

Chapter 7

Academic Integrity and Human Cognitive Development of Learners

Is Artificial Intelligence Replacing the Human Brain?

V. Devaki

 <https://orcid.org/0000-0002-6091-3173>

*Department of English and Other Foreign Languages, Vignan University, Guntur,
India*

ABSTRACT

The chapter examines the impact of artificial intelligence (AI) on academic integrity and human cognitive development. It highlights the potential negative effects of AI on learning experiences, such as reduced critical thinking and creativity. The chapter emphasizes the need for maintaining academic integrity in AI-driven educational systems to create an ethical learning environment. It also emphasizes the need to strike a balance between AI and human involvement to maximize benefits while mitigating drawbacks. The chapter highlights the importance of understanding AI's impact on academic integrity and cognitive development for educators, policymakers, and researchers to make informed decisions and promote healthy educational practices in the digital era.

DOI: 10.4018/979-8-3693-5443-8.ch007

Copyright © 2025, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

INTRODUCTION

In the constantly evolving landscape of education, Institutions and educators must remain vigilant and adapt their approaches to maintain academic integrity in the face of these AI-driven challenges. It is crucial to provide proper education about the ethical use of AI, continually monitor for any irregularities, and consistently enhance detection techniques to effectively mitigate potential threats to academic integrity (Elands et al., 2019; Aliman, 2020). The ongoing discourse regarding the impact of artificial intelligence on academic integrity and learners' cognitive development is multifaceted and demands comprehensive consideration from various angles. On one hand, AI has the potential to revolutionize education by providing personalized learning experiences and expanding access to knowledge. However, there are concerns about the ethical implications of relying too heavily on AI, potentially leading to decreased critical thinking skills and a loss of academic integrity (Justin & Mizuko, 2017; Rosé et al., 2018).

The integration of AI in education has sparked a contentious debate. Proponents argue that AI can revolutionize the educational landscape by offering personalized learning experiences and expanding access to knowledge. On the contrary, there are apprehensions about the ethical implications of over-reliance on AI, which could lead to a decline in critical thinking abilities and compromise academic integrity (Justin & Mizuko, 2017; Rosé et al., 2018). Supporters of AI in education posit that it has the potential to enrich students' learning experiences. AI-powered technologies can sift through massive volumes of data and deliver tailored recommendations to individual learners, enabling them to advance at their own pace. This personalized approach caters to students' distinct needs, strengths, and weaknesses, facilitating cognitive growth (Hoffman & Johnson, 2019; Shneiderman, 2020a; Shneiderman, 2020b). Furthermore, AI-powered tools can automate mundane tasks such as grading, allowing educators to allocate more time to the more complex aspects of teaching. This can lead to more meaningful interactions between students and teachers, fostering deeper cognitive engagement and growth. However, critics fear that an excessive reliance on AI may adversely affect academic integrity. For instance, AI-based essay writing tools can effortlessly generate high-quality essays, leading to concerns about plagiarism and the erosion of original and critical thinking abilities. Similarly, AI-powered tutoring platforms that swiftly provide answers to questions may discourage students from engaging in deeper cognitive processing and problem-solving. Additionally, utilizing AI systems to forecast students' performance or suggest courses could limit educational choices and curtail intellectual exploration (Nakitare & Otike, 2022). Over-dependence on AI-generated suggestions may cause learners to miss out on the spontaneous learning experiences and cognitive growth that come from exploring various subjects and building a broad

26 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/academic-integrity-and-human-cognitive-development-of-learners/358898

Related Content

Ethical Integration of Artificial Intelligence in Inclusive Education: Addressing Challenges and Advancing Opportunities for Equitable Learning

Utsav Krishan Murariand Hemlata Parmar (2025). *Ethics and AI Integration Into Modern Classrooms* (pp. 439-470).

www.irma-international.org/chapter/ethical-integration-of-artificial-intelligence-in-inclusive-education/375519

The Synthesis Between Artificial Intelligence and Editing Stories of the Future

Serhat Erdem (2025). *Transforming Cinema with Artificial Intelligence* (pp. 231-250).

www.irma-international.org/chapter/the-synthesis-between-artificial-intelligence-and-editing-stories-of-the-future/365413

A Dynamically Optimized Fluctuation Smoothing Rule for Scheduling Jobs in a Wafer Fabrication Factory

Toly Chen (2011). *International Journal of Intelligent Information Technologies* (pp. 47-64).

www.irma-international.org/article/dynamically-optimized-fluctuation-smoothing-rule/60657

Optimization of Optical Instruments Under Fluctuations of System Parameters

Bhupendra Nath Tiwari, Jude Kuipo Kibindé, Neeraj Gupta, Mahdi Khosravayand Stefano Bellucci (2021). *International Journal of Ambient Computing and Intelligence* (pp. 73-113).

www.irma-international.org/article/optimization-of-optical-instruments-under-fluctuations-of-system-parameters/272040

Design and Implementation of a Robust Acoustic Recognition System for Waterbird Species using TMS320C6713 DSK

Amira Boulmaiz, Djemil Messadeg, Nouredine Doghmane and Abdelmalik Taleb-Ahmed (2017). *International Journal of Ambient Computing and Intelligence* (pp. 98-118).

www.irma-international.org/article/design-and-implementation-of-a-robust-acoustic-recognition-system-for-waterbird-species-using-tms320c6713-dsk/176715