



Artificial Intelligence Usage And Academic Integrity Challenges Among Higher Education Students

Penggunaan Kecerdasan Buatan Dan Tantangan Integritas Akademik Pada Mahasiswa Pendidikan Tinggi

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General Background The rapid advancement of generative technologies creates profound transformations within modern university learning environments. **Specific Background** Undergraduates increasingly integrate platforms like ChatGPT to complete coursework, correct grammar, and optimize literature searches. **Knowledge Gap** Despite providing substantial cognitive assistance, excessive reliance on these digital instruments raises severe concerns regarding ethical violations, over-dependency, and the potential erosion of independent analysis. **Aims** This study investigates usage patterns, learner perceptions, and ethical considerations surrounding technology adoption across multiple teacher training disciplines. **Results** Quantitative survey data from 351 participants reveal that the vast majority actively utilize digital tools primarily to accelerate task completion. Concurrently, while acknowledging practical time-saving benefits, respondents express significant anxiety regarding their growing dependency and the subsequent decline in personal creativity and critical thinking. **Novelty** The research uniquely highlights the internal moral conflict experienced by learners, positioning the technology simultaneously as a valuable intellectual partner and a risky shortcut. **Implications** Educational institutions must formulate comprehensive regulatory guidelines and redesign authentic assessment strategies to foster ethical digital literacy while preserving human intellectual capacity.

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Highlights

- Survey data reveals that the vast majority of undergraduates rely on generative platforms to complete coursework assignments.
- Participants acknowledge significant time-saving benefits while simultaneously expressing concern over declining personal creativity and analytical skills.
- Institutions must formulate comprehensive regulatory guidelines and redesign assessments to foster responsible technology literacy.

Keywords

Artificial Intelligence; Academic Ethics; Generative Platforms; Digital Literacy; Critical Thinking

INTRODUCTION

The development of artificial intelligence (AI) technology, particularly generative AI like ChatGPT, has brought about a major transformation in higher education and sparked new debates about ethical, pedagogical, and academic boundaries. This technology is part of the latest wave of the digital revolution that has created rapid and disruptive changes in the way humans learn, work, and interact with information. This digital transformation poses a major challenge for 21st-century learning in education, particularly higher education.

Artificial intelligence (AI), with its ability to generate text, summarize text, and answer all commands and questions, both academic and non-academic, is significantly transforming students' thinking skills and learning behavior. This phenomenon is becoming a global trend across various sectors of life, from healthcare (Chughtai et al., 2023) to academic learning and research.

In the context of higher education, the use of AI is increasing rapidly and has penetrated various student academic activities, from literature searches, text summarization, essay writing, to solving numerical problems and data analysis. Recent studies show that AI can create more adaptive, efficient, and personalized learning because it can adjust learning materials and recommendations to individual needs in real time. AI platforms such as educational chatbots, adaptive learning systems, learning analytics, and automated grading are becoming increasingly common technologies used at various levels of education (Dinata et al., 2025).

From a pedagogical perspective, AI creates significant change. Not only does it generate text and follow other commands, but AI can even predict students' learning styles, analyze academic performance, and suggest next steps for learning. Furthermore, based on research conducted by Syamsuriah et al. (2025) in (Naim et al., n.d.), it is known that AI can also help encourage personalized learning through systematic directions, learning recommendation systems, and big data analysis in Education and learning, which significantly boosts student motivation and their learning outcomes. In addition to providing convenience to students, AI also makes it easier for teachers and lecturers to manage classes, for example by automating administrative tasks such as assessments, grade recaps, and monitoring student progress, so that educators have time, energy, and focus on deeper and more meaningful aspects of teaching.

In the educational environment, AI is seen as a technology that suddenly appeared and was adopted by students without waiting for institutional regulations, creating both anxiety and an opportunity for educators and academic institutions to adapt quickly to address the ethical and pedagogical implications that come with it (Klopper et al., 2024).

The emergence of AI in the education and academic sectors, while providing immense convenience and effectiveness, has also raised serious ethical dilemmas. Several recent studies

have found that AI assistance in writing scientific papers can blur the boundaries between human and machine-generated work, reducing academic integrity, increasing the risk of generative plagiarism, and reducing the authenticity of student work (Miao et al., 2024). It is currently difficult to distinguish between student and AI-generated work, posing a serious threat to the authenticity of academic work (Hostetter et al., n.d.). UNESCO has also warned that AI's ability to mimic human language could impact the foundations of education, challenging the authenticity of work, critical learning, and the very purpose of education and learning itself.

The use of AI poses significant ethical challenges and dilemmas. Several studies have suggested that reliance on AI can reduce students' critical thinking skills, creativity, and independence in completing academic assignments. Concerns regarding data privacy, algorithmic bias, and the transparency of AI decision-making processes have also become major concerns in modern education (Sidik et al., 2025). Furthermore, AI presents a new phenomenon in the academic environment: the use of technology as a shortcut to completing assignments without understanding the actual learning process. Research by (Dinata et al., 2025) showed that although AI helps learning efficiency, students are at risk of using it inappropriately, thus hindering the formation of character and core competencies expected from the educational process.

Other research findings reveal a different side of AI use. Students completing academic tasks with AI experience inner conflict and moral guilt, a feeling of guilt when using AI that should be addressed by honing their own cognitive and analytical skills. This conflict arises from the inconsistency between the ease and efficiency provided by AI and academic norms that emphasize authenticity, independence, and gradual intellectual growth (Qu & Wang, 2025). Some educational institutions and agencies utilize AI to enhance learning experiences, while others view it as a threat that can diminish the meaningfulness of the learning process.

Another challenge arises from the regulatory and ethical aspects of AI use, which are constantly being developed and are becoming a research trend. UNESCO has emphasized the need for more careful regulation, considering that AI not only produces writing and information but also shapes new behaviors and ways of thinking, how to represent knowledge, and the authority to act in a digital environment (Giannini, 2023). Research in the field of legal science has found that although AI significantly increases the speed and efficiency of conceptual tasks, it still has limitations such as bias, inaccuracy, and the need for rigorous manual verification (Ayzama, 2024). This emphasizes that AI is not a conflict-free system; AI comes with risks of uncertainty, potential errors, dangers arising in the process of seeking knowledge, or making decisions based on invalid information, and ethics that students need to critically understand before using it in the academic process.

Based on the above explanation, this article aims to critically examine the academic dilemma of AI use by students, with a

focus on two main things, namely: (1) AI as a learning tool that

improves access, efficiency, and quality of education; and (2) AI as a shortcut that has the potential to damage academic integrity, hinder critical thinking skills, and change the essence of educational evaluation. The discussion encompasses ethical and pedagogical analyses, as well as regulatory implications based on the findings. This article contributes to formulating a conceptual framework for higher education to respond to, regulate, and integrate AI responsibly, adaptively, and sustainably into the future.

METHODS

This study uses a descriptive quantitative approach to describe the patterns of Artificial Intelligence (AI) use, perceptions, and academic dilemmas experienced by students in utilizing this technology to complete course assignments. This approach was chosen because it provides a measurable empirical mapping of the phenomenon of AI use among students from various educational study programs.

This research is a quantitative study with a descriptive survey type. Quantitative data collected are about the frequency of AI use in completing lecture assignments, the types of AI frequently used, the purpose of AI use, the benefits perceived, especially in academics, student perceptions and attitudes regarding the use of AI to support academic tasks, and the ethics and safety of AI use in academic contexts according to students. Students as respondents directly filled out an online questionnaire via Google Form, so that data was collected effectively and efficiently. The questionnaire filled out by respondents used a 1-5 Likert scale ranging from strongly disagree to strongly agree.

The number of respondents in this study consisted of 351 students, randomly selected from semesters 2, 4, 6, and 8. This number of respondents met the criteria for quantitative descriptive analysis, so that the results of the study can describe the general trend of AI use among education students.

The questionnaire used in this study was tested for validity and reliability to ensure the accuracy of the data obtained. Content validity was assessed by technology and learning experts to ensure each item aligned with the study's objectives. Empirical validity was tested using item-total correlation. Instrument reliability was tested using Cronbach's alpha coefficient and showed acceptable and good internal consistency. Therefore, the instrument used in this study is suitable and reliable for providing an overview of the use of AI in students' academic assignments.

The data from the questionnaires were then processed to obtain totals, averages, and percentages. The data were then analyzed statistically and interpreted descriptively to identify categories and to relate the findings to various national and international references on the use of AI, particularly in academics, the ethics of its use, and the impact on student attitudes, behavior, and skills.

FINDINGS AND DISCUSSION

This research is a survey research by distributing questionnaires about the use of AI by students in completing college assignments. The survey involved 351 students as respondents, who were randomly selected from Early Childhood Education Teacher Education, Physical Education, and Vocational Education students in semesters 2, 4, 6, and 8. The survey was conducted using a digital questionnaire compiled in Google Form, and covered the following aspects: 1) experience using AI in completing college assignments, 2) frequency of AI use, 3) purpose of AI use, 4) students' perspectives and attitudes towards the use of AI, 5) benefits and impacts of AI use, and 6) ethics and safety of AI use.

Of the 351 respondents, 335 students (95.4%) stated they used AI technology to complete their assignments, while only 16 students (4.6%) stated they did not. These results indicate that AI has become an integral part of students' academic activities.

The frequency of AI use by students is also in the high category, namely 54.2% (188 respondents) of students rarely use AI (only a small portion of assignments are completed using AI assistance), 42.3% (145 respondents) of students often use AI (most assignments are completed using AI assistance), and 2.9% (10 respondents) of students always use AI (all college assignments are completed with AI assistance). The following is a diagram showing the proportion of students who use AI and the frequency of AI use by students in completing assignments:

[Figure 1 about here]

In general, these results align with various literature studies that indicate that AI is increasingly being integrated into education as a learning aid, whether through adaptive learning platforms, intelligent tutoring systems (ITS), or educational chatbots. For students, the tendency to experiment and then incorporate AI into their daily learning strategies is inevitable, as this technology offers instant access, personalization, and seemingly convincing answers. This pattern indicates that although almost all students are aware of and use AI, the intensity of their use varies relatively widely. This may be influenced by academic needs, digital literacy readiness, and lecturer policies regarding the ethical use of AI in completing assignments.

The AI technologies most frequently used by students are ChatGPT (91.2%), followed by TanyaMeta (27.6%). Some AI technologies used by students include Gamma Copilot, Grammarly, Quillbot, and others. The following graph shows the AI technologies used by students:

[Figure 2 about here]

The graph above shows the types of AI technologies most frequently used by students. The results indicate that ChatGPT dominates with 91.2% of users, followed by TanyaMeta at

27.6%, and other applications such as Grammarly, Quillbot, or

Dimension.ai, used by 25.6%. ChatGPT's dominance can be explained by its ease of access, flexible language, and fast, academically relevant output. The diversity of other applications used indicates that students are not limited to a single platform but are instead exploring a combination of various AI technologies to enhance their learning effectiveness.

Students use AI for various purposes, including 68.4% (188 respondents) to search for references, 44.2% (155 respondents) to improve grammar, 42.5% (145 respondents) to work on questions or exercises, 32.8% (115 respondents) to summarize articles, 32.2% (113 respondents) to translate texts, 17.1% (60 respondents) to write essays or reports, 12.3% (43 respondents) to create power points. The following graph shows the purpose of using AI by students in completing assignments.

[Figure 3 about here]

The graph above indicates that AI is most dominantly positioned as a cognitive and literacy aid: searching for references, summarizing readings, correcting language, and translating texts. These functions align with the findings of (Dinata et al., 2025), who stated that AI helps teachers and students process learning data, understand concepts, and personalize materials to individual needs. However, the significant portion of the categories "working on problems or exercises" and "writing essays or reports" indicates that some students are beginning to use AI as a "tool for producing answers," rather than simply as a source of assistance. At this point, an academic dilemma begins to emerge: AI is no longer simply a "smart calculator," but also has the potential to become a shortcut that replaces independent thinking and practice. This aligns with several studies warning that the integration of AI without ethical guidance can foster dependency and blur the boundaries of academic authenticity.

A student questionnaire survey on their perceptions of AI usage revealed that students perceived benefits from AI, such as generating ideas, correcting grammar, and analyzing cases in lectures. However, some students also acknowledged concerns that excessive (continuous) use of AI would reduce creativity, critical thinking skills, and increase the potential for plagiarism. The following graph shows students' perceptions of the use of AI in completing college assignments.

[Figure 4 about here]

This graph reinforces the idea that for students, AI is primarily perceived as a tool that provides concrete benefits in terms of time efficiency, ease of idea formulation, and improved written language quality. This finding aligns with various literature studies highlighting AI's ability to personalize learning experiences, provide real-time feedback, assist with learning data analysis, and ease the administrative and technical burdens of the teaching and learning process (Dinata et al., 2025)

In the context of pre-service teacher education, these benefits have the potential to be significant assets: AI can act as a

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"digital assistant" that trains students in their ability to explore ideas and present material. However, without adequate literacy, these benefits can easily degenerate into copying and pasting AI output without critical processing.

The next graph (right) indicates that in addition to the tangible benefits students experience in completing assignments, they are also consciously aware of the potential risks of AI dependency. They perceive practical benefits, but at the same time worry that the more they rely on AI, the less opportunities they have to hone their critical thinking, independent problem-solving, and creative skills.

The use of AI must be accompanied by clear ethical guidelines. The capacity and competence of educators and students must be strengthened so they can use AI critically and responsibly, not simply as passive users who simply trust and use AI results for academic assignments. Therefore, the integration of AI literacy into the education curriculum is essential. This survey shows that students already have an internal "ethical awareness," recognizing that AI can bring both academic benefits and risks. Therefore, practical guidance is needed on how to balance these benefits and risks in the context of academic assignments.

Students have enjoyed many of the practical benefits of AI, but are also concerned about its impact on critical thinking and creativity. Other research findings indicate that reliance on AI can reduce learning motivation, erode academic responsibility, and create an illusion of competence (a feeling of competence when in fact one is simply operating AI) (Setyowati et al., 2025). This indicates the need for psychopedagogical support so that students see AI not as a "legitimate shortcut," but as a scaffold that must be accompanied by reflection, critical revision, and independent effort.

The findings of this research position AI as a legitimate and useful tool, but also, on the other hand, AI has the potential to be a shortcut with strong appeal, especially when assignments are heavy, deadlines are tight, and academic oversight is limited. Higher education must respond to the AI dilemma with a strategic approach that balances the use of technology with the upholding of academic values (Sidik et al., 2025) (Jackson et al., 2024). This reinforces the urgency for higher education institutions, especially educational study programs, to develop policies regarding the limitations and procedures for using AI in coursework, integrate AI literacy and digital ethics into courses or workshops so that students understand the wise use of AI, and design more authentic assignments and

assessments, for example combining the use of AI with critical reflection, oral presentations, discussions, and field project assignments. This aims to maintain space for creativity, analysis, and synthesis that cannot be fully replaced by AI (Dinata et al., 2025).

The use of Artificial Intelligence (AI) by students in higher education presents a transformative opportunity that has the potential to revolutionize the teaching and learning process,

making it more adaptive, efficient, and personalized

(Firdaus et al., 2025). This is consistent with several studies showing that

AI implementation can significantly increase learning effectiveness through personalization (Naim et al., n.d.). Furthermore, AI can be positioned as an intellectual partner, helping students develop ideas, develop data-driven business plans, and simulate business models, thereby enriching the creative and strategic dimensions of the learning process (Setyowati et al., 2025)

From a pedagogical perspective, AI has the potential to act as a digital co-teacher, strengthening independent learning, expanding opportunities for exploration, and reducing the technical burden, allowing lecturers to focus more on conceptual guidance and assessment. However, transparency and accountability in the use of AI are necessary and emphasized in the learning process (Miao et al., 2024). For example, there needs to be recognition of AI contributions to assignments, including the name of the AI, its version, and the specific prompts used. Peer review activities are also carried out as an AI security measure.

The use of AI in the education sector is driving changes in curricula, strategies, and learning methods. Curricula need to be redesigned to make AI not just a tool but integrated into the pedagogical system (Setyowati et al., 2025). Lecturers need to change the types of assignments they assign, for example, focusing on assignments that encourage productive thinking (Klopper et al., 2024). This can be done through a combination of "AI-free" assessments to test core skills and "AI-integrated" assessments that require students to evaluate, critique, or build upon AI output (Qu & Wang, 2025).

The readiness of lecturers and institutions to integrate AI remains a challenge (Naim et al., n.d.)(Setyowati et al., 2025)(Firdaus et al., 2025). Continuous training related to AI literacy, digital competence, and understanding of technology ethics and responsibility is necessary (Hamzah et al., 2025)(Mambu et al., 2023). Although AI provides efficiency and various conveniences, the lecturer's central role as a mentor and character builder must be maintained. Human interaction and life values must be maintained.

The existence of AI is not the primary problem; rather, the problem lies in the human resources who use it. With the advancement of technology and the times, AI cannot be viewed as a threat that must be banned or as a definitive solution that is correct and valid without error and reconfirmation. Higher education needs to have a strategy to build and foster language literacy and digital literacy, then integrate them into ethical AI literacy that is included in the

curriculum, learning design, and assessment. The role of lecturers as facilitators is highly expected to build learning by meaningfully integrating ethical AI.

CONCLUSIONS

This study shows that nearly all education students who responded have used AI to support their coursework, with varying levels of intensity, from rarely to always. AI is most commonly used for searching for references, improving language, completing exercises, translating texts, and creating summaries, confirming its position as a cognitive and linguistic aid that simplifies assignments. Students generally have a positive perception of AI's benefits, particularly in terms of time efficiency and ease of generating ideas, but simultaneously harbor real concerns about the potential for diminishing critical thinking and creativity, as well as the risk of violating academic integrity. This dilemma highlights the confusion between seeing AI as a mere tool or as a practical and always correct shortcut. Therefore, the future task of education is to help develop and cultivate a culture of literacy in students, such as reading, listening, and writing. Lecturers in higher education need to continue to cultivate and ensure that students become literate, both in language and digital literacy. Universities need to develop and disseminate guidelines for AI use, ensuring clarity on its use and limitations, especially in academic assignments. Furthermore, more importantly, universities and lecturers need to build a civilized and ethical culture, fostering a sense of responsibility, honesty, and other academic ethics, so that technological advancements continue to foster human dignity and civility. Learning strategies, assignments, and assessments need to be redesigned to better encourage reflection, discussion, and creativity, so that AI is positioned as a supporter of the learning process, not a substitute for student thinking. AI need not be seen as a threat as long as its use is supported by AI literacy, digital literacy, academic ethics, and educational policies that support the development of students' critical and creative thinking skills.

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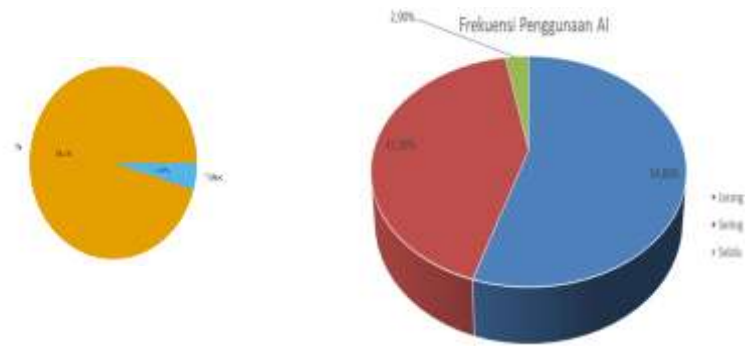


Figure 1 / percentage of students using AI (left); frequency of AI use (right)

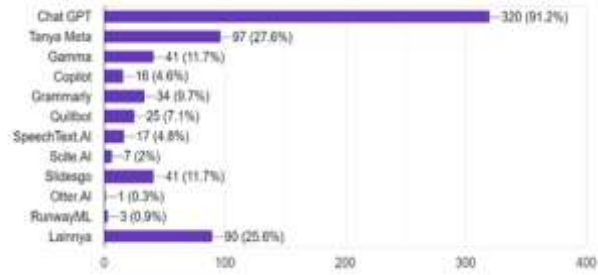


Figure 2 / Percentage Graph of AI Technology Used by Students

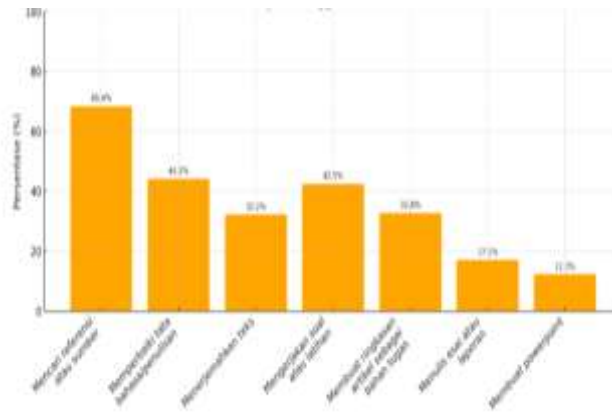


Figure 3/ Percentage graph of AI usage goals by students

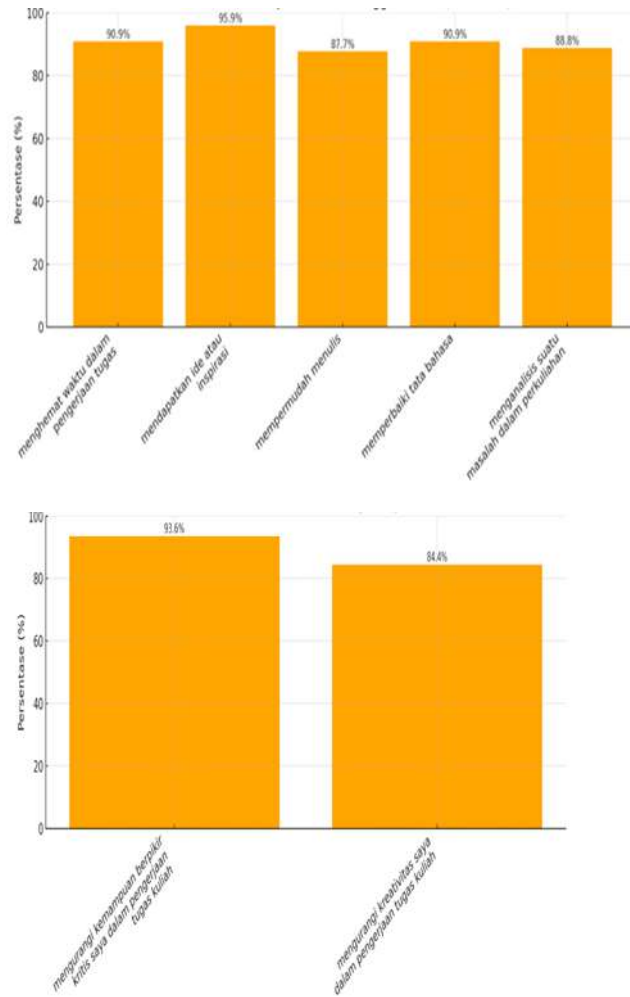


Figure 4 / percentage graph of student perceptions of the benefits of using AI (upper); graph of percentage of student concerns regarding the impact of AI use (under)