critical thinking, with interests in curriculum development, inclusive education, and e-learning using Articulate 360. She's developed textbooks, workbooks, children's literature, and YouTube content. For more on Staci-Anne, visit www.staci-anne.com. Her work aims to foster universal understanding through accessible, inclusive learning experiences.