

# The Role of Artificial Intelligence in Nursing Education: Opportunities and Challenges

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Today, artificial intelligence has significantly expanded. Artificial intelligence-based tools, such as large language models like ChatGPT, have captured the interest of many individuals, including nursing students. Nursing students, represent the future workforce of the nursing profession and play a pivotal role in the healthcare system. In this context, AI tools serve as valuable resources that support their academic and professional development.<sup>[1]</sup> However, an important question remains: Is the use of artificial intelligence in nursing education always seen as an opportunity, or can it also pose risks?

The applications of AI in nursing education are diverse and substantial. AI enables nursing students to design clinical scenarios and simulate healthcare environments, enhancing experiential learning. Key functions include responding to nursing-related academic queries and supporting the resolution of clinical challenges. These capabilities deepen conceptual understanding and make the educational process more practical and tangible. Additionally, AI contributes to the design of nursing care plans and facilitates engagement in patient care processes.<sup>[2]</sup> By utilizing AI technologies, nursing students can conduct scientific research and analyze information with greater precision and efficiency. Specifically, AI's ability to generate text that resembles human writing enables the delegation of significant portions of research tasks, ultimately saving time and enhancing data processing accuracy. The speed and accuracy of AI tools are key advantages that contribute to their extensive utilization in academic and research settings. Nevertheless, as with any emerging technology, AI is not without its challenges and potential risks.

Despite the numerous opportunities presented by AI, it is essential to simultaneously address the ethical, social, and professional implications that may arise from its widespread use.<sup>[3]</sup> A balanced and cautious approach is required to ensure that AI enhances the quality of nursing education and research without compromising core values. Over-reliance on AI tools may lead to reduce interpersonal interaction between students, faculty, and healthcare professionals.<sup>[4]</sup>

Nursing students need to be present in and understand clinical environments in order to improve their communication skills and gain a better understanding of the real clinical environment. The widespread use of artificial intelligence is leading to a reduction in human interactions, which in turn weakens the communication skills of nursing students. Effective communication and positive interaction are crucial in building trust between nurses and patients. While AI tools are efficient and responsive, they may unintentionally decrease students' motivation to engage in authentic human connections.

Another concern is the decline in essential skills for nursing students, such as problem-solving, clinical reasoning, critical thinking, and designing and planning personalized nursing care plans.<sup>[2]</sup> Although AI is recognized as a powerful and precise assistant, it can never replace human creativity. relying on chatbots like ChatGPT for composing scientific texts and research articles can undermine students' writing abilities, leading them to abandon conventional writing

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techniques for such tasks. AI should not be viewed as an author, but rather as a tool to support scholarly endeavors. If students rely solely on AI to write scientific papers, we may see the emergence of researchers who lack expertise in the field. On the other hand, it is also important to consider the ethical aspects of this issue. In addition, AI-based chatbots are very quick at answering scientific questions. Therefore, nursing students may be less inclined to consult actual references and original nursing texts. This can lead to errors, as the AI responses may not align with nursing references. Providing evidence-based care necessitates reading original scientific articles and guidelines.

AI has the potential to erode creativity, communication skills, interaction, critical thinking, and writing ability in nursing students. Therefore, strategic interventions are imperative.<sup>[5]</sup> These may include structured educational programs and workshops focused on the responsible and ethical use of AI in nursing education. Raising awareness about the limitations and potential harms of AI can lead to more thoughtful adoption. In today's academic and clinical environment, learning how to use AI is no longer optional; it is essential. Especially in critical fields such as nursing, AI must be taught deliberately and responsibly. By implementing appropriate policies and educational frameworks, decision-makers can clarify the rightful place of AI in nursing education, enabling students to use it as a tool to grow in the nursing profession.

## Conclusion

AI plays a crucial role in transforming nursing education. These technologies provide valuable opportunities for accelerated learning, simulation of clinical environments, and the advancement of scientific research. However, inappropriate or excessive use may result in overdependence on intelligent systems and weaken essential competencies such as critical thinking and communication skills. Therefore, nursing students must take a balanced approach to AI usage. With proper training and adherence to ethical principles, AI can serve as a powerful tool to support their academic and professional development.

**Keywords** Artificial intelligence, Education, Nursing

## Declarations

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The authors confirm that no artificial intelligence (AI) tools were used in the preparation of this manuscript.

### Authors' Contributions

Both authors contributed to initial conceptualization and manuscript writing.

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