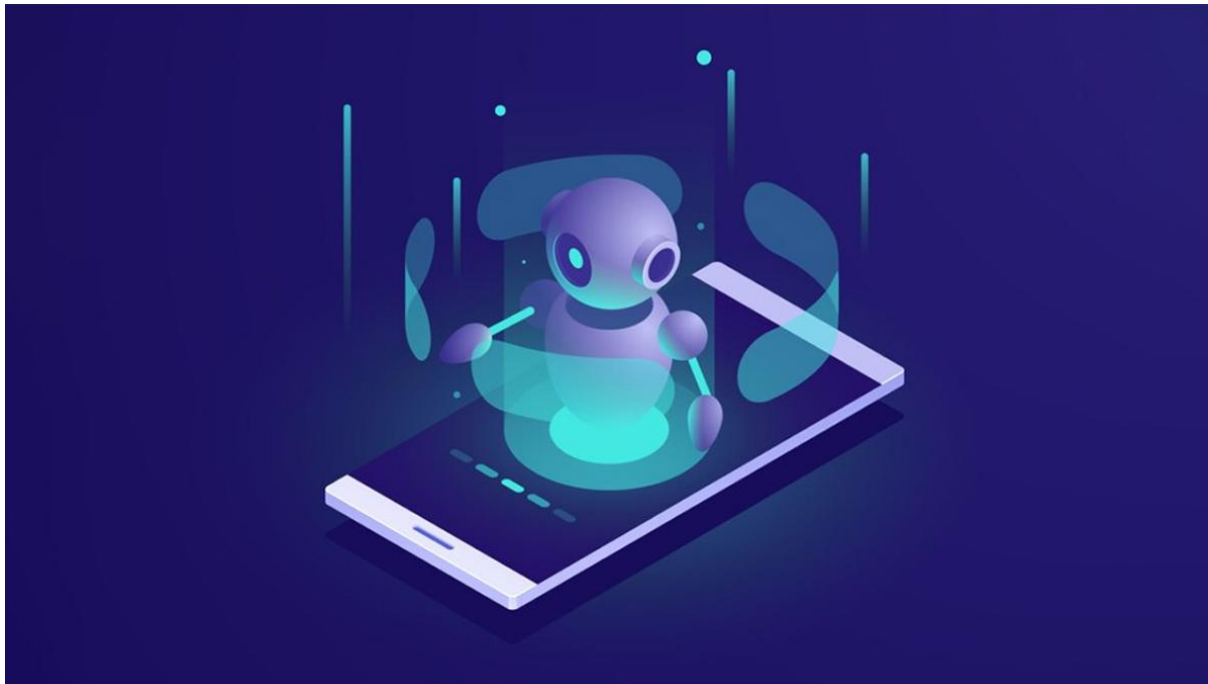


[OPINION] From chalkboards to chatbots: The role of AI in teaching

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The future of education lies in integrating AI-driven tools with human-led instruction to balance personalized learning and meaningful human engagement. -Freepik

WITH the increasing integration of artificial intelligence (AI) into education, a significant question arises: Can AI genuinely supplant the traditional lecture-based teaching model?

AI Brief

- *AI offers advantages like interactive lessons, immediate feedback, and personalized learning, but it may not fully replace traditional lectures.*
- *Traditional lectures provide structure, consistency, and direct engagement, though they can be passive and limit student interaction.*
- *The future of education lies in integrating AI-driven tools with human-led instruction to balance personalized learning and meaningful human engagement.*

The advent of AI introduces several advantages, such as interactive lessons, immediate feedback, and tailored learning experiences — yet, does this imply a farewell to traditional lectures?

The conventional approach to teaching has endured across generations, providing organised instruction and fostering a vital human connection between educators and learners.

Consequently, one must ponder whether AI stands as a transformative tool poised to replace traditional methods entirely, or if it functions best as an enhancement to existing pedagogical frameworks.

For centuries, the lecture has served as a foundational element of educational practice, effectively conveying knowledge to extensive groups of students. This method offers structure, consistency, and direct engagement with subject-matter experts.

However, it is not without its shortcomings. Critics have noted that lectures often tend to be passive and unidirectional, limiting student engagement and interaction.

When students are deprived of the opportunity to inquire or actively participate, one must question the extent of their learning retention.

In response to these critiques, many educators have sought to integrate interactive components, such as group discussions, problem-solving tasks, and the flipped classroom format, where content is introduced online before in-class discussions.

Nevertheless, even with these modifications, one must consider whether lecture-based teaching can sufficiently meet the evolving demands of modern education.

AI-driven learning platforms offer a unique aspect that traditional lectures may lack, providing personalised education at scale.

Imagine having an AI tutor capable of adjusting to each learner's pace, pinpointing areas for improvement, and providing prompt feedback.

Technologies like chatbots, virtual assistants, and automated grading systems are already beginning to transform educational experiences, rendering learning more adaptable and accessible.

Yet, can we assert that AI is without flaws? Unfortunately, it is not. The accuracy of AI-generated responses can be questionable, requiring human oversight to ensure reliability.

Furthermore, while AI may furnish answers, it does not invariably cultivate critical thinking or problem-solving capabilities in the same manner that human instructors can.

Thus, as we navigate this complex landscape, it is crucial to carefully weigh the merits and limitations of both AI and traditional teaching methods.

Even the most advanced AI technologies cannot replicate the fundamental value of natural interaction, mentorship, and emotional intelligence inherent in face-to-face learning environments.

Students acquire not only factual knowledge in classrooms but also develop essential communication skills, forge interpersonal relationships, and participate in dialogues that foster deeper understanding.

The absence of this human element in AI-driven education raises concerns because relying solely on these technologies may hinder critical components of learning, such as social interaction and collaborative problem-solving.

Furthermore, it is important to acknowledge that access to AI-based learning tools is not universal as some students may lack sufficient technological tools and resources, thereby exacerbating existing disparities in educational opportunities.

Thus, one might ponder: can AI in its current state that we have now truly supplant traditional lectures? Likely not. However, we must note its multi-affordances and leverage them.

The potential lies in the integration of AI-driven tools and human-led instruction, harnessing technology to facilitate personalized learning while preserving the invaluable benefits of conventional teaching methods.

The future of education does not necessitate a dichotomous choice between AI and traditional approaches; rather, it demands a thoughtful equilibrium that emphasizes structure, adaptability, and meaningful human engagement.

Academics are the maestros who can orchestrate how our teaching and learning become innovative, impactful, and aligned with the global demands of producing graduates who can meaningfully apply AI alongside the knowledge they acquire.

The issue is not whether AI is good or bad—it is here to stay. Instead, the focus should be on exploring how AI can be used to enhance students' education, such as improving their understanding of subject matter, while also ensuring that critical thinking skills continue to be honed despite AI's presence.

This understanding will then enable us to curate more effective teaching, learning, and assessment strategies.

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