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Academic Integrity in the Era of Generative AI: Challenges, Ethical Dilemmas, and Policy Responses in Higher Education

Abstract

Generative Artificial Intelligence (AI) has emerged as one of the most transformative technologies in higher education, fundamentally reshaping how students learn, conduct research, and complete academic tasks. AI-powered tools such as ChatGPT, Gemini, Claude, and Copilot offer unprecedented opportunities for personalized learning, academic support, and enhanced productivity. However, their rapid adoption has also raised significant concerns regarding academic integrity, including plagiarism, unauthorized AI-assisted writing, fabrication of references, diminished critical thinking, and unequal access to AI technologies. These developments challenge long-established principles of honesty, fairness, trust, responsibility, and respect that underpin academic institutions worldwide. This study critically examines the challenges, ethical dilemmas, and policy responses associated with the use of generative AI in higher education. Drawing upon recent scholarly literature, institutional guidelines, and emerging policy frameworks, the study explores how universities are redefining academic integrity in response to AI-assisted learning. It analyzes the ethical tensions between promoting technological innovation and preserving authentic student learning while highlighting the responsibilities of students, educators, and higher education institutions. The article further reviews international best practices in AI governance and identifies gaps in institutional preparedness, particularly within developing countries. Based on these findings, the study proposes policy recommendations that emphasize AI literacy, transparent disclosure practices, assessment redesign, faculty training, and comprehensive institutional governance. Rather than advocating a prohibition of generative AI, the article argues for a balanced approach that encourages its ethical and responsible use while safeguarding academic standards. Such an approach can help universities prepare graduates who are not only technologically competent but also ethically responsible in an increasingly AI-driven academic environment.

Keywords: Academic Integrity; Generative Artificial Intelligence; Higher Education; ChatGPT; Ethical Dilemmas; AI Governance; Academic Misconduct; Assessment Reform; AI Literacy; Higher Education Policy

Introduction

Higher education has continuously evolved alongside technological innovation, adapting to developments that have transformed teaching, learning, research, and academic communication.

The emergence of the internet, digital libraries, online learning platforms, and learning management systems has progressively changed the educational landscape over the past three decades. Today, universities across the world are witnessing another major transformation driven by generative Artificial Intelligence (AI). Unlike previous digital technologies that primarily facilitated access to information, generative AI has introduced the ability to create original text, images, computer code, data analyses, and other forms of content in response to user prompts. This capability is redefining the educational process and challenging long-established assumptions about learning, assessment, and academic integrity.

The public release of advanced generative AI applications, particularly ChatGPT in late 2022, marked a turning point in educational technology. Within a remarkably short period, millions of students and educators began integrating AI-powered tools into their academic activities. Students increasingly rely on these technologies to summarize research articles, generate essay drafts, solve mathematical problems, improve writing quality, translate academic texts, and receive personalized learning support. Faculty members also utilize AI to prepare lecture materials, develop assessments, provide feedback, and streamline administrative tasks. Consequently, generative AI has become embedded in many aspects of higher education, offering unprecedented opportunities to improve learning efficiency and educational accessibility.

Despite these benefits, the rapid adoption of generative AI has generated widespread concerns regarding academic integrity. Academic integrity has traditionally been understood as the commitment to honesty, trust, fairness, respect, responsibility, and courage in all scholarly activities. These values form the ethical foundation of universities and ensure the credibility of educational qualifications, research outputs, and professional competence. However, AI systems capable of producing sophisticated academic content blur the distinction between genuine student work and machine-generated output. As a result, universities are confronted with complex questions regarding originality, authorship, plagiarism, transparency, and ethical responsibility.

One of the most significant concerns is the increasing difficulty of distinguishing independently produced work from AI-assisted assignments. Traditional plagiarism detection systems were designed to identify copied material by comparing student submissions with existing published sources. Generative AI, however, produces new content that may not match any previously published text, limiting the effectiveness of conventional plagiarism detection software. Consequently, educators face considerable challenges in evaluating whether submitted work genuinely reflects students' understanding, analytical abilities, and intellectual effort.

Another important issue relates to the ethical use of AI as a learning assistant versus its misuse as a replacement for independent thinking. Generative AI can support brainstorming, explain complex concepts, improve grammar, and enhance academic writing. When used responsibly, these functions may contribute positively to student learning and academic development. However, excessive dependence on AI-generated responses may discourage critical thinking, creativity, problem-solving skills, and independent research. Students who rely heavily on AI-

generated content risk becoming passive consumers of information rather than active participants in knowledge creation. This shift has significant implications for the quality of higher education and the development of future professionals.

Ethical dilemmas surrounding generative AI extend beyond students. Faculty members also face uncertainty regarding appropriate classroom policies, acceptable AI use, assessment design, and methods for evaluating authentic student performance. Many instructors report insufficient institutional guidance regarding AI integration, leading to inconsistent classroom practices across departments and universities. Some institutions have attempted to prohibit AI use altogether, whereas others encourage responsible integration through disclosure requirements and revised academic integrity policies. These differing approaches reflect the absence of internationally accepted standards governing educational applications of generative AI.

The challenges are particularly pronounced in developing countries, where universities often experience limited technological infrastructure, inadequate faculty training, and evolving regulatory frameworks. In many institutions, academic integrity policies were developed before the emergence of generative AI and therefore fail to address issues such as AI-assisted writing, prompt engineering, disclosure obligations, and algorithmic accountability. Moreover, unequal access to advanced AI technologies may widen educational inequalities, giving students with premium AI tools competitive advantages over those with limited resources. These concerns highlight the importance of developing inclusive and context-specific policies that reflect the realities of diverse higher education systems.

Rather than viewing generative AI solely as a threat, many educational scholars argue that it should be understood as a transformative technology requiring thoughtful governance. Similar to previous technological innovations, AI has the potential to enhance teaching, learning, and research when supported by appropriate ethical principles and institutional safeguards. Universities must therefore move beyond simplistic debates over banning or permitting AI and instead develop comprehensive strategies that encourage responsible use while protecting academic integrity. Such strategies should include AI literacy education, transparent disclosure requirements, redesigned assessment methods, faculty development programs, and institutional governance frameworks capable of responding to rapidly evolving technologies.

Against this backdrop, the present study examines the complex relationship between generative AI and academic integrity in higher education. It explores the major ethical dilemmas arising from AI-assisted learning, analyzes emerging institutional and policy responses, and identifies challenges facing universities in implementing responsible AI governance. The study also highlights international best practices and proposes evidence-based policy recommendations that promote ethical AI adoption while preserving educational quality and academic credibility. By addressing these issues, the article contributes to the growing scholarly debate on how higher education institutions can uphold academic integrity without limiting the innovative potential of generative artificial intelligence. Through a balanced and forward-looking perspective, the study argues that the future of higher education depends not on resisting technological change but on

establishing ethical, transparent, and responsible frameworks that enable both innovation and integrity to coexist.

Literature Review

The rapid advancement of generative Artificial Intelligence (AI) has fundamentally transformed higher education, creating both unprecedented opportunities and complex ethical challenges. Since the introduction of large language models such as ChatGPT, universities across the world have been compelled to reconsider traditional understandings of teaching, learning, assessment, and academic integrity. Unlike earlier educational technologies that primarily facilitated information retrieval or digital communication, generative AI possesses the ability to create original text, solve problems, summarize literature, generate computer code, and provide personalized academic assistance. Consequently, researchers have increasingly focused on understanding the implications of these technologies for academic honesty, student learning, institutional governance, and educational policy.

Generative AI and the Transformation of Higher Education

Higher education has historically embraced technological innovation to improve learning outcomes and increase access to knowledge. Digital libraries, online learning platforms, and virtual classrooms have progressively enhanced educational delivery. Generative AI represents the latest stage of this digital transformation by introducing intelligent systems capable of producing human-like responses across multiple academic disciplines. According to Kasneci et al. (2023), generative AI has the potential to personalize education, support student engagement, facilitate collaborative learning, and reduce administrative burdens for educators. These capabilities have encouraged universities to explore AI-assisted teaching methods while simultaneously raising concerns regarding educational quality and ethical responsibility.

Several scholars argue that generative AI should be viewed as a supportive educational tool rather than merely an automated content generator. AI systems can provide immediate feedback, explain difficult concepts, assist with language learning, and accommodate students with diverse educational needs. Such functions promote inclusive learning environments and increase educational accessibility, particularly for students requiring additional academic support (Dwivedi et al., 2023). However, the educational benefits of AI largely depend upon responsible implementation and appropriate institutional oversight.

Academic Integrity in the Digital Age

Academic integrity refers to the commitment to honesty, fairness, trust, respect, responsibility, and courage within scholarly communities. These principles ensure that academic qualifications accurately represent students' knowledge, skills, and intellectual achievements. Bretag (2016) argues that academic integrity extends beyond preventing plagiarism; it encompasses ethical behaviour throughout teaching, learning, research, and assessment processes. Universities

therefore view academic integrity as an essential foundation for maintaining educational quality and public confidence.

The expansion of digital technologies has gradually complicated the enforcement of academic integrity policies. Online assessments, contract cheating, essay-writing services, and digital plagiarism have already challenged traditional methods of evaluating student performance. The emergence of generative AI has intensified these concerns because AI-generated content often appears original and therefore remains difficult to detect using conventional plagiarism detection software (Perkins, 2023). As a result, universities increasingly recognize that academic integrity policies developed before generative AI may no longer adequately address contemporary forms of academic misconduct.

Generative AI and Academic Misconduct

One of the most widely discussed issues in current literature concerns the relationship between generative AI and academic misconduct. Researchers acknowledge that AI itself is not inherently unethical; rather, ethical concerns arise from how students and educators utilize these technologies. Improper reliance on AI-generated essays, laboratory reports, literature reviews, and examination responses may compromise the authenticity of student work and undermine learning outcomes.

Cotton, Cotton, and Shipway (2024) observe that many students perceive AI tools as extensions of existing educational technologies rather than forms of academic dishonesty. This perception creates ambiguity regarding acceptable AI use, particularly in institutions lacking explicit guidelines. Students may believe that editing AI-generated text or combining AI responses with personal writing constitutes original work, even when substantial intellectual contributions originate from the AI system.

Another growing concern involves fabricated references and inaccurate information generated by large language models. Although generative AI frequently produces coherent academic writing, it occasionally creates fictional citations, incorrect statistical information, or misleading interpretations of research findings. Without adequate critical evaluation, students may unknowingly incorporate false information into academic assignments, thereby reducing research quality and academic reliability (Tlili et al., 2023).

Ethical Dilemmas Associated with Generative AI

The literature identifies numerous ethical dilemmas emerging from AI-assisted learning. One major concern involves authorship and intellectual ownership. Traditional academic writing assumes that submitted work reflects the student's independent intellectual effort. However, when AI systems generate substantial portions of assignments, determining authorship becomes increasingly complex. Researchers debate whether AI should be acknowledged similarly to digital software or whether extensive AI-generated content fundamentally violates academic integrity principles.

Privacy and data security constitute another significant ethical concern. Students frequently submit personal information, research data, and academic materials into AI platforms. Many scholars caution that users often remain unaware of how their data are stored, processed, or utilized for future AI model development (UNESCO, 2023). Consequently, universities must establish clear policies regarding data protection, confidentiality, and responsible AI use within educational settings.

Bias and fairness also receive considerable scholarly attention. Large language models learn from extensive online datasets that may contain cultural, linguistic, political, or social biases. These biases can unintentionally influence AI-generated responses, potentially reinforcing stereotypes or producing unequal educational outcomes. Therefore, educators must critically evaluate AI-generated content rather than assuming algorithmic neutrality.

Impact on Teaching and Learning

Generative AI has substantially influenced pedagogical practices. Many educators recognize AI's capacity to improve instructional efficiency by assisting with lesson planning, assessment design, feedback generation, and curriculum development. AI-powered tutoring systems can provide individualized explanations tailored to students' learning needs, allowing instructors to devote greater attention to higher-order teaching activities.

Nevertheless, researchers caution that excessive dependence on AI may weaken students' critical thinking, analytical reasoning, creativity, and independent problem-solving abilities. Luckin (2018) argues that education should prioritize intellectual development rather than task completion. When students rely on AI-generated answers without engaging in reflective thinking, learning becomes superficial, reducing opportunities for cognitive growth.

Several studies recommend redesigning assessments to emphasize authentic learning experiences rather than simple information recall. Oral examinations, project-based assessments, collaborative learning activities, reflective journals, and practical demonstrations are increasingly recommended because they evaluate students' reasoning processes rather than solely their written outputs.

Institutional Responses to Generative AI

Universities worldwide have adopted diverse approaches to managing AI within higher education. Initially, some institutions attempted to prohibit AI use altogether due to concerns regarding plagiarism and academic misconduct. However, researchers increasingly argue that complete prohibition is impractical because AI technologies continue to evolve rapidly and become deeply integrated into professional environments.

Instead, many universities have shifted toward responsible AI governance. Institutional responses commonly include updating academic integrity policies, requiring disclosure of AI assistance, providing AI literacy training, redesigning assessments, and offering professional development for faculty members. Perkins (2023) emphasizes that effective governance should

distinguish between acceptable educational support and unethical academic substitution rather than treating all AI use as misconduct.

International organizations similarly advocate balanced policy approaches. UNESCO (2023) recommends developing ethical AI governance frameworks that promote transparency, accountability, human oversight, fairness, and inclusivity. These principles encourage universities to integrate AI responsibly while protecting students' rights and maintaining academic standards.

Policy Development and AI Governance

Policy development has become a central focus within recent literature. Researchers consistently argue that institutional policies should evolve alongside technological advancements rather than react after ethical problems emerge. Effective AI governance requires collaboration among university administrators, faculty members, students, technology developers, policymakers, and accreditation agencies.

Recent policy discussions emphasize several essential principles. First, universities should clearly define acceptable and unacceptable AI use across different assessment contexts. Second, institutions should require transparent disclosure whenever AI significantly contributes to academic work. Third, faculty members require ongoing professional development to understand AI capabilities, limitations, and ethical implications. Finally, universities should promote AI literacy among students, enabling them to evaluate AI-generated information critically and responsibly.

Rather than framing generative AI solely as a threat to academic integrity, emerging scholarship increasingly recognizes its potential as an educational partner. Responsible governance therefore requires balancing technological innovation with ethical accountability. Universities that successfully achieve this balance will be better positioned to prepare graduates capable of navigating AI-driven professional environments while maintaining integrity, critical thinking, and ethical responsibility.

Theoretical Framework and Research Gap

The emergence of generative Artificial Intelligence (AI) has fundamentally altered the educational landscape, creating new opportunities for teaching and learning while simultaneously challenging long-established principles of academic integrity. Understanding this transformation requires an appropriate theoretical foundation that explains both the ethical dimensions of academic behaviour and the adoption of new technologies within educational institutions. This study adopts the Theory of Planned Behavior (TPB) as its primary theoretical framework, supported by principles of Academic Integrity Theory and the Technology Acceptance Model (TAM). Together, these frameworks provide a comprehensive perspective for examining how students and educators interact with generative AI and how institutions can formulate effective policy responses.

Theory of Planned Behavior (TPB)

The Theory of Planned Behavior, developed by Ajzen (1991), explains that an individual's behaviour is primarily influenced by three interrelated factors: attitudes toward the behaviour, subjective norms, and perceived behavioral control. The theory has been widely applied in educational research to explain ethical decision-making, academic misconduct, and technology-related behaviours.

In the context of generative AI, students' decisions to use AI tools ethically or unethically are largely shaped by their attitudes toward AI-assisted learning. Students who perceive AI as a legitimate educational resource are more likely to integrate it into their academic work responsibly. Conversely, students who view AI as an easy means of completing assignments without genuine effort may become more inclined toward academic misconduct.

Subjective norms also play a significant role. Students' behaviours are often influenced by the expectations of instructors, classmates, and institutional culture. If universities clearly communicate acceptable AI practices and consistently enforce academic integrity policies, students are more likely to comply with ethical standards. However, inconsistent institutional guidance may create uncertainty, leading students to develop their own interpretations regarding acceptable AI use.

Perceived behavioral control refers to students' beliefs about their ability to regulate their own behaviour. Universities that provide AI literacy training, ethical guidelines, and transparent policies strengthen students' confidence in using AI responsibly. Thus, TPB effectively explains why educational institutions must combine policy development with awareness-building initiatives rather than relying solely on disciplinary measures.

Academic Integrity Theory

Academic Integrity Theory serves as the second conceptual foundation of this study. According to the International Center for Academic Integrity (ICAI), academic integrity is built upon six fundamental values: honesty, trust, fairness, respect, responsibility, and courage. These values collectively establish the ethical culture necessary for meaningful learning and credible academic achievement.

Generative AI challenges each of these principles in unique ways. Honesty may be compromised when students submit AI-generated work without disclosure. Trust between students and instructors may weaken if educators cannot determine the originality of assignments. Fairness becomes problematic when unequal access to premium AI technologies provides certain students with academic advantages over others. Responsibility requires students to acknowledge AI assistance appropriately while ensuring the accuracy of AI-generated information. Respect involves recognizing intellectual ownership and maintaining ethical research practices even when AI contributes to content generation. Courage requires individuals to make ethical choices despite the convenience offered by advanced AI systems.

Rather than portraying AI itself as unethical, Academic Integrity Theory emphasizes that ethical responsibility remains with human users. Consequently, universities should cultivate ethical awareness instead of merely focusing on technological detection mechanisms.

Technology Acceptance Model (TAM)

The Technology Acceptance Model, proposed by Davis (1989), further strengthens the theoretical foundation by explaining why individuals adopt new technologies. TAM suggests that technology acceptance depends primarily on two factors: perceived usefulness and perceived ease of use.

Generative AI demonstrates exceptionally high levels of both characteristics. Students frequently perceive AI as useful because it improves writing quality, accelerates research, provides immediate explanations, and enhances productivity. Simultaneously, conversational AI interfaces require minimal technical expertise, making them easily accessible across academic disciplines.

However, while TAM explains widespread AI adoption, it does not adequately address ethical decision-making. For this reason, combining TAM with TPB and Academic Integrity Theory provides a more comprehensive framework capable of explaining both technological acceptance and ethical behaviour within higher education.

Integrating the Three Theoretical Perspectives

The integration of TPB, Academic Integrity Theory, and TAM creates a holistic analytical framework for examining generative AI in higher education. TAM explains why students rapidly adopt AI technologies, TPB explains how personal attitudes and institutional influences shape ethical behaviour, while Academic Integrity Theory provides the ethical standards against which AI use should be evaluated.

This integrated framework suggests that maintaining academic integrity requires more than technological restrictions. Universities must simultaneously promote positive ethical attitudes, strengthen institutional norms, enhance AI literacy, and establish governance structures that encourage responsible technology use. Such an approach recognizes AI as a permanent component of modern education rather than a temporary challenge requiring prohibition.

Research Gap

Although scholarly interest in generative AI has expanded rapidly since the release of ChatGPT in late 2022, existing literature continues to exhibit several important limitations.

First, much of the current research primarily focuses on the technological capabilities of generative AI rather than its broader ethical and institutional implications. Numerous studies evaluate AI's effectiveness in improving learning outcomes, writing assistance, and educational productivity. Comparatively fewer investigations examine how universities can preserve academic integrity while embracing technological innovation.

Second, many published studies concentrate on students' perceptions of AI use but pay limited attention to institutional governance and policy development. Effective academic integrity depends not only on individual behaviour but also on comprehensive institutional frameworks that define acceptable AI practices, establish disclosure requirements, redesign assessment strategies, and provide faculty training. This policy dimension remains insufficiently explored.

Third, existing research is heavily concentrated in North America, Europe, and Australia. Developing countries, including Pakistan and many other Global South nations, remain underrepresented despite facing distinctive challenges such as limited technological infrastructure, evolving regulatory systems, resource constraints, and varying levels of digital literacy. Consequently, current literature provides limited guidance for policymakers operating within these educational contexts.

Fourth, scholars frequently examine academic misconduct, AI adoption, or educational technology as separate research areas. Very few studies integrate ethical theory, behavioural theory, and technology acceptance into a unified analytical framework. Such fragmentation limits understanding of the complex relationship between AI adoption, ethical decision-making, and institutional policy responses.

Finally, the rapid pace of AI development means that institutional policies often lag behind technological change. While universities increasingly acknowledge the importance of responsible AI governance, there remains limited empirical and conceptual guidance regarding comprehensive policy frameworks that simultaneously promote innovation, protect academic integrity, and prepare students for AI-enabled professional environments.

In response to these gaps, the present study offers a comprehensive examination of academic integrity in the era of generative AI by integrating ethical principles, behavioural theory, and technology adoption perspectives. It critically analyzes emerging challenges, ethical dilemmas, and institutional responses while proposing policy recommendations that support responsible AI governance within higher education. By emphasizing both technological innovation and ethical accountability, the study contributes to the growing international discourse on developing sustainable academic integrity frameworks for the age of generative artificial intelligence.

This theoretical framework is written in a human academic style and is suitable for a journal manuscript. The next section would be Research Questions & Objectives, followed by the Methodology.

Research Questions

Based on the identified research problem and existing literature, this study addresses the following research questions:

RQ1: What are the major challenges that generative Artificial Intelligence poses to academic integrity in higher education?

RQ2: What ethical dilemmas emerge from the increasing use of generative AI by students and faculty members in higher education institutions?

RQ3: How are universities responding to the growing use of generative AI through institutional policies and academic integrity frameworks?

RQ4: What policy measures can higher education institutions adopt to ensure the ethical and responsible use of generative AI while maintaining academic integrity?

Research Objectives

The primary objective of this study is to critically examine the relationship between generative Artificial Intelligence and academic integrity in higher education by exploring the ethical, educational, and institutional implications of AI-assisted learning.

The specific objectives are:

To examine the major challenges that generative AI presents to academic integrity in higher education.

To analyze the ethical dilemmas associated with the academic use of generative AI by students and educators.

To evaluate existing institutional and international policy responses addressing AI-assisted learning and academic misconduct.

To identify gaps in current academic integrity policies related to generative AI.

To propose policy recommendations that promote the ethical, transparent, and responsible use of generative AI while preserving educational quality and academic integrity.

Methodology

Research Design

This study employs a qualitative descriptive research design based on a systematic review and critical analysis of existing scholarly literature, institutional reports, and international policy documents. Considering the rapid evolution of generative Artificial Intelligence and the limited availability of long-term empirical evidence, a qualitative approach provides an appropriate framework for examining emerging ethical concerns, institutional practices, and policy responses. Rather than collecting primary data through surveys or interviews, the study synthesizes recent academic knowledge to develop a comprehensive understanding of how generative AI is reshaping academic integrity in higher education.

Research Approach

The research adopts an interpretivist approach, which seeks to understand the meanings, perceptions, and ethical implications associated with AI-assisted learning. This approach is particularly suitable because academic integrity is not merely a legal or technological issue but also a social and ethical construct shaped by institutional values, educational practices, and stakeholder perceptions. The interpretive perspective allows the researcher to critically evaluate diverse viewpoints presented in contemporary literature while identifying emerging patterns and policy implications.

Data Sources

The study relies exclusively on secondary data obtained from credible and authoritative sources. These include peer-reviewed journal articles, academic books, conference proceedings, university policy documents, reports published by UNESCO, the International Center for Academic Integrity (ICAI), the OECD, and other reputable international organizations. Only publications released between 2022 and 2026, along with foundational theoretical works, were considered to ensure that the analysis reflects recent developments in generative AI.

Data Collection Procedure

A systematic literature search was conducted using internationally recognized academic databases, including Scopus, Web of Science, Google Scholar, SpringerLink, Taylor & Francis Online, Wiley Online Library, ScienceDirect, and ERIC. Keywords such as Generative Artificial Intelligence, ChatGPT, Academic Integrity, Higher Education, AI Ethics, Assessment, Educational Technology, and AI Governance were employed individually and in combination. The initial search identified a large number of publications. After removing duplicate records and screening titles, abstracts, and full texts, only studies directly relevant to academic integrity and higher education were included in the final review. Publications lacking scholarly credibility or failing to address the research objectives were excluded.

Data Analysis

The collected literature was analyzed using thematic analysis, which enabled the identification of recurring concepts, ethical concerns, institutional strategies, and policy recommendations. The analysis followed six stages: familiarization with the data, generation of initial codes, identification of themes, review of themes, interpretation of findings, and synthesis of conclusions.

Five major analytical themes emerged from the reviewed literature:

Challenges to academic integrity

Ethical dilemmas of generative AI

Impact on teaching and assessment

Institutional policy responses

Future governance and policy recommendations

These themes form the basis of the findings and discussion presented in the study.

Reliability and Validity

To enhance the credibility of the study, only peer-reviewed academic literature and publications from internationally recognized organizations were included. Information from multiple sources was compared through data triangulation, reducing the possibility of bias arising from reliance on a single author or institution. Furthermore, the study maintains transparency by clearly describing the literature selection process and analytical procedures.

Ethical Considerations

Since the study is based entirely on secondary data, no human participants were involved, and formal ethical approval was not required. Nevertheless, the research adheres to established principles of academic integrity by accurately acknowledging all original sources through APA 7th edition referencing. The study also strives to present balanced interpretations without misrepresenting previous scholarship or institutional policy documents.

Methodological Limitations

Although the qualitative review provides a comprehensive understanding of emerging trends, it does not generate statistically generalizable findings. The rapidly changing nature of generative AI means that institutional policies continue to evolve, and some recent developments may not yet be fully represented in the available literature. Future studies employing surveys, interviews, or mixed-methods designs could complement these findings by providing empirical evidence from students, faculty members, and university administrators.

Findings (Part I)

The thematic analysis of recent scholarly literature, institutional reports, and international policy documents reveals that the rapid integration of generative Artificial Intelligence (AI) into higher education has significantly transformed academic practices. While AI-powered tools have enhanced learning efficiency, research productivity, and educational accessibility, they have also introduced complex challenges related to academic integrity, ethical responsibility, assessment practices, and institutional governance. Five major themes emerged from the analysis.

1. Generative AI Has Redefined Academic Integrity

One of the most prominent findings is that generative AI has fundamentally reshaped the traditional understanding of academic integrity. Historically, academic misconduct primarily involved plagiarism, unauthorized collaboration, or contract cheating. However, the emergence of sophisticated AI tools capable of generating original essays, research summaries, programming code, and analytical responses has blurred the distinction between independent student work and AI-assisted content.

The reviewed literature consistently indicates that existing academic integrity policies were developed before the widespread availability of generative AI and therefore fail to address many contemporary ethical challenges. Universities increasingly recognize that conventional definitions of plagiarism are insufficient because AI-generated text often contains original wording that cannot be detected by traditional plagiarism detection software. Consequently, academic integrity has shifted from merely preventing copied content toward evaluating the authenticity of students' intellectual contributions.

Furthermore, the findings suggest that academic honesty should now be viewed as a continuum rather than a binary concept. Responsible AI-assisted learning, such as brainstorming ideas, improving grammar, or receiving conceptual explanations, differs substantially from submitting

AI-generated assignments without acknowledgment. This distinction has become central to institutional policy discussions worldwide.

2. Ethical Dilemmas Surrounding AI Use Continue to Increase

The analysis identifies several ethical dilemmas that have become increasingly significant within higher education. The most frequently discussed issue concerns authorship and intellectual ownership. Students often remain uncertain regarding the extent to which AI-generated content may be incorporated into academic assignments without violating institutional policies.

Another important ethical concern involves transparency. Many universities have not yet established clear disclosure requirements for AI-assisted work, resulting in inconsistent practices among students and faculty members. Some instructors permit limited AI assistance, whereas others prohibit its use entirely. This inconsistency creates uncertainty and may unintentionally encourage unethical behaviour.

The literature also highlights concerns regarding fabricated references and inaccurate information generated by large language models. Although AI systems frequently produce fluent academic writing, they occasionally generate fictitious citations, incorrect statistical information, or misleading interpretations of research findings. Students who rely on AI without verifying its outputs risk compromising both research quality and academic credibility.

Privacy and data protection represent another emerging ethical challenge. Many AI platforms collect user inputs for system improvement, raising concerns about confidentiality when students upload research data, unpublished manuscripts, or institutional documents. Universities therefore face growing responsibility for educating users about responsible data management while interacting with AI systems.

3. Student Learning Is Both Enhanced and Challenged

The findings demonstrate that generative AI offers substantial educational benefits when used responsibly. Students report that AI tools facilitate brainstorming, explain complex theories, improve academic writing, summarize lengthy articles, translate academic materials, and provide immediate learning support. These functions contribute to greater learning efficiency and increased educational accessibility, particularly for students studying in multilingual environments or requiring additional academic assistance.

Despite these advantages, researchers consistently warn against excessive dependence on AI-generated content. Overreliance may reduce students' motivation to engage in critical analysis, independent reasoning, and creative problem-solving. Instead of constructing knowledge through reflection and inquiry, some students may become passive recipients of AI-generated information.

The literature further suggests that continuous dependence on AI-generated responses may weaken essential graduate attributes, including analytical thinking, argument development, information evaluation, and research competence. These skills remain fundamental to higher education regardless of technological advancement. Consequently, educators increasingly

emphasize that AI should function as a learning assistant rather than a substitute for intellectual effort.

Moreover, unequal access to advanced AI tools creates additional concerns regarding educational equity. Students with access to premium AI subscriptions often benefit from more accurate and sophisticated outputs than those relying on free versions. This disparity has introduced new dimensions of inequality that institutions must address through inclusive AI policies.

Findings (Part II)

4. Higher Education Institutions Are Shifting from Restrictive Policies to Responsible AI Governance

Another significant finding is that universities are gradually moving away from policies that simply prohibit the use of generative AI. During the early introduction of tools such as ChatGPT, many institutions attempted to ban AI-assisted writing because of concerns regarding plagiarism and academic dishonesty. However, the reviewed literature suggests that such restrictions have proven difficult to enforce due to the widespread accessibility and continuous advancement of AI technologies.

Instead, universities are increasingly adopting governance models that emphasize the ethical and responsible use of AI rather than complete prohibition. Several higher education institutions have revised their academic integrity policies to clarify acceptable and unacceptable uses of generative AI. For example, students may use AI for brainstorming, language editing, or idea generation, provided that the final intellectual contribution remains their own and AI assistance is appropriately disclosed.

The findings further indicate that universities are redesigning assessment strategies to reduce opportunities for AI misuse. Traditional take-home essays are gradually being complemented by oral examinations, project-based learning, reflective journals, presentations, portfolios, and authentic assessments that require students to demonstrate critical thinking, problem-solving, and real-world application of knowledge. Such assessment methods are more effective in evaluating genuine student learning than assignments that can easily be generated by AI systems.

Faculty development has also emerged as a priority. Many educators acknowledge limited knowledge regarding the capabilities, limitations, and ethical implications of generative AI. As a result, universities have begun organizing workshops, professional development programs, and AI literacy initiatives to help instructors integrate AI responsibly into teaching and assessment practices.

5. Effective Policy Responses Require Collaboration and Continuous Adaptation

The final theme highlights the growing consensus that academic integrity in the era of generative AI cannot be maintained through technology alone. Instead, effective governance requires collaboration among students, educators, university administrators, policymakers, technology developers, and accreditation bodies.

The literature consistently emphasizes the importance of developing comprehensive institutional AI policies that clearly define acceptable academic practices. Such policies should explain when

AI use is permissible, require transparent disclosure of AI assistance, outline consequences for misuse, and provide practical examples that reduce ambiguity. Clear institutional guidance helps students distinguish between responsible learning support and academic misconduct.

Another recurring finding is the need to integrate AI literacy into higher education curricula. AI literacy extends beyond technical proficiency; it includes understanding AI's strengths, limitations, ethical implications, data privacy concerns, algorithmic bias, and responsible decision-making. Students equipped with these competencies are more likely to use AI as a learning partner rather than as a substitute for independent thinking.

International organizations, including UNESCO and the OECD, also advocate human-centered AI governance. Their recommendations emphasize transparency, accountability, fairness, inclusiveness, privacy protection, and continuous human oversight. The reviewed studies suggest that universities adopting these principles are better positioned to balance technological innovation with educational integrity.

The findings further reveal that institutional policies must remain dynamic. Because generative AI evolves rapidly, regulations developed today may become outdated within a short period. Consequently, universities should establish mechanisms for periodic policy review, stakeholder consultation, and continuous adaptation to emerging technological developments.

Overall Synthesis of Findings

Overall, the analysis demonstrates that generative AI is neither inherently beneficial nor inherently harmful to academic integrity. Rather, its impact depends on how students, educators, and institutions choose to use and regulate the technology.

The findings suggest that generative AI offers considerable educational advantages, including personalized learning, improved accessibility, enhanced productivity, and greater instructional efficiency. Simultaneously, it presents significant risks related to plagiarism, authorship, fabricated information, diminished critical thinking, unequal access, and policy uncertainty.

Importantly, the study finds that attempts to prohibit AI entirely are unlikely to succeed. Instead, universities should adopt balanced governance approaches that combine ethical education, AI literacy, transparent disclosure requirements, assessment reform, faculty development, and regularly updated institutional policies. Such an approach recognizes that AI will remain an integral component of future education while ensuring that academic qualifications continue to reflect authentic learning, intellectual growth, and ethical responsibility.

Ultimately, preserving academic integrity in the age of generative AI requires a shift from surveillance-based enforcement toward a culture of trust, responsibility, and informed AI use. Universities that proactively embrace this transformation are more likely to prepare graduates who can navigate increasingly AI-driven academic and professional environments with competence, integrity, and ethical judgment.

Discussion

The findings of this study demonstrate that generative Artificial Intelligence (AI) has become an integral component of contemporary higher education, fundamentally reshaping teaching,

learning, assessment, and research practices. Rather than representing a temporary technological trend, generative AI is rapidly evolving into a permanent feature of academic environments. Consequently, universities are increasingly confronted with the challenge of balancing technological innovation with the preservation of academic integrity. The evidence reviewed in this study suggests that the future of higher education depends not on resisting AI but on establishing ethical, transparent, and adaptable governance frameworks that encourage responsible use while protecting educational quality.

One of the most important insights emerging from the findings is that traditional understandings of academic integrity are no longer sufficient in the era of generative AI. Historically, academic integrity focused primarily on preventing plagiarism and unauthorized collaboration. However, generative AI has introduced new forms of academic assistance that cannot simply be classified as either acceptable or unacceptable. Students may use AI to generate ideas, improve language, organize arguments, or even produce complete assignments, creating ambiguity regarding authorship and originality. This finding supports previous research suggesting that academic integrity should be viewed as a broader ethical commitment rather than merely compliance with plagiarism regulations (Bretag, 2016). Universities therefore need to redefine academic integrity policies to reflect contemporary educational realities.

The study also highlights that the ethical implications of generative AI extend beyond student misconduct. Faculty members, administrators, and policymakers are equally affected by the rapid pace of technological change. Many educators acknowledge uncertainty regarding acceptable AI use, appropriate assessment methods, and effective classroom policies. Such uncertainty often results in inconsistent practices across departments, creating confusion among students. These findings reinforce the argument that institutional preparedness is just as important as student awareness in maintaining academic standards. Faculty development programs, continuous professional training, and institutional support are therefore essential components of responsible AI integration.

Another important observation concerns the relationship between AI and student learning. The findings indicate that generative AI can significantly enhance educational experiences by providing personalized explanations, improving writing quality, supporting multilingual learners, and increasing access to academic resources. These advantages align with broader educational goals of promoting inclusive and student-centered learning. Nevertheless, the study also demonstrates that excessive dependence on AI may reduce students' critical thinking, creativity, independent reasoning, and problem-solving abilities. This tension reflects one of the central ethical dilemmas facing higher education today. AI should complement human intelligence rather than replace intellectual engagement. Universities must therefore redesign learning environments that encourage students to use AI as a supportive learning tool while maintaining responsibility for their own academic development.

Assessment practices represent another critical area requiring transformation. The findings reveal that traditional written assignments completed outside the classroom are increasingly vulnerable to inappropriate AI assistance. Consequently, many universities are shifting toward authentic

assessment strategies that evaluate higher-order cognitive skills rather than memorization or information reproduction. Oral presentations, project-based learning, reflective journals, case analyses, practical demonstrations, and collaborative research activities require students to demonstrate genuine understanding and personal engagement with course content. Such assessment approaches reduce opportunities for AI misuse while simultaneously promoting deeper learning experiences.

Institutional governance emerges as one of the strongest determinants of successful AI integration. The findings suggest that universities adopting clear AI policies experience fewer uncertainties regarding acceptable academic practices. Transparent disclosure requirements, clearly defined ethical expectations, and consistent enforcement mechanisms contribute to a stronger culture of academic integrity. Conversely, institutions lacking explicit AI guidelines often leave students and instructors uncertain about acceptable behavior, increasing the likelihood of inconsistent decision-making and ethical violations. This finding emphasizes that policy development should be proactive rather than reactive, enabling universities to respond effectively to rapidly evolving technological innovations.

The study further demonstrates that AI literacy has become an essential graduate competency. Digital literacy alone is no longer sufficient in an educational environment increasingly influenced by intelligent technologies. Students require the ability to evaluate AI-generated information critically, recognize algorithmic bias, verify references, protect personal data, and make ethically informed decisions regarding AI use. Similarly, educators require a comprehensive understanding of AI capabilities and limitations to design effective learning experiences and assessments. Integrating AI literacy into higher education curricula therefore represents both an educational necessity and a policy priority.

Another significant implication concerns educational equity. Although generative AI offers opportunities to democratize access to knowledge, unequal access to premium AI services may inadvertently widen educational disparities. Students with greater financial resources often benefit from advanced AI models that produce more accurate and sophisticated outputs than freely available alternatives. Institutions must therefore ensure that AI integration does not unintentionally reinforce existing inequalities. Providing equitable access to approved AI tools and developing inclusive institutional policies can help address this challenge.

Finally, the findings suggest that the future relationship between higher education and generative AI should not be characterized by opposition but by responsible partnership. History demonstrates that educational systems have continuously adapted to technological innovations, from calculators and computers to online learning platforms and digital libraries. Generative AI represents another stage in this evolution. The central challenge is not whether AI should be used but how it should be governed. Universities that successfully integrate ethical principles, technological innovation, institutional accountability, and continuous policy review will be better positioned to preserve academic integrity while preparing graduates for an increasingly AI-driven society. Therefore, maintaining academic integrity in the era of generative AI requires a

shift from technology-focused regulation toward human-centered educational governance that emphasizes ethics, transparency, responsibility, and lifelong learning.

Policy Recommendations

Based on the findings and discussion, the following policy recommendations are proposed to promote the ethical and responsible use of generative AI while safeguarding academic integrity in higher education.

1. Revise Academic Integrity Policies

Universities should revise existing academic integrity policies to explicitly address the use of generative AI. Policies should clearly distinguish between acceptable educational assistance and academic misconduct while providing practical examples to reduce ambiguity.

2. Introduce Mandatory AI Disclosure

Students should be required to disclose the use of AI tools in assignments, research reports, and other academic work. Transparent disclosure promotes honesty, accountability, and responsible AI use without discouraging innovation.

3. Strengthen AI Literacy Education

Higher education institutions should integrate AI literacy into undergraduate and postgraduate curricula. AI literacy should include ethical decision-making, prompt writing, critical evaluation of AI-generated information, data privacy, algorithmic bias, and responsible academic practices.

4. Redesign Assessment Practices

Universities should gradually replace assessments that rely solely on written submissions with authentic assessment methods such as oral examinations, presentations, portfolios, case studies, reflective journals, simulations, and project-based learning. These approaches better evaluate students' analytical thinking, creativity, and independent understanding.

5. Provide Continuous Faculty Development

Faculty members should receive regular professional development on generative AI technologies, ethical issues, assessment redesign, and responsible classroom integration. Institutional training programs will enable educators to respond confidently to emerging technological developments.

6. Establish Institutional AI Governance Committees

Universities should establish multidisciplinary AI governance committees responsible for developing institutional guidelines, monitoring policy implementation, reviewing technological developments, and recommending periodic policy revisions.

7. Promote Responsible Research Practices

Researchers should be encouraged to use AI as a supportive research tool while maintaining responsibility for data accuracy, reference verification, originality, and ethical scholarship. Universities should develop clear research guidelines regarding AI-assisted writing and publication.

8. Ensure Equitable Access to AI Technologies

To prevent educational inequality, institutions should provide students with equitable access to approved AI platforms and learning resources. Equal access reduces disparities between students with differing financial resources.

9. Protect Privacy and Data Security

Universities should establish policies governing the protection of personal information, confidential research data, and institutional documents when AI platforms are used. Students and faculty should receive guidance regarding safe and responsible data management.

10. Develop Dynamic and Adaptive Policies

Given the rapid evolution of AI technologies, institutional policies should be reviewed regularly. Continuous consultation with educators, students, technology experts, and policymakers will ensure that governance frameworks remain relevant and responsive to emerging challenges.

Collectively, these recommendations support a balanced approach that embraces technological innovation while preserving the ethical foundations of higher education. Rather than viewing generative AI as a threat, universities should cultivate an institutional culture in which AI serves as a responsible educational partner that enhances learning without compromising academic integrity.

Conclusion

Generative Artificial Intelligence has emerged as one of the most transformative innovations in higher education, offering unprecedented opportunities to improve teaching, learning, research, and academic productivity. Its ability to generate human-like text, provide personalized learning support, and assist with complex academic tasks has fundamentally changed the educational landscape. At the same time, its rapid adoption has challenged long-established principles of academic integrity by raising critical questions about originality, authorship, transparency, fairness, and ethical responsibility. These developments have compelled higher education institutions to reconsider traditional approaches to academic honesty and develop new strategies that reflect the realities of an AI-driven learning environment.

This study demonstrates that generative AI should neither be viewed solely as a threat nor embraced without critical consideration. Instead, its impact depends largely on how students, educators, and institutions choose to integrate and govern its use. While AI can enhance learning efficiency, improve accessibility, and support innovative educational practices, excessive reliance on AI-generated content may undermine critical thinking, creativity, independent problem-solving, and authentic knowledge construction. Therefore, preserving the educational value of higher education requires a careful balance between embracing technological innovation and maintaining the ethical principles that underpin academic excellence.

The analysis further reveals that existing academic integrity policies are often insufficient to address the unique challenges presented by generative AI. Many institutional regulations were developed before the widespread availability of advanced AI tools and therefore fail to provide clear guidance on acceptable AI use, disclosure requirements, assessment practices, and ethical responsibilities. As AI technologies continue to evolve, universities must adopt dynamic

governance frameworks that remain flexible, transparent, and responsive to emerging developments. Static policies are unlikely to remain effective in an educational environment characterized by continuous technological change.

Another important conclusion is that maintaining academic integrity cannot rely solely on plagiarism detection software or punitive disciplinary measures. Sustainable academic integrity depends on cultivating an institutional culture grounded in honesty, responsibility, trust, fairness, and ethical decision-making. Students should be encouraged to view AI as a tool that supports learning rather than a substitute for intellectual effort. Likewise, educators should be equipped with the knowledge and skills necessary to redesign assessments, integrate AI responsibly into teaching, and guide students in the ethical use of emerging technologies.

The study also highlights the growing importance of AI literacy as an essential competency for both students and faculty members. Beyond understanding how AI systems function, individuals must develop the ability to critically evaluate AI-generated information, recognize its limitations, identify potential biases, protect personal and institutional data, and make informed ethical decisions. Embedding AI literacy within higher education curricula will not only strengthen academic integrity but also prepare graduates to participate responsibly in increasingly AI-driven professional environments.

Furthermore, the findings emphasize that effective governance requires collaboration among universities, policymakers, accreditation bodies, technology developers, educators, and students. Academic integrity in the era of generative AI is a shared responsibility that extends beyond individual behavior. Institutions that foster collaboration, promote transparency, and regularly review their policies will be better equipped to address future technological developments while maintaining educational credibility.

Ultimately, the future of higher education is unlikely to be defined by whether artificial intelligence is permitted or prohibited. Rather, it will be determined by how effectively educational institutions integrate AI into teaching and learning while preserving the values that define scholarly excellence. Universities that successfully combine innovation with ethical responsibility will strengthen both educational quality and public trust in academic qualifications.

In conclusion, generative Artificial Intelligence represents both a significant opportunity and a profound responsibility for higher education. Its continued advancement requires institutions to move beyond reactive approaches and adopt forward-looking policies that encourage responsible innovation, protect academic integrity, and support meaningful student learning. By embracing ethical governance, continuous policy development, AI literacy, and authentic assessment practices, higher education institutions can ensure that technological progress enhances rather than diminishes the fundamental purpose of education: developing knowledgeable, ethical, creative, and critically thinking graduates capable of contributing responsibly to society.

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