

Chapter 6

Generative AI in Terms of Its Ethical Problems for Both Teachers and Learners: Striking a Balance

Huong-Tra Le-Nguyen

 <https://orcid.org/0000-0003-4718-8920>

Hanoi University, Vietnam

Trung Thanh Tran

 <https://orcid.org/0000-0002-4630-1146>

Clientscan, Vietnam

ABSTRACT

The chapter delves into the intricate ethical challenges posed by the integration of generative AI tools in educational contexts. As the educational landscape undergoes a profound transformation through AI-driven technologies, this chapter navigates the multifaceted ethical concerns that emerge. It explores issues surrounding data privacy, content bias, academic integrity, and the evolving roles of teachers and students in this digital era. Drawing on real-world case studies and ethical frameworks, it provides insights into the complexities of responsible AI integration. Moreover, it offers guidance on fostering ethical awareness in education and emphasizes the critical need for striking a harmonious balance between the capabilities of AI and the enduring value of human educators. This chapter serves as a comprehensive exploration of the ethical tightrope that educators, students, and policymakers must navigate to ensure AI's positive impact on education while safeguarding its ethical underpinnings.

1. INTRODUCTION TO PROFESSIONAL ETHICS IN GENERATIVE AI FOR EDUCATION

The rapid advancement of technology has brought about transformative changes in various sectors, and education is no exception. In recent years, generative artificial intelligence (AI) has emerged as a

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powerful tool in the realm of education. This chapter delves into the ethical considerations surrounding the application of generative AI in educational settings, with a particular focus on skills acquisition and development.

1.1 Overview of Generative AI Applications in Education

Generative AI, a subset of artificial intelligence, refers to the technology's ability to create content, such as text, images, or even videos, without human intervention. (Angelone, Galassi, & Vittorini, 2022) In education, generative AI has found a multitude of applications that have the potential to reshape teaching and learning experiences.

One prominent application is the generation of educational content. AI-driven systems can autonomously produce textbooks, quizzes, and learning materials, providing educators with a wealth of resources to enhance their teaching. Additionally, AI can personalize educational content, tailoring it to individual student needs. For example, AI algorithms can analyze students' learning patterns and adapt the difficulty level of exercises accordingly, optimizing the learning process (Bang et al., 2023).

Another area where generative AI shows promise is in the development of virtual tutors and chatbots. These intelligent systems can provide immediate feedback and guidance to students, offering them a personalized learning experience outside the traditional classroom setting (Bulut & Yildirim-Erbasli, 2022). Virtual tutors can answer questions, clarify concepts, and reinforce learning in real-time.

Furthermore, generative AI can assist in the creation of immersive learning environments, such as virtual reality simulations and interactive educational games (Caines et al., 2023). These technologies engage students in active learning, making education more captivating and effective. The potential applications of generative AI in education are vast and continue to evolve.

1.2 Significance of Ethics in AI-Driven Education

The introduction of generative AI into educational contexts raises profound ethical questions and concerns (Carroll et al., 2022). While the technology holds promise for improving learning outcomes, it also poses risks and challenges that must be addressed. The significance of ethics in AI-driven education cannot be overstated.

First and foremost, there is a need to ensure that AI systems used in education adhere to ethical principles of fairness, transparency, and accountability (Chaudhry, Cukurova, & Luckin, 2022). The decisions made by AI algorithms, such as personalized content recommendations or grading assessments, should be explainable and free from discriminatory biases (Beseiso, Alzubi, & Rashaideh, 2021). Ethical considerations extend to issues of data privacy and security, as educational AI systems often involve the collection and analysis of sensitive student data. It is imperative that this data is handled responsibly and with the utmost respect for privacy.

Additionally, there is a moral imperative to preserve the integrity of education. The risk of overreliance on generative AI could lead to a devaluation of the skills and expertise of educators (Brown et al., 2022). It is essential to strike a balance between the contributions of AI and human educators to ensure that students receive a well-rounded education that encompasses critical thinking, creativity, and human interaction.

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