

A Tête-à-tête with ChatGPT on the impact of artificial intelligence in medical education

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ABSTRACT

Chat Generative Pre-Trained Transformer (ChatGPT) is an artificial intelligence (AI) language model developed by OpenAI. It is trained to process vast amounts of text and engage in human-like conversational interaction with users. Being accessible by all, it is widely used and its capabilities range from language translation, summarising long texts and creative writing. This article explores the potential role of ChatGPT in medical education and the possible concerns about the misuse of this technology through a conversation with ChatGPT itself via text prompts. The implications of this technology in medical education as told by ChatGPT are interesting and seemingly helpful for both the students and the tutors. However, this could be a double-edged sword considering the risks of compromised students' integrity and concerns of over-reliance. This also calls for counter strategies and policies in place to mitigate these risks.

KEYWORDS:

Artificial intelligence, ChatGPT, medical education

INTRODUCTION

Chat Generative Pre-Trained Transformer (ChatGPT), the brainchild of OpenAI, an artificial intelligence (AI) firm based in California has taken the world by storm since its launch in November 2022. ChatGPT is developed as a large language model (LLM) that uses deep learning algorithms. It is trained to process a gargantuan amount of text and optimised to engage in human-like conversational interaction with users based on their prompts.¹ The capabilities of ChatGPT can be diverse from language translation, sentiment analysis, summarising long texts and creative writing to assisting with programming languages and coding. One can sign up for a free ChatGPT account at OpenAI's website and it is accessible across various operating systems including Microsoft Windows, Mac, iOS and Android platforms.

While this technology can help students in their studies by providing quick, reliable information, assisting with research and helping them practice and prepare for exams, it could be a double-edged sword.² There are worldwide concerns from academia considering the possibilities of misuse of this technology to generate essays, reports without original creative thinking, and compromise of students' integrity during online exams.^{3,4}

Recent preprints have demonstrated modest performance of ChatGPT in the United States Medical Licensing Examination (USMLE) accentuating its role as an effective medical education tool.^{5,6} To understand the implications of this technology in the teaching and learning of medical students, the authors had a conversation with ChatGPT (Jan 30, 2023 version- Free research preview) on 3rd February, 2023 using a Macbook (macOS Ventura 13.2) using the following text prompts.

CONVERSATION WITH ChatGPT

<Authors Prompt 1>: Hi ChatGPT, Good day! Glad to meet you on this tete-a-tete session.

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

<Authors Prompt 2>: What could be the potential role of ChatGPT in classroom teaching for preclinical medical students? Please include citations.

<ChatGPT>: ChatGPT has the potential to play a significant role in preclinical medical education, particularly in the classroom setting. By providing quick and accurate answers to questions related to anatomy, physiology and other medical subjects. It can help to supplement traditional teaching methods and improve students' understanding of key concepts.

ChatGPT can also be used to generate interactive learning activities, such as quizzes and case studies, which can help to engage students and reinforce their knowledge.

In a study published in the Journal of Medical Internet Research (JMIR), it was found that using AI-powered educational tools, such as ChatGPT, can lead to improved learning outcomes and higher student engagement. (Reference: Al-Amin et al. 2020. "The impact of artificial intelligence in medical education: A systematic review". Journal of Medical Internet Research. 22(8):e18364)

<Authors Prompt 3>: How can you be helpful in effective clinical teaching for medical students? Please include citations.

<ChatGPT>: ChatGPT can be highly beneficial in enhancing clinical teaching for medical students. Firstly, ChatGPT can

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