



Editorial

Open artificial intelligence platforms in nursing education: Tools for academic progress or abuse?



ARTICLE INFO

Artificial intelligence (AI) is the simulation of human intelligence in machines that are programmed to think and act like humans. These machines are designed to learn, reason, and solve problems in a way that is like human cognition, and they can perform tasks that typically require human intelligence, such as understanding language, recognizing images, and making decisions. The goal of AI research is to create systems that are capable of intelligent behaviour and can be used to improve various aspects of our lives, from healthcare and education to transportation and entertainment. An AI chatbot is a type of chatbot that uses artificial intelligence to enable it to understand and respond to user input in a natural, human-like way. AI chatbots are designed to have conversations with people, using natural language processing to understand and respond to the user's words and intentions. They can be used in a variety of settings, such as customer service, where they can provide answers to common questions and help customers resolve issues, or as personal assistants, where they can help users manage their schedules and tasks. Some AI chatbots are also used in entertainment, such as in video games or as virtual companions.

AI chatbots can be used in education to provide personalized learning experiences for students. For example, an AI chatbot could be used to help students learn a new language by engaging them in conversation and providing feedback and corrections. AI chatbots could also be used to provide tutoring and homework help, by answering questions and providing explanations to help students understand difficult concepts. In addition, AI chatbots could be used to help students stay organized and manage their time, by providing reminders and helping them schedule their tasks and assignments. Overall, AI chatbots have the potential to enhance education by providing personalized, interactive learning experiences for students.

Plagiarism is the act of using someone else's work without proper attribution, and it is a serious issue in education. AI chatbots can help prevent plagiarism by providing students with tools and resources that can help them properly cite and reference their sources. For example, an AI chatbot could be programmed to scan a student's paper for common instances of plagiarism, such as copied text or unattributed ideas, and

provide suggestions for how to properly attribute the source. In addition, an AI chatbot could provide students with information and guidance on how to avoid plagiarism, such as by providing tips on paraphrasing and summarizing, and by explaining the importance of proper citation and attribution.

However, it is possible that an AI chatbot could cause plagiarism if it is not used responsibly and ethically. For example, if an AI chatbot provides students with information or answers without properly citing the source, it could inadvertently lead students to plagiarize. In addition, if an AI chatbot is programmed to generate text or content without properly attributing the source, it could produce work that is plagiarized. Therefore, it is important for the designers and developers of AI chatbots to carefully consider the potential risks of plagiarism and to take steps to prevent it. This may involve implementing safeguards and protocols to ensure that the information provided by the AI chatbot is properly attributed and that students are encouraged to properly cite and reference their sources. It may also involve educating students and teachers about the importance of academic integrity and the consequences of plagiarism. The potential use of artificial intelligence software by nursing students to write university assessments is a worrying possibility. AI software is designed to mimic human behaviour, but it is not designed to replace human creativity and critical thinking. As such, AI software cannot substitute for the knowledge, skills, and critical thinking that nursing students must develop and demonstrate in their university assessments. The use of AI software could lead to an erosion of the quality of the assessment, with implications for the development of the nursing profession. Furthermore, the use of AI software could lead to a lack of accountability among nursing students, as it is not possible to verify that the work submitted is their own. Finally, the use of AI software could lead to a decrease in the value of the assessments and the overall quality of the nursing program.

OpenAI is a research institute focused on developing artificial intelligence in a way that is safe and beneficial to humanity. The institute was founded in 2015 by Elon Musk and other prominent tech leaders, and its goal is to advance and promote AI research and development

Abbreviations: AI, Artificial intelligence.

<https://doi.org/10.1016/j.nepr.2022.103537>

Available online 16 December 2022
1471-5953/© 2022 Elsevier Ltd. All rights reserved.

with the aim of creating advanced and intelligent technologies that can help improve the world. OpenAI is known for developing cutting-edge AI technologies and for conducting research in a variety of areas, including natural language processing, computer vision, and robotics. ChatGPT is a large language model trained by OpenAI. It is a machine learning system that is designed to be able to understand and generate natural human language in order to assist with a wide range of tasks, such as answering questions and providing information. It is not a human but is designed to be able to communicate and interact with people in a way that is similar to how a person would. It is constantly learning and improving, and there to help with whatever questions or information you need.

This open source AI platform (<https://chat.openai.com/auth/login>) was used by the human author to write the opening five paragraphs of this editorial, to demonstrate how it could be used by nursing students to help write an assessment or by faculty to assist with writing a scientific article on nursing education. Several questions or statements were posted in the textbox provided on the AI platform, which generated an automated response within a few seconds. The language model that the chatbot is based on was developed using reinforcement learning techniques, a subset of machine learning (OpenAI, 2022). ChatGPT was released by its parent company OpenAI on the 30 November 2022, who invited users to interact with the AI chatbot to help it learn how to respond to humans. At present, the AI chatbot does not reference the sources of information that it draws on to generate written responses, whether they are scientific or otherwise in nature. Several other limitations with ChatGPT are explained on the company's website (OpenAI, 2022). However, it is likely in the future that other natural language applications of AI will be developed that will be able to quickly scan the Internet and trawl thousands of openly available scientific articles on different topics to generate a written response with appropriate forms of referencing within seconds (Adams and Chuah, 2022). This could have far-reaching implications for nursing education.

Soon, the ability to discern a student's own writing from that of an AI chatbot could be next to impossible although evidence suggests that some university students already use 'contract cheating' and pay for third party writing services (Bretag et al., 2019). This could be particularly problematic at postgraduate level where lengthy and detailed theses and dissertations are required at Masters and PhD level (Marche, 2022). Therefore, the types of assessment used in nursing education may need to be more diverse such as using oral presentations and objective structured clinical examinations in conjunction with smaller pieces of scientific writing to reduce the risks of automated answers in students written work. More sophisticated plagiarism software that also leverages AI techniques to interpret nuances in written language may help identify generic sections of writing that are poorly referenced. The risks of using AI tools should also be made clear to nursing students, as they can be

trained on poor quality datasets and generate biased or misleading results (O'Connor, 2021). Finally, educating nursing students about academic integrity and the value of gaining knowledge and skills from focused in-depth reading, critical thinking, and scientific writing is of upmost importance as these can be applied in professional practice throughout a nurse's career to improve patient care and the delivery of health services. These are the values and behaviours that open forms of AI are unlikely to replicate and remain central to nursing.

Funding

The author received no financial support for the research, authorship, and/or publication of this article.

Acknowledgements

Thank you to all the software engineers and staff at OpenAI who developed the language model and AI chatbot known as ChatGPT and made it available open access (<https://openai.com>). Also, a sincere thanks to a personal WhatsApp group (Dragoncast) which stimulated discussion on the use of OpenAI in scientific writing and prompted the human author to write this editorial using the AI chatbot on its potential application in nursing education.

References

- Adams, D., Chuah, K.M., 2022. Artificial intelligence-based tools in research writing: current trends and future potentials. *Artificial Intelligence in Higher Education: A Practical Approach*. CRC Press, pp. 169–184. <https://doi.org/10.1201/9781003184157>.
- Bretag, T., Harper, R., Burton, M., Ellis, C., Newton, P., Rozenberg, P., van Haeringen, K., 2019. Contract cheating: a survey of Australian university students. *Stud. High. Educ.* 44 (11), 1837–1856. <https://doi.org/10.1080/03075079.2018.1462788>.
- Marche, S. (2022). The college essay is dead: Nobody is prepared for how AI will transform academia. *The Atlantic*. Available at: <https://www.theatlantic.com/technology/archive/2022/12/chatgpt-ai-writing-college-student-essays/672371/>.
- O'Connor, S., 2021. Artificial intelligence and predictive analytics in nursing education, 103224-103224 *Nurse Educ. Pract.* 56. <https://doi.org/10.1016/j.nepr.2021.103224>.
- OpenAI (2022). ChatGPT: Optimizing Language Models for Dialogue. Available at: <https://openai.com/blog/chatgpt/>.

Siobhan O'Connor^{a,*1}, ChatGPT^b

^a Division of Nursing, Midwifery, and Social Work, The University of Manchester, Manchester, United Kingdom

^b OpenAI L.L.C., 3180 18th Street, San Francisco, CA 94110, USA

* Corresponding author.

E-mail addresses: siobhan.oconnor@manchester.ac.uk (S. O'Connor), support@openai.com (ChatGPT).

¹ ORCID: 0000-0001-8579-1718)