

AI chatbot poses new challenge to schools in plagiarism fight

Software that can aid cheating may spur shift in assignments towards greater critical thinking

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Teachers in Singapore say they will likely have to move from assignments requiring regurgitation to those that require greater critical thinking, to stay ahead in the fight against plagiarism.

This comes on the back of the rise of ChatGPT, an intelligent chatbot that is able to spin essays and solve mathematical equations in seconds.

ChatGPT, developed by San Francisco research firm OpenAI, is being talked about as a major step forward in artificial intelligence (AI), especially its latest version released in November.

Simple and free of charge – for now – the chatbot has prompted some schools to start thinking of ways to mitigate cheating, ahead of students' return to schools.

ChatGPT's ability to break down complicated concepts into simple language and respond to follow-up questions logically has raised concerns over whether existing plagiarism detection software used in schools, such as Turnitin, can sniff out text drafted by bots.

Singapore educators interviewed said they have not encountered cases of cheating with the aid of ChatGPT, as its latest version turned viral only during the school holidays.

But there has been no shortage of students showing off on social media how the chatbot can help them complete schoolwork convincingly with ease.

Checks by The Straits Times show that ChatGPT is able to tackle A-level general paper questions, write and spot errors in blocks of code, and solve maths questions taken from examination papers.

And the chatbot will only get smarter with further updates in 2023, backed by investors such as Microsoft.

The software has impressed

Cheating with chatbots is similar to students relying on search engines to throw up relevant articles that are copied into their assignments, said communication and technology professor Lim Sun Sun. "These bots take quotes out of content they have harvested and bundle them nicely in prose. It's an advancement on previous cheating techniques," she said.



The latest version of ChatGPT went viral during the school holidays, with students showing off on social media how it can help them complete schoolwork convincingly with ease. The intelligent chatbot is able to break down complicated concepts into simple language and respond to follow-up questions logically, and can spin essays and solve maths equations in seconds. ST FILE PHOTO

media law professor Mark Cenite from Nanyang Technological University (NTU), who tasked it with writing an essay for and against capital punishment – in the style of Shakespeare's poetry.

"It instantly generated the usual arguments in clear sentences woven together with introductions, conclusions and transitions," said Dr Cenite, associate dean of undergraduate education at NTU's College of Humanities, Arts and Social Sciences.

"We educators must up our game," said Dr Cenite, who believes the progress of such technology nudges learning forward.

Teachers cannot simply ask students to recite basic points, and will need to challenge them through application and critical thinking, he said.

"For example, instead of an assignment requiring arguments for and against capital punishment, we could ask our students to apply the arguments in a particular case. AI can't do something that original yet," he said. "That creativity is what will make them valuable contributors after graduation in a world saturated with AI."

Describing ChatGPT as "ground-breaking", communication and technology professor Lim Sun Sun of Singapore Management University said educators must ask more of students than simply to regurgitate content.

She said ChatGPT might even

fare better than students in regurgitating content, as its use of grammar is consistently sound.

AI bots also need not be a threat – they can enhance students' learning as they can be tasked with generating drafts that students can critique and refine, deepening their critical discernment, Professor Lim added.

She likened AI bots to automated machines doing the heavy lifting, enabling humans to focus on more sophisticated tasks.

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Schools are gearing up to address the use of bots in anticipation of a flood of cheating.

The University of Leeds in England, for example, is looking at modifying its assessments in reaction to the rise of AI bots.

In response to queries from ST, a spokesman for SMU said it is developing a framework for managing the use of technology tools that help students complete assignments.

The school has not yet encountered cases related to cheating with bots, said the spokesman, adding that such cases are similar

to students writing papers with the help of a third-party service.

If caught, the student will be reported to the school authorities for investigation. Those found cheating may be given zero marks for their course or face expulsion.

ST has contacted the Ministry of Education and other universities for comment.

When asked what measures were in place to catch cheating, the SMU spokesman said the school uses Turnitin as a means of gate-keeping.

While SMU does not consider Turnitin a means to catch all plagiarism, the software provides a starting point and a percentage view of how likely it is that the piece has been written by a student or an AI, said the spokesman.

Turnitin chief executive Chris Caren said on Dec 15 that the software is able to catch some forms of AI-assisted writing and sniff out signs of cheating with the help of a third party.

The company is in the midst of enhancing its software's ability to recognise ChatGPT writing and incorporate it into its products for educators to use in 2023.

Mr Caren thinks the viral adoption of ChatGPT does not signal the end of original thought. Instead, it can be a useful tool if educators set the right expectations for its use, he said.

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How ChatGPT works, in its own words

The paragraphs below were loosely edited from a response generated by intelligent chatbot ChatGPT in a matter of seconds, when asked to explain how it works:

"ChatGPT is a natural language processing model developed by research firm OpenAI.

"It is designed to generate human-like text in a conversational style, allowing it to participate in online chats, answer questions, and carry out other tasks that require language understanding and generation.

"One of the key features of ChatGPT is its ability to understand and respond to context.

"It can keep track of previous conversations and use that information to generate more relevant and appropriate responses.

"At its core, the bot is powered by a machine-learning algorithm known as a transformer.

"This algorithm allows ChatGPT to analyse patterns in large data sets of human language and use that information to generate text that flows naturally.

"ChatGPT has the potential to revolutionise the way people interact with computers and could have a wide range of applications in fields such as customer service and language translation."