



## COMMENTARY

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# Exploring the Hurdles in Integrating Artificial Intelligence in Medical Education: A Talk with ChatGPT

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## ABSTRACT

The integration of artificial intelligence (AI) in the medical field is rapidly increasing, and its importance is recognized as it can analyse medical information and improve patient outcomes. The Chat Generative Pre-trained Transformer (ChatGPT) by OpenAI is a language model that can respond to prompts in a human-like manner and has the potential to transform medical education. In this conversation, the authors engage with ChatGPT to discuss the challenges associated with the application of AI in medical education. ChatGPT acknowledges the limitations of AI in medical education and the importance of students demonstrating their understanding during assessments. It also discusses the need for academic policies to ensure the responsible and ethical use of AI in medical education.

**Keywords:** *Artificial intelligence, ChatGPT, Medical education*

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## INTRODUCTION

Artificial intelligence (AI) integration in the medical field is rapidly increasing to analyse the medical information and gain insights to enhance patient outcomes and their experiences (1). Thus, it is important for medical students to acquire a sufficient understanding of AI in medicine, as they may need to employ these tools in the future (2). In recent months, one such tool called Chat Generative Pre-trained Transformer (ChatGPT) by OpenAI has taken the world by storm. It is a language model trained on a vast text dataset (3) and able to respond to prompts in a manner that resembles human conversation.

This tool was evaluated on the United States Medical Licensing Examination (USMLE) and performed at or near the passing threshold without specialised training and had a very insightful explanation (4). This is being met with both inquisitiveness and anxiety among the medical fraternity in equal measures, as by enhancing literature efficiency, the use of technology has the potential to transform medical education.

Thus, we decided to have a conversation with ChatGPT itself, to understand its perspective on the challenges to be faced by medical education and measures to mitigate its effects.

## Conversation with ChatGPT

<Authors>: Hi ChatGPT, Good day! Glad to have this discussion with you.

<ChatGPT>: Hello! It's great to be speaking with you. How may I assist you today?

<Authors>: Is summarising the lecture notes or textbook contents one of your capabilities?

<ChatGPT>: Yes, I can summarise the lecture notes or contents of a medical textbook for a medical student. However, as with any summarisation task, the length and detail of the summary will depend on the complexity of the information and the length of the content. I will do my best to provide a concise and informative summary that is suitable for a medical student's level of understanding.

<Authors>: In that case, will it not disrupt the learning process of medical students? Instead of poring over textbooks and scientific articles, they could resort to relying only on ChatGPT for information.

<ChatGPT>: It's true that relying solely on automated summaries like mine could potentially have a negative impact on a medical student's learning process. The goal of education and self-study is to develop a deep and thorough understanding of a subject, and that is best achieved by reading and engaging with the original source material.

While my summarisation can be a helpful tool for medical students to quickly get an overview of the main ideas and key concepts in a textbook or lecture, it should not be considered a replacement for the in-depth reading and critical thinking that is required for a comprehensive understanding of the subject matter.

In other words, I can provide a summary, but I strongly recommend medical students to use it as a supplement to their own study and reading, not as a substitute.

<Authors>: Assessment of medical students is a key element of medical education to gauge their level of understanding. If the students go on to use ChatGPT to generate answers, will it not fail the purpose of assessment?

<ChatGPT>: Yes, it is true that relying on automated responses like mine would likely not provide an accurate assessment of a medical student's understanding of the subject matter.

Medical student assessments are designed to evaluate the student's knowledge, skills, and critical thinking abilities, and automated responses like mine do not capture these important elements. Additionally, the use of pre-written responses could potentially be viewed as academic dishonesty and could harm the student's future career prospects.

It's important for medical students to demonstrate their own understanding of the material through their own words and thought processes during assessments. Therefore, I would not recommend using me or any other automated tool as a substitute for their own work and knowledge during assessments.

<Authors>: During literature searches, you often cite references that do not exist. If students rely on ChatGPT on such research, will it not be unethical?

<ChatGPT>: Yes, it would be unethical for students to rely on me for research if I provide false citations or references that do not exist. The credibility of academic research depends on the accuracy and reliability of the sources used. Providing false information can compromise the validity of the research findings and lead to inaccurate conclusions. It is essential for students to fact-check the information and sources provided by AI models and to use credible sources for their research. Additionally, it is important for educators to provide guidance on the responsible use of AI models in research and to emphasize the importance of verifying information before using it in academic work.

<Authors>: Can you give a framework on academic policies to be followed by medical universities to avoid the above concerns of using AI in medical education?

<ChatGPT>: Medical universities can follow these academic policies to ensure responsible and ethical use of AI in medical education: 1) Transparency in AI usage and communication, 2) Fact-checking and use of credible sources, 3) Ethical usage guided by privacy and non-discrimination, 4) Continuous evaluation and monitoring, 5) Collaborative approach involving stakeholders. By following these policies, universities can ensure AI enhances medical education quality and supports student learning while avoiding ethical concerns. This framework may need to be adapted to fit each institution's specific needs.

<Authors>: It was nice talking to you. Thanks.

<ChatGPT>: You're welcome! I'm always here to help. Have a great day!

## CONCLUSION

The conversation with ChatGPT was enthralling and its responses were almost human-like and well-articulated. As with the case of any cutting-edge technology, the application of AI in medical education in moderation could be a boon, while over-reliance could end up a bane. Being a language-based model, ChatGPT can open doors for medical students to access medical literature in foreign languages. It can be of academic assistance in classroom learning, enhancing clinical knowledge and aiding in self-assessments. The application of AI in medical education raises concerns about academic dishonesty in online assessments, the generation of essays/reports in place of critical thinking and digital amnesia among medical students. Moreover, while reviewing the medical literature, ChatGPT cheekily making up non-existent reference citations complete with DOIs is worrisome as it is scientifically unethical. Therefore, it is up to medical universities and institutions to develop strategies and countermeasures to detect possible usage of AI-generated content to ensure academic integrity.

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