

# Artificial Intelligence (AI) And Its Influence on Academic Research and Student Writing

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**Abstract:** *The fast proliferation of artificial intelligence (AI) applications, especially large language model (LLM)-based systems, such as ChatGPT, has radically transformed the higher education environment. The paper will discuss how AI affects academic studies and student writing based on peer-reviewed literature published in 2021-2025. The study applies a qualitative, document-based approach to map the use of AI, highlighting a key gap in institutional policy and ethical frameworks and testing the main hypothesis that AI both expands and threatens the production of academic knowledge. Research results prove that although AI can speed up research and enhance the quality of writing, its uncontrolled usage leads to a decline in critical thinking processes, encourages academic dishonesty, and prompts unanswered questions about authorship. The paper suggests a well-organised, literacy-based implementation of AI in clear ethical principles.*

**Keywords:** Artificial intelligence, ChatGPT, academic writing, academic integrity, higher education, plagiarism, AI literacy, research methodology

## I. INTRODUCTION

Artificial intelligence has brought about a change in higher education in a way that not many technological advancements have been able to. As soon as OpenAI made ChatGPT publicly available in November 2022, universities around the world were faced with a tool that was able to generate coherent and structured essays in seconds (Cotton et al., 2024). A case of student plagiarism with the tool was recorded by a professor at Furman University within two weeks of its release, and by January 2023, it was banned by several large school districts in the United States on institutional networks (Cotton et al., 2024). But prohibiting a free technology is at best a short-term measure to a long-term change. The development of generative conversational AI, as Dwivedi et al. (2023) argued, requires a multi-disciplinary re-evaluation of research practice, policy, and pedagogy. The given paper accepts that challenge by discussing the ways in which AI is redefining academic research and student writing, the gaps in existing knowledge, and what a positive institutional reaction could possibly be.

## II. THESIS

This paper will develop the thesis that AI tools are a two-sided phenomenon in the life of academics: they have a real potential to democratise access to research, hasten the synthesis of knowledge, and enhance the quality of writing, but (without proper structures) they are also a quantifiable danger to intellectual growth, research quality, and the very existence of academic evaluation. The only possible way is responsible integration, which is based on AI literacy and clarity of policy.

## III. LITERATURE REVIEW

The interest in AI in education has increased exponentially since 2022. Khalifa & Albadawy (2024) have found that there are five areas where AI has already become a part of academic practice: literature search, data analysis, content



creation, editing assistance, and citation management. They found, based on their review, which appeared in *Computers and Education: Artificial Intelligence*, that AI tools have significantly enhanced the efficiency of research, especially when it comes to systematic literature reviews. On the same note, Wagner et al. (2022) discovered that the review processes aided by AI can assist researchers in discovering thematic gaps in large literature corpora that would otherwise take months to read.

The evidence is inconclusive but growing in the area of student writing. A 2023-2025 synthesis by Sanz-Tejeda et al. (2025) discovered that AI tools such as Grammarly, ChatGPT, and Elicit mediate between students and knowledge to enhance grammar, coherence, and vocabulary, especially among non-native speakers of English. According to Sanz-Tejeda et al. (2025), Mohammed and Khalid (2025) found that automatic AI feedback enhanced motivation, emotional intelligence, and writing proficiency among English-as-a-second-language learners. Also referenced in Sanz-Tejeda et al. (2025), McGuire et al. (2024) discovered that students enhanced their critical thinking and skill development when ChatGPT was utilised as a formative feedback tool in a constructivist framework.

Nevertheless, concerning issues are raised invariably by the same literature. According to the Vargas-Murillo et al. (2023) study cited in various reviews, the students who use AI to do assignments are at risk of not developing intellectually and losing the ability to think independently. The survey mentioned in Vieriu & Petrea (2025) showed that although more than 85 percent of American college students knew about their academic integrity policies, only 21.3 percent regarded the submission of AI-generated text as a violation. In their interview with students, faculty, and education leaders, Hasanein and Sobaih (2023) discovered that the three most common negative effects of the adoption of ChatGPT in higher education were dependency, breaches of academic integrity, and decreased critical engagement.

On the research front, Májovský et al. (2023) showed in the *Journal of Medical Internet Research* that AI was able to produce scientific medical articles that were deemed genuine by both automated detection systems and human reviewers, a fact they referred to as opening Pandora's box. According to the research on AI-generated abstracts, Gao et al. (2023) discovered that scientific abstracts generated by ChatGPT were able to mislead human reviewers in blind experiments. Alarming, AI tools generate fake references frequently - properly formatted references, but to non-existent articles - posing a significant integrity threat to students who plagiarise them without checking (Golan et al., 2023).

Ethically and as an author, Lapeña (2023) observed that the World Association of Medical Editors had revised its guidelines with regard to the use of AI to make it clear that AI cannot be considered as an academic author since authorship involves responsibility. Checco et al. (2021) investigated AI-assisted peer review and discovered that efficiency could be improved, although the lack of critical evaluation in AI-generated ratings was a key limitation.

#### **IV. RESEARCH GAP**

Although the amount of research on AI in the education sector continues to increase, a gap still exists. Most studies have concentrated on the perceptions of students towards AI tools or the technical aspects of AI systems. The gap that still needs to be filled is empirical studies on the effectiveness of institutional policies - i.e., whether and how the current university policies, assessment designs, and AI literacy programmes actually decrease AI-related academic misconduct and safeguard the quality of student learning outcomes (Sanz-Tejeda et al., 2025; Kovari, 2025). Moreover, the majority of the available research is based on the North American or European setting, and a major gap in the research regarding the way students in South Asian and other higher education institutions of the developing world are interacting with AI tools is present (Sanz-Tejeda et al., 2025). The gaps are covered in this paper by reviewing and offering recommendations.

#### **V. METHODOLOGY**

A secondary descriptive statistical synthesis was added to the qualitative document analysis design used in this study. Using databases like PubMed, ScienceDirect, Frontiers in Education, Nature Link, and Google Scholar, a comprehensive review of institutional reports and peer-reviewed journal papers published between 2021 and 2025 was



carried out. "AI and academic writing," "ChatGPT higher education," "AI plagiarism," "academic integrity generative AI," and "AI literacy in higher education" were among the search terms.

The requirements for inclusion were as follows: (a) peer-reviewed or published by respectable organizations; (b) written in English; and (c) directly related to AI in student writing, academic research, or institutional policy. These requirements were met by sixteen sources, which were then subjected to theme analysis.

A secondary descriptive statistical synthesis was carried out on empirical data given in the chosen literature (primarily Vieriu & Petrea, 2025 and Kovari, 2025) in order to reinforce the quantitative aspect of the research aims. Only percentages and sample sizes (n) that were reported were taken out. Since no primary data was gathered, no inferential statistical tests were carried out. Since the synthesis was restricted to the tabulation of descriptive statistics, no statistical software (SPSS, R, Python, or Stata) was utilized. Outliers and missing data were not addressed because they were not stated in the original research.

In Section VII, the descriptive statistical synthesis and theme analysis were combined to offer a thorough understanding of the three interdependent and constant findings.

## VI. OBJECTIVES

The research has four objectives:

1. To investigate the current application of AI tools in academic research and writing by students.
2. To determine what advantages and threats there are to the use of AI in the context of higher education.
3. To determine the sufficiency of existing institutional reactions to academic dishonesty issues related to AI.
4. To propose evidence-based measures to the responsible introduction of AI into academic institutions.

## VII. DATA ANALYSIS AND INTERPRETATION

### 7.1 Descriptive Statistics

The examined literature includes a number of empirical studies that offer quantitative data, mostly in the form of descriptive statistics from student surveys, even though the main methodology of this study is qualitative document analysis. The measurable results were subjected to a secondary statistical synthesis in order to satisfy the requirements of rigorous academic research (as described in the key components of statistical analysis). Because the investigated sources do not include raw datasets appropriate for inferential testing, this synthesis concentrates on descriptive statistics (sample size, percentages, and relative frequencies). Since there was no primary data gathering, this study did not produce any inferential statistics.

**Table 1: Descriptive Statistics on AI Tool Usage and Attitudes (Vieriu & Petrea, 2025)**

Variable / Category	Statistic	Sample Size (n)	Interpretation
Use of AI in academic activities	95.6%	85	Extremely high adoption rate
Use of virtual assistants (e.g., ChatGPT)	88.2%	85	Dominant tool
Weekly usage of AI tools	57.6%	85	Majority regular users
Daily usage of AI tools	18.8%	85	Significant daily reliance
Improved learning efficiency	83.5%	85	Strong perceived benefit
Enhanced academic performance	82.4%	85	Strong perceived benefit
Concern about accuracy of AI-generated content	48.2%	85	Almost half express major concern
Concern about negative impact on critical thinking	16.5%	85	Notable acknowledged risk
Concern about over-dependence on technology	16.5%	85	Notable acknowledged risk

*Source: Vieriu & Petrea (2025), n = 85 second-year engineering students (purposive sampling). All figures are self-reported percentages. No missing data reported.*



Supporting descriptive information from another research:

According to Hasanein and Sobaih's (2023) qualitative interviews with stakeholders, the three most common negative themes were decreased critical participation, integrity violations, and dependency (no precise percentages were given). Only between 20–44% of colleges worldwide have official AI policies, according to policy studies compiled in Kovari (2025) (precise figure varies by review).

### **7.2 Inferential Statistics and Limitations**

There are no inferential statistics in the evaluated literature. P-values, confidence intervals, effect sizes, t-tests, ANOVA, chi-square tests, correlations, and regression models are not reported in any of the referenced research (including Vieriu & Petrea, 2025; Hasanein & Sobaih, 2023; or the systematic reviews). This aligns with the field's mostly qualitative or descriptive character in 2023–2025.

Since only published summary percentages were available, no software (such as SPSS, R, or Python) was needed for this synthesis. This situation does not apply to alpha level, assumption checks (normality, outliers), or handling missing data. One obvious research need noted in Section IV is the lack of inferential statistics.

### **7.3 Interpretation of Findings**

The review of the literature shows that there are three findings that are constant and interdependent. To begin with, AI tools have proven to apply to certain academic tasks - specifically, the ones that require repetitive, time-consuming processes such as literature searching, text summarisation, grammar correction and data organisation. Both Khalifa & Albadawy (2024) and Wagner et al. (2022) attest to efficiency improvements in the research setting. In the case of students, AI feedback tools have been demonstrated to enhance the surface-level writing quality (Sanz-Tejeda et al., 2025).

Second, the same tools pose quantifiable threats to more profound learning and integrity. Students who replace thinking with AI, as Hasanein and Sobaih (2023) recorded, fail to gain developmental opportunities, which are core to higher education. According to Cotton et al. (2024), AI-generated text is not considered plagiarism due to its technicality, which, as Cotton et al. (2024) state, requires institutions to engage in a continuous technological arms race. AIgiarism, which refers to the presentation of AI-generated content as original work, has become a part of the academic language (Vieriu & Petrea, 2025), which is an indication of a well-known change like academic dishonesty.

Third, technological responses are not keeping pace with the technology. Kovari (2025) discovered that AI policies in most universities are not clear, enforceable, and educationally based. Policies where they are available are usually reactive in nature, e.g. banning of tools as opposed to educating students on how to use them in a responsible manner. According to VIERIU & PETREA, (2025) (2025), almost half of the students surveyed were concerned about the accuracy of AI-generated content, but still used it, indicating that the knowledge alone does not translate into responsible behaviour. The most successful institutional interventions reported in the literature are policy clarity, assessment redesign, and AI literacy education (Kovari, 2025; Moorhouse et al., 2023, as cited in Kovari, 2025).

## **VIII. TESTING OF THE THESIS**

The thesis statement, which claims that AI both enhances and threatens the production of academic knowledge, is well substantiated by the evidence reviewed. On the enrichment side, research is validated to show that artificial intelligence solutions can enhance the efficiency of research (Khalifa & Albadawy, 2024; Wagner et al., 2022), aid writing quality among different learners (Sanz-Tejeda et al., 2025), and broaden the access to academic processes that were formerly geographically or resource-based limited (Kasneci et al., On the endangerment side, there is a record of the loss of critically thinking (Hasanein and Sobaih, 2023; Vieriu & Petrea, 2025), the spread of fake citations (Golan et al., 2023; Májovský et al., 2023), the dissolution of authorship (Lapeña, 2023), and the insufficiency This thesis is thus validated: AI is not necessarily good or bad. Its impact is nearly totally a matter of context, its purpose, and its institutional context in which it is applied.



### **IX. SUGGESTIONS AND RECOMMENDATIONS**

This paper presents four recommendations that are evidence-based, based on the findings. First, universities should come up with clear and transparent policies regarding the usage of AI that define what should be considered an acceptable (e.g., grammar checking, brainstorming support) and what should be considered an unacceptable substitution (e.g., AI-generated submissions). Both Hasanein and Sobaih (2023) and Kovari (2025) reiterate that the basis of any successful institutional response is clarity in the policy.

Second, there should be a change in the design of the assessment. Personalised assignments, process-oriented and reflective assignments, which involve drafting, oral defence, or peer discussion, are inherently more resilient to AI abuse (Kovari, 2025; Moorhouse et al., 2023, as cited in Kovari, 2025). The University of Chicago Academic Technology Solutions (2023) suggests scaffolding writing assignments in such a way that one can see the student's thinking process throughout the assignment, and, thus, it is much more difficult to replace AI-generated text with real intellectual work.

Third, teaching AI should be a part of the academic curriculum. It is not only necessary to know how to use AI tools, but also how to critically assess their results, how to understand the limitations of the tools, and apply these tools in an ethical way, which is why, according to VIERIU & PETREA, (2025) (2025), ethical regulations and AI literacy training should be used simultaneously.

Fourth, both researchers and students are encouraged to engage in open reporting of AI use in their work; how and to what extent AI tools have been employed in the research or writing process should be publicly reported in line with new journal requirements and align with ethical guidelines of Lapeña (2023).

### **X. CONCLUSION**

Artificial intelligence is not a fad in higher education: it is a new reality of the academic landscape that students and scholars will have to learn to navigate in a skilful and ethical manner. As demonstrated in this paper, the use of AI tools has real advantages in terms of efficiency in research and writing, but they cannot be discussed without actual threats to intellectual growth, integrity in research, and academic honesty. The use of AI in academic writing, as described by Golan et al. (2023), is a paradigm-shifting technology innovation - one that requires a paradigm-shifting change in how institutions, educators, and students approach knowledge, authorship, and learning. It is not the way to go to prohibit AI or to blindly trust it, but to create the policies, evaluations, and literacies that will enable it to become a true tool of learning instead of a tool to diminish it.

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