



OPPORTUNITIES AND ETHICAL CHALLENGES OF AI TOOLS IN ACADEMIC SETTINGS: A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

This article systematically examines the ethical opportunities and challenges arising from the use of artificial intelligence tools in academic contexts. Using a systematic literature review (SLR) method, this study collected and analyzed relevant literature discussing the benefits of AI tools in supporting student writing and research. The theoretical framework of this study draws on the concept of academic integrity as a foundation for examining the ethical benefits and risks, such as plagiarism, dependency, and obfuscation, arising from the use of AI in education. Key findings indicate that AI tools can improve the efficiency and quality of academic performance, but also pose ethical risks. This article highlights the importance of maintaining academic integrity and provides recommended strategies for the responsible use of AI. Therefore, while AI has great potential to support education, ethical and educational awareness are key to maximizing its benefits while minimizing its risks.

Keywords: academic integrity, AI tools, ethical challenges, plagiarism, systematic literature review

Introduction

The rapid development of Artificial Intelligence technology has brought significant changes to the world of education, particularly in supporting students' academic work. Various AI tools such as Grammarly, ChatGPT, Perplexity, and Google Scholar are now widely used by students to assist their writing and research processes. Grammarly, for example, is widely recognized as a tool capable of improving writing quality by providing suggestions for appropriate grammar and style. ChatGPT and Perplexity provide easy access to information and support in producing relevant text, while Google Scholar simplifies the search for credible academic sources. The use of these tools can provide significant benefits in accelerating and improving students' academic performance (Slimi, 2025).

On the other hand, it is important for users to understand not only the benefits but also the risks and ethical challenges that arise from the use of AI tools. For example, integrating AI into English as a Foreign Language (EFL) learning can improve students' writing skills and motivation, but it also requires a proper understanding of how the technology is used to achieve maximum results (Song, 2023). As AI adoption expands in educational institutions, the need to rethink the boundaries of originality becomes crucial. Reliance on AI can lead to derivative output, ultimately widening the gap between original creativity and plagiarism. Therefore, educational institutions need to implement robust training programs to educate users on the ethical use of AI, so that students can responsibly integrate AI contributions into their work (Kotsis, 2024).

Furthermore, while AI offers convenience and increases student engagement and collaboration, it also poses challenges to academic integrity, particularly related to the serious risk of plagiarism. Educators need to implement comprehensive strategies to encourage the ethical and fair use of AI in academic contexts (Kovari, 2025). Several technical barriers to accessing AI remain, such as limited devices or internet access, and sometimes confusing explanations of AI (Keumalasari et al., 2024). Therefore, a thorough understanding of the ethical opportunities and challenges of AI is crucial to ensure optimal benefits and minimize negative risks in education.

This article aims to raise awareness of the various benefits and ethical challenges arising from the use of AI tools in academic contexts and to provide recommended strategies for their responsible use in supporting educational achievement. However, despite the growing body of literature on the benefits and risks of AI in education, there is still a lack of systematic reviews that specifically analyze the linkage between AI tool usage and the dynamics of academic integrity as well as practical strategies for its ethical application. This study addresses this gap by conducting a systematic literature review on the ethical opportunities and challenges of AI tools in academic settings.

Methods

This study used the Systematic Literature Review (SLR) method to answer research questions regarding the benefits and ethical challenges of using artificial

intelligence (AI) tools in academic settings. The SLR method was chosen because it provides a comprehensive, systematic, and transparent synthesis of existing empirical evidence, thus providing an in-depth overview of the developments and issues related to the application of AI in educational contexts.

The data search process was conducted using the Google Scholar database due to its broad publication coverage and open access. Keywords used included "AI tools in education," "ethical challenges of artificial intelligence," and "plagiarism and ChatGPT in academia." All articles found during the initial search were first screened based on strict inclusion and exclusion criteria.

Inclusion criteria included:

1. Articles that specifically discuss the use of AI technology in academic settings,
2. Focus on the benefits, opportunities, challenges, or related ethical issues,
3. Written in English,
4. Published between 2022 and 2025, to ensure the data used remains up-to-date and relevant.

Exclusion criteria included:

1. Articles that only discuss the technical aspects of AI without any relevance to education,
2. Articles that do not include empirical data such as case studies or research results,
3. Articles that are other systematic literature reviews,
4. Publications that have not undergone a peer-reviewed process, such as opinion pieces, editorials, or commentaries.

The literature selection process began with a review of titles and abstracts to assess initial relevance, followed by a full review of the articles to ensure quality and alignment with the research focus. The search and screening resulted in an initial selection of 25 articles, followed by a final selection of 13 articles for more in-depth analysis.

The collected data was analyzed using a qualitative descriptive approach through thematic synthesis. This process involved grouping the findings into key themes related to the benefits and ethical challenges of AI in education. To increase reliability, the researchers conducted multiple readings and discussions among team members to agree on thematic categories and minimize the potential for subjective bias.

The choice of the SLR method over a literature review is typically based on its advantages in reducing selection bias and producing more objective, data-driven conclusions. The use of a single primary database was considered a limitation of this study, but Google Scholar was chosen due to its accessibility and breadth of scholarly references relevant to the topic. The researchers were also aware of the potential for publication bias.

This systematic approach ensures the validity and reliability of the findings, while providing a strong empirical basis for discussions on the ethical opportunities and challenges of AI use in today's academic world.

Findings and Discussion

The use of artificial intelligence (AI) tools in academic contexts offers numerous opportunities to improve the efficiency and quality of academic performance, particularly in writing and research. AI tools such as Grammarly, ChatGPT, Perplexity, and Google Scholar have been shown to help students improve grammar, construct arguments, and provide quick access to credible academic information (Andrew et al., 2024; Stanley, 2024; Sarwa, 2025). For example, ChatGPT can help graduate students identify grammatical errors and perform effective paraphrasing, positively impacting their academic writing skills (Andrew et al., 2024). The use of AI has also revolutionized academic writing by speeding up the text creation process and increasing the accessibility of writing assistance services (Sarwa, 2025). Furthermore, AI plays a crucial role in efficiently detecting plagiarism, including addressing the challenges of AI-generated content and advanced paraphrasing techniques (Stanley, 2024).

This study not only reviews the known benefits and risks but also systematically maps the empirical evidence on the productive and problematic aspects of AI applications in educational settings. Furthermore, the systematic approach of this review fills a gap in the literature, most previous work has addressed AI ethical dilemmas at a theoretical or speculative level, while this analysis consolidates recent research findings to clarify the scale and form of actual risks currently faced in academic contexts. Thus, the findings not only confirm the benefits of AI, such as efficiency and increased access to academic literacy, but also concretely identify that risks such as plagiarism and dependency are systemic, rather than merely potential or perceived concerns.

However, the convenience and speed offered by AI also pose significant ethical challenges. The use of AI tools such as ChatGPT can increase the risk of plagiarism, with students who frequently use AI tending to report higher levels of plagiarism (Sarwa, 2025). Furthermore, there are concerns about over-reliance on technology, which can hinder students' critical thinking and creativity, as well as the risk of unintentional plagiarism due to a lack of understanding of the ethical use of AI (Dewi, 2024). Universities face significant challenges in maintaining academic integrity amid the increasingly widespread use of AI, necessitating the implementation of comprehensive policies and training on the responsible use of AI (Rane et al., 2024).

A key new insight from this systematic review is that the most significant barriers to the ethical use of AI are not just technological temptations, but also low digital literacy and the lack of explicit ethics education within institutions. This suggests that technical solutions (such as better AI detection tools) alone are insufficient. Effective interventions must simultaneously address students' awareness, honesty, and reflective thinking. Therefore, digital education ethics and a deeper understanding of the ways and limits of AI use are top priorities for every educational institution.

As a strategy for maintaining academic integrity, the literature recommends the need for stricter ethical rules, improved academic integrity training, and advances in AI detection technology to identify the technology (Sarwa, 2025). The use of AI must also be accompanied by an awareness of the risks involved to avoid negative consequences (Dewi, 2024). Another suggested approach is the development of assessment methods that encourage deep cognitive engagement and critical thinking skills, making it more difficult for academic tasks to be replaced by AI content (Evangelista, 2025). These strategies are expected to educate students and academics on how to optimally utilize AI without sacrificing originality and academic honesty.

This research confirms its novel contribution, not only identifying regulatory needs and system detection, but also the importance of changes in assessment design and synchronization governance. Evaluation of final assignments, essays, and exams based on personal reflection, project-based assessment, and original discussions has proven more difficult to replace with AI and still requires authentic critical thinking from students. This opens new directions in future educational engineering and campus policy, such as the need to integrate AI ethics modules, digital literacy, and responsible use training into the academic process.

Some limitations of this research include its reliance on literature available in the Google Scholar database for a specific period and the lack of verification through primary data. Further studies could expand the findings with surveys and direct interviews with lecturers and students across various academic disciplines and educational cultures.

In conclusion, the findings of this systematic review provide empirical confirmation and fresh emphasis on the dual role of AI in academic settings. Not only do these technologies create substantial opportunities for improving efficiency and capability, but they also demand an urgent and well-structured response from all stakeholders to address the complex ethical terrain now present in education. Through this work, the understanding of both the magnitude and the solution pathways for AI's challenges in academia is advanced, equipping educational communities to better safeguard integrity while embracing innovation.

CONCLUSION

The use of artificial intelligence (AI) tools has significant potential to improve academic performance by increasing the effectiveness and quality of writing and research. As recognized by Slimi (2025), various AI-based tools such as Grammarly, ChatGPT, Perplexity, and Google Scholar are increasingly integrated into academic environments. The use of these tools can improve the clarity of writing, accelerate literature searches, and facilitate access to relevant information, thereby supporting student learning outcomes. However, behind these various benefits, serious ethical challenges also arise, particularly related to the risk of plagiarism and a decrease in the originality of academic work. One major issue identified is the tendency for students to

easily generate text using AI and then submit it without modification, thus disrupting the learning process and academic grade qualification (Kovari, 2025).

Inequality of access is also a significant concern, as students with access to AI tools like ChatGPT are more likely to complete assignments more quickly and efficiently than their peers without such access, creating inequities in the academic environment (Kovari, 2025). On the other hand, Kotsis (2024) highlights the importance of a commitment to responsible site practices when using AI to maintain scientific standards and originality of thought. This reinforces the study's findings that efforts to maintain academic integrity must include training on the ethical use of AI, the implementation of clear rules, and innovation in assessment methods.

According to research by Leong and Zhang (2025), advances in AI technology also offer advantages in plagiarism detection, making it easier for educational institutions to identify copy-pasted content and complex paraphrases. However, the integration of ChatGPT into education raises significant ethical concerns, as AI can be used by students to create essays and assignments that appear to be their own work, thereby diminishing the essence of learning and the quality of academic assessment (Kovari, 2025). Furthermore, the use of AI also expands research methodologies and data processing capabilities, opening up opportunities for collaboration and the dissemination of new knowledge in education (Gabisonia, 2024).

This study has several limitations, including only using literature sources from Google Scholar at a specific point in time and not including primary data from surveys or direct interviews. Future research should explore the perceptions of students, lecturers, and policymakers from various disciplines and institutions, and use more varied data sources to gain a more comprehensive understanding of the dynamics of AI use in education.

Therefore, education and raising awareness regarding the responsible use of AI are crucial steps in optimizing its benefits while mitigating its potential risks. Future policy and research recommendations should focus on developing strict ethical guidelines, training academic skills for the wise use of AI, and innovation evaluation systems that encourage cognitive engagement and in-depth critical thinking. The implications of these findings are important not only for students and lecturers, but also for educational institutions and policymakers in formulating strategies for the ethical, fair, and effective use of AI. It is hoped that all parties can work together to maintain the authenticity, quality, and integrity of education in the digital age.

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