

Intellectual Degradation Amidst the Development of AI Technology: A Comparison Between AI Dependency Students and AI Assisted Learning Students

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Keywords:

Artificial Intelligence;
AI Dependency;
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Abstract

This study aims to compare the trends in Artificial Intelligence (AI) usage patterns among students of the Islamic Religious Education (PAI) Study Program at Nahdlatul Ulama Islamic University, Jepara, namely AI Dependency and AI Assisted Learning. These trends are determined based on the patterns of AI use in academic activities, including the use of AI without editing, the use of AI in writing scientific articles without filtering, the use of AI as a framework for assignments, reference searches through AI, and information verification using official scientific sources. The study used a comparative quantitative approach with a survey design of 84 PAI students. Data were collected through an online questionnaire and analyzed descriptively-comparatively using frequency distribution and percentages. The results showed that 98.8% of respondents acknowledged that AI helped complete academic assignments and 95.2% felt an increase in learning efficiency. However, only 10.7% of respondents used AI completely without editing, while 81% stated that excessive use of AI has the potential to reduce critical thinking skills and academic integrity. In addition, 63.1% of respondents used AI to obtain initial references, while 79.8% continued to verify information through scientific indexing pages. These findings indicate that Islamic Religious Education students are more likely to adopt AI-assisted learning patterns than AI-dependency, utilizing AI as a learning support tool, not a substitute for thinking. This research underscores the importance of strengthening AI literacy and ethical guidelines for AI use in Islamic higher education.

Abstrak

Penelitian ini bertujuan mengkomparasi kecenderungan pola penggunaan Artificial Intelligence (AI) di kalangan mahasiswa Program Studi Pendidikan Agama Islam (PAI) Universitas Islam Nahdlatul Ulama Jepara, yaitu AI Dependency dan AI Assisted Learning. Kecenderungan tersebut ditentukan berdasarkan pola penggunaan AI dalam aktivitas akademik, meliputi penggunaan AI tanpa penyuntingan, penggunaan AI dalam penulisan artikel ilmiah tanpa penyaringan, pemanfaatan AI sebagai penyusun kerangka tugas, pencarian referensi melalui AI, serta verifikasi informasi menggunakan sumber ilmiah resmi. Penelitian menggunakan pendekatan kuantitatif komparatif dengan desain survei terhadap 84 mahasiswa PAI. Data dikumpulkan melalui kuesioner daring dan dianalisis secara deskriptif-komparatif menggunakan distribusi frekuensi dan persentase. Hasil penelitian menunjukkan bahwa 98,8% responden mengakui AI membantu penyelesaian tugas akademik dan 95,2% merasakan peningkatan efisiensi belajar. Meskipun demikian, hanya 10,7% responden yang menggunakan AI sepenuhnya tanpa penyuntingan, sedangkan 81% menyatakan bahwa penggunaan AI secara berlebihan berpotensi menurunkan kemampuan berpikir kritis dan integritas akademik. Selain itu, 63,1% responden memanfaatkan AI untuk memperoleh referensi awal, sementara 79,8% tetap melakukan verifikasi melalui laman pengindeks ilmiah. Temuan ini menunjukkan bahwa mahasiswa PAI lebih cenderung menerapkan pola AI Assisted Learning dibandingkan AI Dependency, sehingga AI dimanfaatkan sebagai instrumen pendukung pembelajaran, bukan pengganti proses berpikir. Penelitian ini menegaskan pentingnya penguatan literasi AI dan pedoman etika penggunaan AI dalam pendidikan tinggi Islam.

Kata kunci:

Kecerdasan Buatan;
AI Dependency; AI
Assisted Learning;
Mahasiswa PAI;
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INTRODUCTION

The development of generative artificial intelligence (AI), particularly in the form of chatbots such as ChatGPT, Gemini, or Perplexity, among others, is increasingly being implemented by students in their learning activities. This phenomenon is not only occurring worldwide (Alharthi, 2024), but is also evident in universities in Indonesia. The general assumption is that students utilize AI to search for lecture materials, summarize readings, translate texts, and even compile academic assignments. (Pujiastuti et al., 2025) found in their research that students are beginning to rely on AI to understand reading content, asking AI to provide summaries or explanations of complex concepts in texts, simplifying access to academic information that previously required high cognitive effort. Researchers observed that this use of AI is particularly strong among students in Islamic Religious Education (PAI) study programs, especially since the popularity of AI has increased reliance on technology, in line with research by (Wang et al., 2021) and (Vargas-Murillo et al., 2023) which revealed that artificial intelligence has played a significant role in students' learning experiences.

This situation has brought about significant changes in the way students learn, understand material, and complete assignments. AI chatbots offer quick, concise, and practical answers, eliminating the need for students to read the original text in depth. This aligns with findings (Zakwan et al., 2025) which state that generative AI is changing the way students learn because it encourages a learning process that focuses on instant results, rather than thought processes. Researchers estimate that some Islamic Education students are showing signs of relying entirely on AI, which is diminishing their analytical skills. This is evident in the researcher's lectures, where students are less responsive in discussions, seeking questions and answers using the AI chatbot.

On the other hand, some students are using AI more wisely and critically. They filter, examine, and compare AI answers with classic books, scientific articles, or lecturers' explanations. This approach can strengthen reading skills, accelerate comprehension, and expand knowledge. According to (Sodikin, 2024), AI can be a critical thinking enhancer if used as an exploration aid, not as a substitute for thought. This suggests the existence of two very different types of AI users: critical users and passive users.

The phenomenon of unchecked AI use (AI Dependency) can lead to the loss of the thinking process that is the main goal of Islamic Religious Education learning. As prospective Islamic Religious Education teacher students, we should be able to process relevant information, not just be AI adherents who are unaware of the validity of the source material (Adiyono et al., 2025). Students no longer practice reflection, comparing the opinions of scholars, or understanding the structure of arguments. In fact, these are key to deepening Islamic Religious Education material in any scope. (Siallagan et al., 2024) stated that AI chatbots can result in "cognitive offloading," namely the loss of the burden of critical thinking because the task of thinking is replaced by AI. If this phenomenon spreads widely among Islamic Religious Education students, then the goal of Islamic education as a formation of thought (*tahdzib al-'aql*) and maintaining the existence of reason will be threatened.

Among Islamic Religious Education students at Nahdlatul Ulama Islamic University in Jepara, the use of AI technology has become increasingly apparent over the past two years. Lecturers frequently encounter assignments written in AI-like patterns, with overly structured language, or arguments that don't align with students' ways of thinking. Some students use AI to understand verses or hadiths, and even to

write complete scientific papers/articles. Researchers suspect that many students are overusing AI, and this requires in-depth investigation.

On the other hand, some Islamic Religious Education students use AI as a learning aid, not as a replacement for their thinking (AI-Assisted Learning). They continue to read books, discuss with lecturers, and conduct independent analysis. This group demonstrates a strong ability to adapt to technology, combining modern technology with Islamic scientific traditions. Critical use of AI can create a human-centered learning model AI that supports humans, not replaces them (Rahman & Hamzah, 2025).

Theoretically, AI Dependence in education refers to students' excessive dependence on artificial intelligence (AI) that reduces cognitive independence. As defined by (Darvishi et al., 2024), AI dependence is a student's dependence on AI assistance that reduces personal agency, where students prefer AI prompts over independent learning processes, thereby reducing self-monitoring abilities. A similar paradox is described in (Alhur et al., 2025) in their study entitled "The Paradox of AI in Higher Education" as a technology dependency based on the I-PACE model, where high workloads and low self-confidence lead students to lose critical skills (skills atrophy) by up to 89%. Meanwhile, (Tian & Zhang, 2025a) defines AI dependence as a cognitive offloading phenomenon where students hand over critical thinking processes to AI, causing automation bias and a decline in analytical abilities even though information literacy can mitigate them. These three definitions underscore the risk of student ability degradation if AI is used without supervision, which forms the basis of the empirical analysis in this study.

AI-Assisted Learning, on the other hand, positions AI as a supporting tool that enhances student agency in the learning process. According to (Dai & Lai, 2025), AI-assisted learning is agentic engagement in which students proactively initiate, adopt mindfulness, seek assistance, and reflect on learning with AI as a supporting tool, not a substitute. This approach is supported by the Structural Equation Modeling model in the study "Modeling the influence of AI" dependence by (Buniel et al., 2025), which states that AI-assisted learning refers to the controlled use of AI, where low dependence actually increases research productivity and students' empirical skills. Furthermore, a study titled "Students' Reliance on AI in Higher Education" (Pitts et al., 2025) defines AI-assisted learning as a calibration of trust and need for cognition, where domain expert students use AI optimally without overreliance, with reflection as the key to balance. The integration of these three definitions confirms the potential of AI as an effective assistant when applied with the principle of independence, which was tested in the intervention design of this study. Therefore, this article will compare AI Dependency students and AI Assisted Learning students.

Several recent studies have shown that dependence on AI is beginning to impact students' critical thinking skills, as it was found that the higher the AI dependency, the greater the risk of a decline in analytical and reflective processes (Tian & Zhang, 2025b). Another systematic review confirmed that the integration of AI in higher education still leaves problems of uncritical dependence and digital literacy inequality that have not been comprehensively addressed (Salido et al., 2025). Empirical research in Scientific Reports also shows a relationship between AI literacy, AI trust, and AI dependency with 21st-century skills, but has not examined differences in typologies of AI use comparatively (Zhang et al., 2025). A systematic review of the impact of AI on critical thinking concluded that AI can influence students' independent evaluations, but is still descriptive and does not differentiate user categories (Melisa et al., 2025). Another meta-

analysis found that AI integration can have a positive impact on problem-solving, but its effects are highly dependent on usage patterns and cognitive control. Quantitative research in the Indonesian educational context also identified a significant influence of AI on students' critical thinking skills, but did not compare different levels of dependence (Aprianto et al., 2025). Furthermore, predictive models of AI attitudes and dependence suggest that affective factors and technology perceptions influence AI usage patterns in higher education (Arce et al., 2025).

Although various studies have discussed the relationship between AI and students' cognitive abilities, the research gap is comparing Islamic Education students with an AI dependency pattern (all-out AI) and students with an AI-assisted learning pattern based on critical filtering as two different intellectual categories, especially in Islamic religious education, this is what differentiates studies in higher education from various existing studies. The position of this research is in an empirical comparative study that analyzes the differences in the level of intellectual degradation or strengthening between students with an AI dependency pattern and students with an AI-assisted learning pattern, as an effort to fill the gap in studies that have not specifically distinguished the typology of AI use in the context of higher education, especially in Islamic Religious Education students.

Given the existence of two groups in AI usage, this research is crucial for understanding the real-world conditions of students. The focus of this study is to compare whether more students prefer to fully utilize AI (AI dependency) or rely more on their own reasoning in the AI-assisted learning process in the Islamic Religious Education Study Program at Nahdlatul Ulama Islamic University, Jepara. The results of this study will serve as a basis for evaluation for study programs and university leaders in establishing policies on AI use on campus, particularly in the Faculty of Religious Affairs, which is closely related to issues of reason, ethics, and knowledge acquisition.

The purpose of this study is to compare whether more students prefer to fully utilize AI (AI dependency) or rely more on their own reasoning in the AI-assisted learning process. This study uses a comparative quantitative approach using a structured questionnaire instrument supported by in-depth interviews to identify differences in AI usage patterns and levels of critical thinking skills among students. The selection of the Islamic Religious Education Study Program at Nahdlatul Ulama Islamic University, Jepara, is based on the epistemological character of Islamic Religious Education, which places reason, ethics, and scientific responsibility as the foundation of learning. Therefore, it is relevant to examine the dynamics between AI dependency and critical assistance-based learning in the context of Islamic education. It is hoped that the results of this research can provide input for study program and university policies in formulating AI ethics, guidelines, and literacy based on Islamic and NU values.

RESEARCH METHODS

This study uses a quantitative approach with a comparative design to examine two patterns of artificial intelligence use in the learning process: students who tend to be entirely dependent on AI (AI Dependency) and students who use AI to assist their learning (AI Assisted Learning). Participants in this study were active students of the Islamic Religious Education Study Program, intakes of 2022 to 2025, at Nahdlatul Ulama Islamic University, Jepara. Based on the latest academic data, the total population was 475 active students. Meanwhile, the sample size was determined by referring to the sample size table from Krejcie & Morgan (1970). Data were collected by distributing an online questionnaire using Google Forms containing multiple-choice questions to

determine patterns of AI use in completing assignments and searching for course materials. Classification regarding trends in AI Dependency and AI Assisted Learning is carried out based on the pattern of answers given by respondents to several important indicators. These indicators include the use of AI without editing, the use of AI without filtering when writing scientific articles, the use of AI to outline assignments, the use of AI as an initial reference, and the habit of checking information through official scientific sources. Respondents who tend to consider AI as a replacement for thought processes are considered AI Dependent, while those who use AI as a tool but still carry out filtering, verification and development of their own answers are categorized as AI Assisted Learning. The data was then analyzed in a descriptive and comparative manner using frequency distributions and percentages displayed in diagram form. This analysis does not involve inferential statistics, so the interpretation is more focused on proportional comparisons of the two trends in AI usage patterns to become the basis for preparing academic interpretations and policy suggestions.

RESULT AND DISCUSSION

Result

This section presents the results of a study conducted with 84 students in the Islamic Religious Education (PAI) Study Program at Nahdlatul Ulama Islamic University in Jepara on the use of artificial intelligence (AI) in lectures. Information was collected through a questionnaire and analyzed using comparative descriptive methods using percentages.

Full Use of AI in Compiling Lecture Assignments

I completely compiled the coursework using AI applications without editing.
84 responses

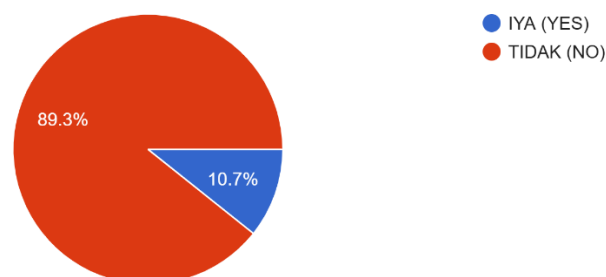


Figure 1. Full Use of AI in Compiling Lecture Assignments

The first diagram illustrates that only 10.7% of those who answered "YES" made college assignments using AI applications without making changes, while the majority, namely 89.3%, answered "NO". Based on the diagram directly shows that many students do not apply the "AI Dependency" pattern excessively in completing college assignments. Even though AI is used, students tend to still play an active role in the process of completing assignments, which indicates the presence of manual intervention and editing or further analysis (AI Assisted Learning).

Full Use of AI in Scientific Article Creation

Specifically for the creation of scientific articles, I hand over all the work to AI without filtering it, from the abstract, introduction, methods, results and discussion, to the conclusion.

84 responses

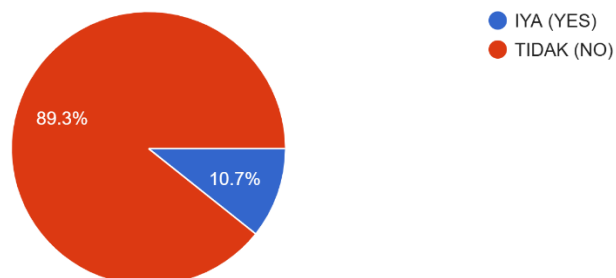


Figure 2. Full Use of AI in Scientific Article Creation

Similar to the previous findings, the second graph shows that 10.7% of respondents said "YES" to handing over the entire work of writing scientific articles to AI without any filtering, from the abstract to the conclusion, while 89.3% answered "NO". Based on the diagram that can be seen directly, this same percentage reinforces the view that Islamic Religious Education students prefer not to hand over the entire process of writing scientific articles to AI without first checking.

Perception of AI Assistance in Academic Assignments

Does AI help in doing academic assignments?

84 responses

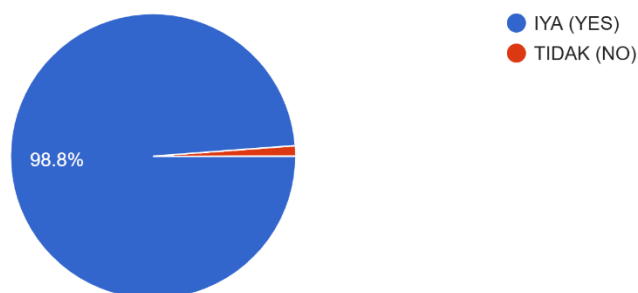


Figure 3. Perceptions of AI Assistance in Academic Assignments

The third chart shows that 98.8% of respondents said "YES" that AI provides assistance in completing academic assignments, while only 1.2% answered "NO." These results confirm the very positive view and almost universal acceptance among students of AI as a useful tool in the academic world.

Level of Introduction of AI in Academic Life

Are you familiar with AI in academic life?
84 responses

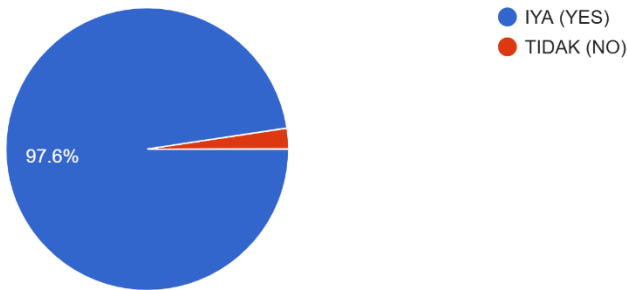


Figure 4. Level of Introduction of AI in Academic Life

The fourth diagram shows that 97.6% of respondents said "YES" to recognizing AI in academic life, while only 2.4% said "NO." This data indicates that AI is not new or unfamiliar to Islamic Religious Education students; instead, AI has become a widely recognized and integrated part of their learning environment.

Most widely used AI

What AI do you often use to complete your college assignments?
84 responses

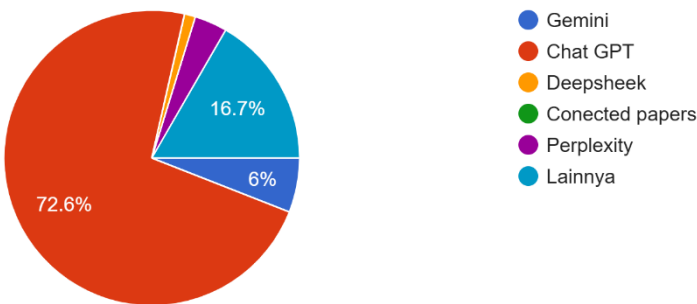


Figure 5. Percentage of AI usage

The 72.6% adoption rate among Islamic Religious Education (PAI) students indicates that ChatGPT has become a primary choice for various learning needs. This aligns with a global trend where ChatGPT, as an advanced language model, is widely used in higher education (Alharthi, 2024; Vargas-Murillo et al., 2023). This tool's ability to create well-structured text, summarize information, and provide answers quickly makes it highly attractive to students.

Utilizing AI to Develop Task Frameworks

I use AI to compile the framework/key points of my college assignments.

84 responses

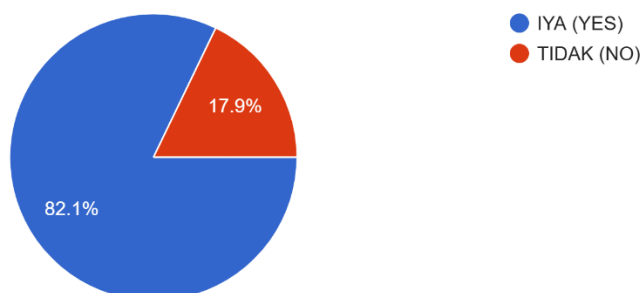


Figure 6. Leveraging AI to Develop Task Frameworks

The sixth graph shows that 82.1% of participants answered "YES" to using AI to develop the essential framework for their coursework, while 17.9% answered "NO." This result contrasts with the overall low use of AI, which indicates that most students use AI as an intelligent tool for planning and organizing ideas. This pattern illustrates the "AI-Assisted Learning" approach, where AI is used to support the thinking process, rather than to take over it.

Using AI to Find References for College Assignments

I am looking for references in creating college assignments using AI assistance.

84 responses

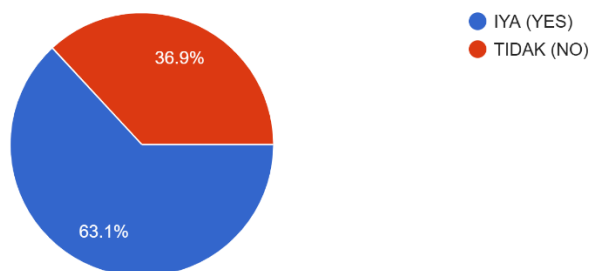


Figure 7. Student patterns of searching for references using AI

The seventh graph shows that 63.1% of participants answered "YES" when searching for references in writing college assignments using AI assistance, while 36.9% answered "NO." The majority of students use AI as an aid in the process of searching for information or references. This indicates that AI is considered useful in helping find appropriate sources for academic assignments, although there are still some who do not use it for this purpose, perhaps because they prefer traditional search methods or are concerned about the accuracy of the sources found.

Use of Official Indexers for References

I searched for references for my college assignments, using official indexing sites, both national and international, such as Sinta, Scopus, DOAJ.

84 responses

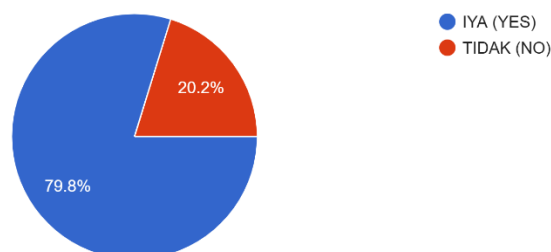


Figure 8. Reference search pattern using official indexer

The eighth chart shows that 79.8% of respondents answered "YES" when asked whether they searched for references for their assignments through official indexing sites such as Sinta, Scopus, or DOAJ, while 20.2% answered "NO." The majority of students (79.8%) routinely use officially verified academic sources to search for references. This demonstrates an awareness of the importance of credible and verified sources in academic writing, which is a sign of good academic practice and in line with the principle of scientific integrity.

Perception of Task Completion Speed with AI Assistance

Do you feel that you complete tasks faster with the help of AI or vice versa (doing tasks with AI actually takes longer).

84 responses

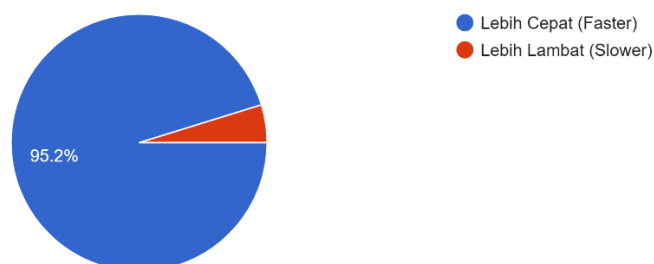


Figure 9. PAI students' feelings about the speed of completing assignments

The ninth diagram shows that 95.2% of respondents felt "Faster" in completing tasks with AI assistance, while only 4.8% felt "Slower." These results clearly indicate that efficiency is the primary reason for using AI. The belief that AI can significantly speed up task completion is a strong incentive for students to adopt and incorporate AI into their academic activities.

Concerns about Declining Critical Thinking and Academic Integrity

I'm worried that using AI too much will reduce my critical thinking and academic integrity.

84 responses

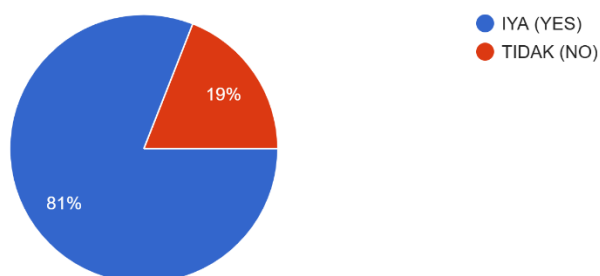


Figure 10. Fear of loss of critical thinking among Islamic Religious Education students

The tenth chart shows that 81% of respondents answered "YES" when asked whether they were concerned that excessive use of AI could reduce their critical thinking skills and academic integrity, while 19% answered "NO." The majority of respondents (81%) expressed significant concern about the negative impact of AI use on critical thinking skills and academic integrity. This finding is important because it demonstrates awareness of the potential risks of excessive use of AI, which could inform further education and policy.

Discussion

The discussion of this study presents the results obtained from ten different indicators that demonstrate various aspects of artificial intelligence (AI) use among university students. To facilitate a more in-depth and comprehensive analysis and avoid repetition in interpretation, these indicators have been grouped into three main discussion areas based on similarities in the instruments and the focus of the questions posed to respondents. This grouping aims to identify broader patterns and trends, allowing for clearer interpretations within the context of previous theory and research. This method is expected to provide a more organized, comprehensive, and scientific discussion.

Perception of Effectiveness and Accessibility of AI in Learning

The majority of students view AI as an effective tool for supporting academic assignment completion and improving the efficiency of the learning process. This finding indicates that AI has become an accepted part of everyday academic activities, no longer just a new technology. This sense of efficiency aligns with the capabilities of generative AI, which can process data and produce results quickly, thereby reducing workload and time required to complete assignments (Alharthi, 2024; Kariyanto et al., 2025; Khoir et al., 2024). This also supports the idea that AI could be a driver of academic productivity, giving students the opportunity to focus their time on the more difficult aspects of learning.

The widespread acceptance of AI shows that students prefer AI-Assisted Learning methods over AI-Dependent ones because AI is seen as a tool that can ease administrative tasks in learning without having to replace the entire thinking process. This ease reduces the barrier to adoption and encourages students to incorporate AI into their learning routines (Vargas-Murillo et al., 2023). Islamic Religious Education students face a variety of academic challenges, from writing papers, analyzing verses, studying hadith, to searching for scientific articles. In these situations, AI is primarily used to expedite information searches, freeing up study time for analysis and

argumentation. While assignments can be completed more quickly, it is important to ensure that in-depth learning and the development of thinking skills are not compromised (Syukur et al., 2024; Wale, 2024; Zakwan et al., 2025). These results suggest that efficiency is the primary driver of AI adoption, not a desire to eliminate the role of reason.

These findings indicate that the majority of students still retain some degree of mental control over the outcomes generated by AI. This situation illustrates that AI is not yet considered a substitute for thinking, but rather as a tool to aid in the learning process. From the perspective of Islamic higher education, this trend is significant because it confirms that the role of reason as a means of understanding, critiquing, and verifying knowledge remains, despite the increasing accessibility of AI technology.

Risk Awareness and Academic Integrity in the AI Era

Although AI has been well-received, this study indicates a high level of awareness about the potential risks of AI. This phenomenon reveals a contradiction in students' actions. On the one hand, they use AI for its practical benefits, but on the other, they recognize that over-reliance can diminish their critical thinking skills. This concern aligns with the literature discussing "cognitive offloading," where the thinking process is handed over to AI, potentially reducing students' analytical and reflective abilities (Gerlich, 2025; Humaida et al., 2026; Tian & Zhang, 2025b). This situation shows that the use of AI is not only influenced by technological advances, but is also the result of considerations between efficiency in learning and intellectual responsibility.

Concerns about academic integrity are particularly important in the context of Islamic religious education, which emphasizes the development of thought, ethics, and responsibility in the field of knowledge (Rahman & Hamzah, 2025). In the world of Islamic higher education, these findings are significant because the goal of Islamic Religious Education (PAI) education is not only to produce graduates who understand the science but also to develop logical thinking skills, critical thinking, and an appreciation for the values of honesty in knowledge (Harahap, 2024; Ridlo et al., 2026; Sholihah et al., 2026). Therefore, the use of AI should be directed to support the thinking process, not replace it.

Therefore, a high level of understanding of AI does not necessarily mean uncritical acceptance of its use. Consequently, Islamic higher education must improve AI literacy skills that focus not only on technology skills but also on the ability to assess the validity of information, conduct source checks, and be responsible in the ethical use of AI in academic activities, so that students can harness the potential of AI without compromising their academic integrity and the development of critical thinking skills (Lodge et al., 2024; Rafida et al., 2024).

Source Credibility Strategy and Initial Ideas for the Assignment

Students tend to use AI to gain an initial understanding of a topic or reference, then continue their search through authoritative scholarly sources. This pattern indicates that AI has not yet taken over the role of academic sources that have undergone a scientific validation process. This trend demonstrates the advancement of an AI-Supported Learning culture among Islamic Religious Education students. AI is utilized as a tool to expedite information searches, while evaluation of information quality is still carried out through scholarly articles drawn from trusted data sources. This way, students can still distinguish between the ease of accessing information and the academic validity of a source.

This two-step practice of utilizing AI for initial searches and then transitioning to scientific databases indicates a relatively good level of information literacy among Islamic Religious Education students. They recognize that while AI can provide rapid access to information, the reliability and authority of the sources provided by AI require further scrutiny (Pujiastuti et al., 2025). This aligns with the notion of "AI literacy," which emphasizes the ability to critically evaluate AI-generated information and understand its limitations (Tian & Zhang, 2025b).

This strategy also demonstrates students' efforts to align the efficiency afforded by AI with the need for academic integrity. By utilizing official indexing websites, students ensure that the sources they use come from peer-reviewed and recognized publications. In addition to seeking references for the use of AI to develop frameworks or key points for course assignments, this demonstrates that AI is being utilized as a structural aid, not a substitute for substantive thinking. This is a positive sign that students are implementing "AI-Assisted Learning" to verify information, while still relying on established academic quality control systems.

These findings suggest significant consequences for Islamic higher education. The use of AI should not focus on restricting technology, but rather on fostering an academic culture that utilizes AI as a tool to support critical thinking. Islamic Religious Education (PAI) study programs need to develop policies that incorporate an understanding of AI into the principles of *tabayyun* (religious review), scientific honesty, and academic responsibility so that students can use AI effectively without losing their independence of thought.

The practical implications of this research suggest that educational institutions, particularly Islamic Religious Education (PAI) study programs, need to develop clear policies and guidelines regarding the use of AI. This study contributes by filling the gap in comparative studies specific to Islamic Education students, which shows the comparison between dependence on AI and the learning process of "AI Assisted Learning" and "AI Dependency".

CONCLUSION

This study aims to compare the use of artificial intelligence (AI) among students in the Islamic Education (PAI) Study Program at Nahdlatul Ulama Islamic University, Jepara, specifically in terms of AI Dependency and AI Assisted Learning patterns, and their impact on perceptions of effectiveness, risk awareness, and information search methods. Based on a quantitative analysis of questionnaire data obtained from 84 respondents, the main findings of this study can be summarized as follows:

First, the majority of PAI students have a very positive view of the effectiveness and efficiency of AI in supporting academic assignments, with 98.8% of respondents reporting feeling assisted by AI and 95.2% reporting an acceleration in completing their assignments. The high use of ChatGPT (72.6%) indicates students' preference for easy-to-use and accessible AI tools. However, the data also revealed that only a small percentage (10.7%) completely delegated assignments or scientific articles to AI without editing or filtering, indicating that students prefer AI Assisted Learning patterns over extreme AI Dependency. Second, although AI is already widely used in academia (97.6%), students have a high level of risk awareness. Eighty-one percent of respondents expressed concern that excessive use of AI could diminish their critical thinking skills and academic integrity. This concern demonstrates the dilemma between leveraging AI's efficiency and maintaining intellectual quality, indicating that students are using AI not passively but with caution. Third, students exhibit a mixed pattern in their information

search methods. The majority (63.1%) use AI to find initial references, but a higher percentage (79.8%) also search for references through official indexing sites such as Sinta, Scopus, and DOAJ. This suggests that AI is used as an exploratory tool, which is then checked against trusted sources, reflecting relatively good information literacy skills and an effort to maintain academic credibility.

Overall, the results of this study support that Islamic Religious Education students tend to use the AI-Assisted Learning model, where AI serves as a tool to increase efficiency and assist the learning process, rather than the AI-Dependency model, which leads to the complete surrender of thinking processes to AI. While there are significant concerns about the potential decline in critical thinking and academic integrity, these concerns encourage students to use AI more selectively and critically.

These findings have significant implications for educational institutions, particularly Islamic Religious Education study programs. First, it is crucial to establish clear guidelines and regulations regarding the use of AI on campus, which not only prohibit but also teach students how to use AI ethically. Second, curricula can be supplemented with materials on AI literacy and critical thinking skills appropriate to the digital age, to enhance students' ability to assess information from various sources, including AI. Third, instructors can be encouraged to utilize AI as a tool in regular learning by implementing AI-Assisted Learning through assignments that encourage verification and in-depth analysis.

This study has several limitations. First, the sample only included Islamic Religious Education students from one university, so generalizing the results to a broader student population or other study programs requires caution. Second, the data were obtained through self-administered questionnaires, which may be influenced by bias in the responses. Third, this study is comparatively quantitative and does not fully investigate the reasons behind students' use of AI or its direct impact on academic outcomes.

To further explore this topic, future research could: (1) expand the sample to a wider range of study programs and universities; (2) use mixed methods with in-depth interviews or case studies to qualitatively explore students' motivations and experiences; (3) conduct a longitudinal study to observe changes in AI use and its impact on the development of critical thinking skills and academic integrity over time; and (4) develop and test an effective AI literacy intervention model or training program in a higher education setting.

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