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AI – An Educator's Tool

By Tamara Nair

SYNOPSIS

ChatGPT has the potential to revamp and revolutionise teaching and learning. But balancing the use of this artificial intelligence tool with the traditional forms of teaching is important if we are to maximise learning in the classroom.

COMMENTARY

In recent years, the development of advanced natural language processing models, such as ChatGPT, has opened up new possibilities for incorporating artificial intelligence (AI) into education. This is especially true in the teaching of critical thinking skills across all levels of education.

There is however some concern about introducing AI in teaching where the human elements involved in learning are eliminated, including the advantages of being able to learn from one's mistakes, to ask pertinent questions, and to learn to look for, and then synthesise relevant information.

Besides teaching and learning, concerns about ethics and bias have also been raised over AI's infiltration into education. Educationists around the world have expressed legitimate concerns. Assuring against such concerns, the Singapore [Ministry of Education](#) stated that, "Schools have adopted a range of practices to guard against the potential misuse of generative AI in learning". This is in addition to providing teachers with the tools to harness the benefits of utilising digital tools, including AI, in education.

But the fact is, there is simply no running away from AI, as intrusive as it is in all aspects of human lives. It is true that the digital lives we humans increasingly lead, are rapidly pushing aside the fundamental learning skills known to us. However, what

better way to bring these learning skills back to centre stage than to use the very same digital tools, AI, that are seemingly pushing them to the peripheries of human thinking?

Problems of Using AI in Teaching and Learning

As important as it is to integrate AI tools into student learning environments, we need to bear in mind the potential pitfalls associated with their use.

AI tools such as ChatGPT lack emotional intelligence, hence making it difficult for them to understand and respond appropriately to students' emotions. This can hinder the development of empathy and emotional connections, which are vital for social development. Students would not have the benefit of face-to-face interactions with teachers and peers. Although AI might open up the world to them, there is limited personalised feedback and guidance, which teachers are better able to provide. And even if AI can do these, they would tend to be standard responses, not very helpful in facilitating creativity.

There is also the issue of ethical concerns, which can inadvertently reinforce bias present in the data these AI tools present. For one, AI tools may not fully capture or represent certain groups or communities' beliefs or behaviours accurately or they may do so in a discriminatory manner. Hence, when AI coalesces available information online in response to questions about a particular ethnic or racial community or people of a particular sexual orientation, it may include misinformation or disinformation about them because AI does not distinguish between facts and untruths.

Other [ethical considerations](#), which embrace a whole host of issues including data privacy and lack of regulation, come into play as well, although this can also provide an opportunity to study bias in data, discrimination and inequality, and perhaps even expose policy blind spots in social, cultural or institutional structures.

AI and Critical Thinking

Notwithstanding the problems of using AI in the classroom, there is a strong argument in favour of it, which is that it facilitates the development of critical thinking, if used in a manner that can promote such learning.

Critical thinking is a fundamental skill that enables individuals to make informed decisions and to solve complex problems. For example, when presented with sensational or scandalous materials, it will require the human brain to decipher the reasons behind the propagation of such materials and to evaluate the contents and implications. This would involve questioning assumptions, considering multiple perspectives, and applying logical reasoning. When presented with different perspectives and data generated by AI, students can subject such information to this level of critical scrutiny, providing an opportunity now to do so with digital data as opposed to traditional learning materials like textbooks.

With the extensive use of digital tools such as social media and the Internet to get information and data, there is a concern that we may gradually erode our ability to think critically for ourselves, and to sift relevant and pertinent information from the overload of misinformation and disinformation. It is ironic that using AI might help

students to navigate the digital “flotsam and jetsam” found in cyberspace, such as unverified posts and news, digitally enhanced videos and images, and unsolicited comments and advice.

AI tools can provide instant access to a vast amount of information from different sources, enabling us to explore diverse perspectives conveniently. OpenAI, the creator of ChatGPT, has also introduced a combination of supervised learning, and reinforcement learning to fine tune the tool, including the use of the unique [RLHF](#) (Reinforcement Learning from Human Feedback) technique to minimise untruthful and/or biased outputs.

ChatGPT can also engage students in interactive conversations, encouraging them to think critically and to articulate their thoughts effectively. In fact, even [ethical considerations](#) of using AI in teaching and learning are up for discussion, prompted by the use of AI in the classroom. However, in examining variegated thoughts from vast sources of information, students should consider what rights, freedoms and privacy might be sacrificed when they use such digital tools. And that is a good example of how critical thinking might be exercised if teachers wish to use AI to teach. It becomes another tool available to the educators, especially when students increasingly turn to the Internet and social media as sources of learning. This would also facilitate the teaching of how digital tools are to be used responsibly, expanding digital literacy in the process.

Conclusion: “Humanising” AI

While AI tools offer significant potential for enhancing teaching and learning experiences, it is important to be aware of the potential pitfalls associated with their use. How do we safeguard against these pitfalls?

For one, we might consider a change in assessment modes, including reverting to the traditional pen-and-paper examination. Written examinations can test both recall and application, and put students, whether privileged with digital resources or otherwise, on an equal footing when being assessed. They should not be forgotten just because digital tools allow for other forms of assessment.

Other modes include greater use of observational studies to understand the world around us, and more classroom discussion and debate, as they promote cooperative learning and social development. These are needed in learning environments that are eager to embrace digital tools in teaching and learning.

As AI is entirely new, teachers need to be trained not only to understand the technology but to master the new modes of teaching made available. This training will also provide for a more seamless interface between the physical and digital modes of teaching and learning. To prepare teachers for this transformation in education is a separate challenge by itself.

If managed carefully, the use of AI in education is definitely more a boon than a bane. AI is not to be feared, neither is it to be worshipped. There is still a need to provide balance between digital and analogue forms of teaching and learning, and this comes from embracing both forms. That attitude should be commonplace in our classrooms.

Tamara Nair is Research Fellow in the Centre for Non-Traditional Security Studies, S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University (NTU), Singapore. Before joining RSIS, her professional calling was teaching.

S. Rajaratnam School of International Studies, NTU Singapore
Block S4, Level B3, 50 Nanyang Avenue, Singapore 639798
T: +65 6790 6982 | E: rsispublications@ntu.edu.sg | W: www.rsis.edu.sg