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RESEARCH ARTICLE

Generative Artificial Intelligence in Higher Education: A Literature Review of Students' Usage and Academic Integrity

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ABSTRACT

Generative artificial intelligence has rapidly become part of higher education learning environments. Students increasingly rely on applications such as ChatGPT to complete academic tasks and to support comprehension of complex content. This literature review examined patterns of student use of generative artificial intelligence its effects on academic integrity and the effectiveness of university policies that regulate such use. The review was guided by the Technology Acceptance Model which explains adoption through perceived usefulness and ease of use. A systematic literature review following the PRISMA framework was conducted using Google Scholar ERIC Web of Science and Scopus. The search covered empirical studies published between 2022 and 2025 and resulted in the inclusion of 22 peer reviewed studies. The findings show extensive student use of generative artificial intelligence for learning support and assignment preparation. The findings also show clear effects on academic integrity including challenges related to authorship originality and assessment credibility. University policies and practices have been introduced to address these challenges though effectiveness remains limited due to inconsistent implementation and limited staff and student capacity. The review concludes that generative artificial intelligence has reshaped academic practices while placing pressure on existing assessment systems. Stronger alignment between policy assessment design and ethical guidance is necessary to support responsible use of generative artificial intelligence in higher education.

Keywords: Generative artificial intelligence; higher education; student use; academic integrity; university policies

INTRODUCTION

The rapid development of generative artificial intelligence (AI) has transformed higher education by providing students with tools that can generate text, summarize content, and assist in problem-solving with unprecedented speed and efficiency. Tools such as ChatGPT and other large language models are increasingly being integrated into learning activities, offering significant support for drafting assignments, clarifying complex concepts, and enhancing study efficiency (Ajalo et al., 2025; Almassaad et al., 2024; Chauke et al., 2024). At the same time, concerns have been raised about the potential ethical and academic risks associated with AI use, including overreliance, academic misconduct, and threats to assessment validity (Bakari et al., 2025; Cerdà-Navarro et al., 2022; Dempere et al., 2023). Similary, Meney and Kitula (2024) also noted reservations among lecturers on the use of artificial intelligence with respect to academic integrity. Studies indicate that AI is now embedded in the academic practices of students across diverse contexts, highlighting the importance of understanding both its benefits and challenges within higher education.

The reviewed empirical studies reveal a wide range of practices, experiences, and strategies related to AI use, including students' engagement with AI for learning, the implications for academic integrity, and institutional measures to ensure responsible use (Nechyporenko et al., 2025; Obed et al., 2025; Filson & Atuase, 2024; Tindle et al., 2023). While individual studies provide important insights, there is a need to synthesize this growing body of evidence to identify overarching patterns, common challenges, and effective strategies across different contexts. Such a synthesis can inform policymakers, educators, and researchers about current practices, reveal opportunities for improvement, and guide the ethical integration of AI into higher education. Therefore, conducting this literature review is essential for providing a comprehensive understanding of how AI is shaping student learning and academic integrity, and how universities are responding to these changes.

LITERATURE REVIEW

Theoretical Framework

The study was grounded in the Technology Acceptance Model (TAM), developed by Davis in 1989, which explains how individuals adopt and use technology based on their perceptions of usefulness and ease of use. According to this model, users are more likely to engage with a technological tool when they believe it will improve their performance and is simple to operate. In the context of this study, TAM provides a framework for understanding why students increasingly use generative AI tools, such as ChatGPT, to support learning, draft assignments, and enhance problem-solving. The model emphasizes that adoption is influenced not only by the availability of technology but also by the users' evaluation of its benefits and the effort required to use it effectively. By focusing on perceived usefulness and ease of use, TAM allows for a structured analysis of patterns in student engagement with AI and the factors that encourage or inhibit responsible use.

While TAM offers a clear and structured explanation of technology adoption, it has certain limitations, including its minimal consideration of social, cultural, and ethical factors that also shape behavior. Despite these limitations, the model was highly useful for this study because it provided a theoretical lens to examine the motivations behind student engagement with AI tools. It enabled the identification of patterns in usage, such as reliance on AI for learning support and assignment completion, while highlighting areas where students may require guidance to use technology responsibly. Additionally, TAM's simplicity and focus on key behavioral determinants made it practical for synthesizing findings across multiple empirical studies, supporting the analysis of both opportunities and challenges associated with AI integration in higher education.

METHODOLOGY

This study adopted a systematic literature review guided by the PRISMA framework to ensure transparency, rigor, and reproducibility. The approach supported clear identification, screening, and synthesis of empirical studies on the use of generative artificial intelligence in higher education. The review examined how students use tools such as ChatGPT. It also examined challenges related to academic integrity and strategies used by universities to promote responsible use. Empirical studies were retrieved from Google Scholar, ERIC, Web of Science, and Scopus to achieve wide coverage of relevant literature. The search was restricted to studies published between 2022 and 2025 to maintain contemporary relevance. The initial keyword search produced 184 records.

The search applied combinations of keywords including ChatGPT, generative artificial intelligence, higher education, academic integrity, assessment validity, and AI policy. Boolean operators were used to refine the search and capture studies addressing AI use, associated effects, and institutional responses. After duplicate removal, 144 unique records remained. Titles and abstracts were screened for relevance. The screening focused on empirical studies that examined student use of AI, issues related to academic integrity, or university responses to AI adoption. This stage resulted in 97 studies selected for full-text review. Full-text screening based on inclusion and exclusion criteria identified 41 potentially relevant studies. Further quality assessment reduced the final sample to 22 empirical studies. The identification, screening and selection process has been illustrated in figure 1.

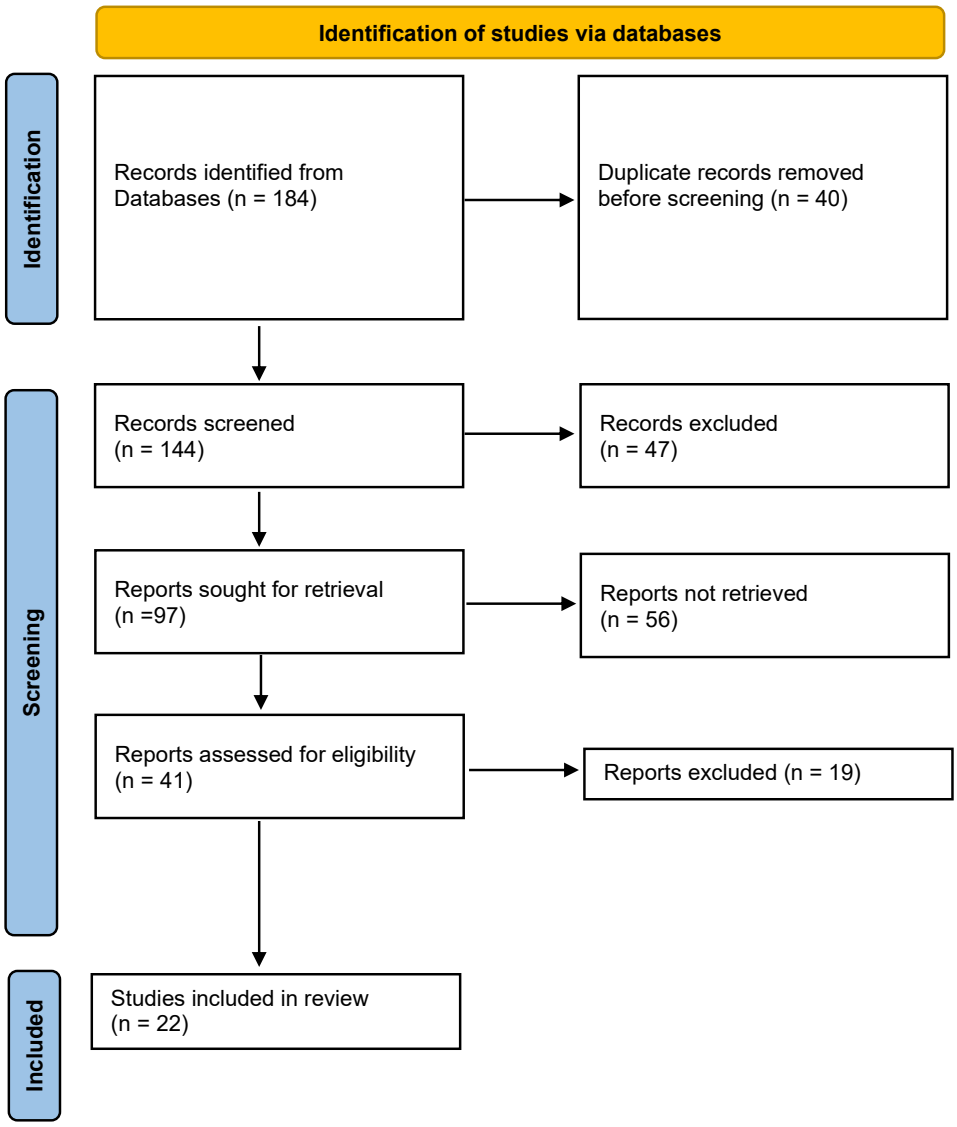

Figure 1. PRISMA chart

Studies were included if they were empirical, peer reviewed, and conducted in higher education settings. Eligible studies examined student use of AI, academic integrity concerns, or institutional strategies for managing AI use. Opinion articles, theoretical papers, commentaries, and non-peer-reviewed sources were excluded. Studies published in languages other than English were also excluded. Data extraction from the 22 selected studies captured authorship, year of publication, country, research design, participant characteristics, AI tools examined, and key findings. The findings addressed student use patterns, academic integrity challenges, and university practices. The extracted data were synthesized narratively and organized around these themes to present a clear account of current empirical evidence.

RESULTS AND DISCUSSION

Students Use of Generative Artificial Intelligence

The reviewed empirical studies showed that students are increasingly using generative AI tools, such as ChatGPT, to enhance their learning and complete academic tasks. Ajalo et al. (2025) reported widespread adoption among medical students, who used AI for drafting assignments and understanding complex concepts. Almassaad et al. (2024) found similar patterns among university students in higher education, noting that AI provided efficient support for writing and comprehension tasks. Chauke et al. (2024) highlighted that students perceive AI as a learning aid that helps them organize ideas and clarify subject matter, particularly for challenging topics. Dempere et al. (2023) emphasized that AI enables iterative learning, allowing students to experiment with alternative

solutions and refine their work before submission.

Nechyporenko et al. (2025) added that students frequently use AI for research summaries and problem-solving, suggesting that AI has become an integral part of academic workflows. Matto (2024) further demonstrated that AI tools are especially valued when students lack immediate access to instructors, as they provide timely feedback and support. Obenza et al. (2024) and Johnston et al. (2024) collectively showed that while students benefit from AI in terms of efficiency and comprehension, there remains a concern about overreliance, indicating the need for explicit AI literacy instruction to ensure responsible use. Zhou et al. (2024) concluded that AI can significantly support learning outcomes when combined with proper guidance and ethical awareness, highlighting the balance between leveraging AI's advantages and maintaining critical thinking skills.

Effects of Generative Artificial Intelligence on Academic Integrity

The reviewed empirical studies showed that the adoption of generative AI poses significant challenges to academic integrity and the validity of assessment scores. Bakari et al. (2025) found that students' use of AI tools can blur the boundaries of authorship, making it difficult to determine whether work is original. Cerdà-Navarro et al. (2022) highlighted that the rise of AI-assisted writing has increased the risk of plagiarism, as some students may rely on AI-generated content without proper attribution. De Maio and Dixon (2022) emphasized that traditional assessment mechanisms are not fully equipped to detect AI-mediated misconduct, raising concerns about fairness. Filson and Atuase (2024) argued that unregulated AI use could undermine the reliability of grades, particularly when students use AI to draft essays or complete assignments. Ekaterina et al. (2025) noted that this challenge is exacerbated in online assessments, where monitoring is limited and AI-generated content is harder to identify. Habiba and Shadek (2024) observed that students' awareness of academic integrity varies, which can lead to unintentional violations when relying on AI tools.

Research also highlighted the need for adaptive institutional responses to preserve assessment validity. Iulian et al. (2024a/b) suggested that assessment design should integrate measures such as authentic tasks, oral defences, and iterative feedback to mitigate AI misuse. Janinovic et al. (2024) found that clear institutional policies and proactive monitoring can reduce the likelihood of academic misconduct. Obed et al. (2025) emphasized the importance of training both faculty and students on ethical AI use to ensure transparency and accountability. Lichtenauer and Weible (2025) argued that combining policy frameworks with educational interventions strengthens assessment reliability while encouraging responsible AI use. Collectively, these studies indicate that without strategic interventions, AI's integration into academia could compromise fairness, but carefully designed policies and ethical guidance can help maintain integrity and assessment validity.

University Practices to Ensure Proper Use of Artificial Intelligence

The reviewed empirical studies revealed that universities are actively implementing multiple strategies to ensure responsible use of AI among students. Bakari et al. (2025) found that higher education institutions have revised academic integrity policies to include explicit guidance on AI-assisted work, clarifying acceptable practices. Janinovic et al. (2024) observed that several universities have updated honour codes to address AI use, emphasizing ethical boundaries for students. Filson and Atuase (2024) highlighted that academic libraries provide training sessions on responsible AI use, helping students critically evaluate AI outputs. Tindle et al. (2023) reported that online tutorials and workshops are increasingly employed to raise awareness about the risks of overreliance on AI.

The studies further revealed that universities are redesigning assessments and integrating technological monitoring tools to promote responsible AI usage. Cerdà-Navarro et al. (2022) reported that many institutions now implement application-based assessments that require students to demonstrate personal input, reducing opportunities for AI misuse. Obed et al. (2025) found that iterative assignments with continuous feedback are increasingly adopted to discourage dependence on AI-generated content. Möller (2023) highlighted the use of AI-detection software and plagiarism monitoring systems to flag potentially inappropriate submissions. Torres et al. (2023) observed that universities also foster a culture of academic ethics through seminars, workshops, and integrated curricula, reinforcing integrity alongside technological and procedural measures.

Students' Use of AI Tools to Support Learning

The findings indicate that students are actively engaging with AI tools such as ChatGPT to facilitate

learning, demonstrating both the opportunities and challenges this presents. The widespread adoption suggests that AI has become an integral part of students' academic workflows, enhancing efficiency in drafting assignments and understanding complex concepts (Ajalo et al., 2025; Almassaad et al., 2024; Chauke et al., 2024; Dempere et al., 2023). However, the reliance on AI also raises concerns regarding the development of independent critical thinking and problem-solving skills, as students may over-rely on AI outputs without sufficient evaluation (Nechyporenko et al., 2025; Matto, 2024; Obenza et al., 2024; Johnston et al., 2024). These patterns suggest a tension between the benefits of AI-assisted learning and the potential for cognitive dependency. Furthermore, differences in AI usage across student groups highlight the role of accessibility, institutional support, and digital literacy in shaping engagement, emphasizing the need for structured guidance and AI literacy programs to ensure that students derive genuine learning gains. This discussion points to the broader implication that while AI is a powerful educational tool, its integration must be accompanied by pedagogical oversight to balance convenience with deep learning outcomes.

AI Challenges to Academic Integrity and Assessment Validity

The studies revealed that the use of AI in academic contexts presents significant challenges to integrity and the validity of assessment scores, necessitating a critical re-evaluation of traditional assessment mechanisms (Bakari et al., 2025; Cerdà-Navarro et al., 2022; De Maio & Dixon, 2022; Filson & Atuase, 2024). AI-assisted content generation can blur authorship and make plagiarism detection more complex, potentially undermining fairness and the credibility of grading systems (Ekaterina et al., 2025; Habiba & Shadek, 2024; Iulian et al., 2024a/b; Janinovic et al., 2024). The evidence suggests that without adaptations to assessment design, institutions risk creating opportunities for misuse while unintentionally rewarding surface-level performance. Iterative, application-based, and authentic assessments were highlighted as promising solutions, alongside the integration of educational interventions that foster ethical awareness. Collectively, these findings underscore the importance of aligning policy, assessment design, and student education to preserve both academic integrity and the validity of learning outcomes in an AI-driven academic environment.

University Practices to Ensure Proper AI Usage

The reviewed studies indicate that universities are proactively adopting multifaceted strategies to ensure responsible AI usage, reflecting an awareness of both ethical and practical challenges (Bakari et al., 2025; Janinovic et al., 2024; Filson & Atuase, 2024; Tindle et al., 2023). Policies have been revised, honor codes updated, and training programs implemented to guide students in ethical AI use, while technological tools such as AI-detection software are being deployed to monitor compliance (Cerdà-Navarro et al., 2022; Obed et al., 2025; Möller, 2023; Torres et al., 2023). These practices illustrate a layered approach that combines governance, pedagogy, and technology, which is essential given AI's capacity to bypass traditional academic safeguards. The findings suggest that while these measures are promising, their effectiveness depends on consistent implementation, staff training, and reinforcement of a culture of integrity. Furthermore, the evidence highlights a need for continuous adaptation, as AI tools evolve rapidly, potentially creating new forms of academic risk. Thus, universities must not only maintain current measures but also anticipate future challenges to sustain responsible AI usage and uphold educational standards.

IMPLICATIONS OF THE FINDINGS

The findings of this review have several important implications for higher education practice, policy, and research in the era of generative AI. First, the widespread use of AI tools by students suggests that educators must rethink traditional teaching and assessment strategies to ensure that learning remains authentic and that critical thinking is not compromised. Second, the challenges identified in maintaining academic integrity indicate a need for universities to adopt a multi-layered approach that combines clear policies, ethical guidance, AI literacy programs, and monitoring tools. Third, the findings highlight that institutional responses must be dynamic and context-sensitive, taking into account differences in students' access to technology, familiarity with AI, and disciplinary requirements. Additionally, these insights suggest that professional development for faculty is critical to equip educators with the knowledge and skills to guide students in responsible AI use effectively. Finally, the review underscores the importance of ongoing research to monitor emerging AI tools and their impact on learning and assessment, enabling evidence-based adjustments to policies and teaching practices. Collectively, these implications point to the need for a

proactive, integrated, and ethically grounded approach to harnessing AI in higher education, ensuring that its benefits are maximized while risks to academic integrity are mitigated.

CONCLUSION

Based on the review it is concluded that students make extensive use of generative artificial intelligence as part of daily academic activities in higher education. This pattern of usage has reshaped learning processes and altered how academic tasks are approached and completed. It is also concluded that the use of generative artificial intelligence has direct effects on academic integrity and assessment credibility within universities. These effects include challenges related to authorship, originality and the reliability of assessment outcomes. It is further concluded that existing university policies are only partially effective in regulating student use of generative artificial intelligence. Policy frameworks are present but implementation remains inconsistent and enforcement varies across institutions. Strengthening policy clarity, staff capacity and assessment alignment is necessary to improve institutional responses to generative artificial intelligence.

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