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Impact of Artificial Intelligence on Student Reliance for Exam Answers: A Case Study in IRCT Indonesia

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Abstract. The rapid advancement of artificial intelligence (AI) has transformed various aspects of education, including how students approach examinations. This study addresses the growing reliance on AI in academic settings and its implications for learning and assessment integrity. The study aimed to analyze student reliance on AI in finding answers to midterm and final exams at the Ibnu Rusyd College of Tarbiyah (IRCT) Tanah Grogot, Indonesia. The research employed a mixed-methods approach through a survey of 98 Islamic Education Study Program students and interviews with 5 lecturers and 20 students. Data were analyzed using descriptive and thematic analysis. The results show that 70% of the students utilized AI occasionally or frequently to complete exams, citing efficiency and ease of access. However, only 30% of the students felt that the use of AI supported an in-depth understanding of the material. Conversely, the lecturers highlighted that the overuse of AI risks reducing students' analytical skills. Quantitative analysis showed a moderate correlation (r = 0.45) between AI use and academic outcomes, while regression analysis revealed that other factors, such as lecturer guidance and learning motivation, were more significant in influencing academic success. This study recommends establishing clear institutional

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policies to regulate AI use, including a proctoring system in technology-based exams and the implementation of project-based learning to reduce student dependency on AI. Additionally, this study contributes novel insights into the ethical considerations of AI use in education and suggests that future research should explore the long-term behavioral impacts of AI reliance on student learning outcomes.

Keywords: academic ethics; academic examinations; artificial intelligence; higher education; student dependency

1. Introduction

Integrating artificial intelligence (AI) into educational contexts, particularly in terms of academic assessments and student reliance on AI-generated responses, has sparked significant discourse regarding its implications on academic integrity, learning outcomes, and student engagement. Scholars have explored the transformative role of AI in education, particularly its ability to enhance personalized learning, streamline administrative tasks, and support student engagement through adaptive learning environments (Ahmad et al., 2024). AI technologies, such as intelligent tutoring systems and digital writing assistants, have been shown to enhance personalized learning experiences for students by adapting to individual learning styles and providing tailored feedback. These systems have been associated with increased student engagement and improved academic performance. The role of AI in language education, for instance, has been linked to heightened emotional and cognitive engagement, fostering a more interactive and supportive learning environment (AlTwijri & Alghizzi, 2024; Zheng & Yang, 2024). Moreover, AI tools can assist in grading and assessments, automating repetitive evaluation processes and enabling educators to focus on pedagogical strategies rather than administrative burdens (Adewale et al., 2024; Ahmad et al., 2024). Despite these advantages, current research has yet to provide a comprehensive analysis of how AI is leveraged in exam settings, particularly in higher education institutions in Indonesia. This gap is particularly significant given the rapid advancement of AI-driven tools, raising concerns about students' increasing reliance on AI-generated exam responses.

However, the reliance on AI for finding exam answers presents ethical dilemmas that extend beyond academic misconduct, raising concerns about its impact on critical thinking, intellectual autonomy, and students' ability to engage with course content meaningfully. While AI has the potential to support learning, excessive dependence on AI tools such as ChatGPT may hinder students' development of independent reasoning and problem-solving skills (Liao et al., 2024). As AI-generated responses become increasingly sophisticated, there is a growing risk that students prioritize convenience over deep engagement with learning materials, potentially weakening their analytical skills and conceptual understanding. The ethical concerns surrounding AI usage in exams, including privacy risks and the potential manipulation of AI-generated content, must be critically examined to ensure responsible integration within educational settings (Năstasă et al., 2024). Moreover, while some educational institutions have established preliminary guidelines on AI usage, inconsistencies in

implementation leave significant gaps in policy enforcement, further complicating the issue of academic integrity.

The lack of empirical studies exploring the direct impact of AI on student behavior during exams in Indonesian higher education institutions, particularly in religious-based settings such as Ibnu Rusyd College of Tarbiyah (IRCT), highlights a critical research gap. While existing literature has extensively discussed the role of AI in education, few studies have examined how students utilize AI during exams and the implications of this reliance on academic integrity, ethical considerations, and assessment validity. This study aims to bridge this gap by investigating student dependence on AI technologies during semester exams, analyzing the extent to which AI influences their approach to assessments, and evaluating its broader implications on institutional policies and academic standards. Furthermore, this study seeks to determine whether AI reliance differs based on student academic performance, motivation, and previous exposure to AI-assisted learning.

Students' reliance on AI technology during semester exams has become a critical area of study, particularly in examining its role in shaping learning behaviors, ethical considerations, and institutional responses within the evolving landscape of higher education. AI-powered tools such as ChatGPT and other digital assistants have been increasingly adopted by students to enhance their learning experiences and performance during exams. While these tools provide immediate access to vast amounts of information, their unrestricted use raises concerns about whether they serve as facilitators of learning or enablers of academic dishonesty. Studies indicate that AI can facilitate metacognitive self-regulated learning, which is crucial for students navigating complex subjects (Dahri et al., 2024). However, reliance on AI for exam preparation and answering questions raises significant concerns regarding academic dishonesty. The increasing prevalence of AI-driven cheating behaviors has led to debates about the role of educational institutions in regulating AI usage while maintaining equitable access to digital resources. Moreover, limited research exists on how AI dependence varies among students with different levels of academic integrity awareness, which this study seeks to explore.

Research has highlighted a troubling trend where students exploit AI technologies to bypass traditional learning methods, undermining the integrity of assessment frameworks and the fundamental purpose of education itself (Arellano et al., 2024; Forgas et al., 2021). The COVID-19 pandemic exacerbated this issue, with many students engaging in contract cheating and seeking online answers to maintain their grades under pressure (Forgas et al., 2021). In Indonesian institutions, particularly within religious-based colleges such as IRCT, there is limited research examining how AI adoption in exams aligns with both ethical considerations and the values embedded in academic integrity policies. This behavior not only diminishes the credibility of assessment outcomes but also raises concerns about students' long-term ability to engage in critical thinking and knowledge retention (Arellano et al., 2024). In particular, understanding how AI reliance influences students' perception of ethical decision-making in assessments remains

underexplored, making this study an important contribution to the academic integrity discourse.

Moreover, the ethical implications of AI usage in education cannot be overlooked. While AI tools can enhance learning, they also pose risks related to privacy, data security, and the potential for algorithmic bias (Rana et al., 2024). As AI technologies continue to evolve, their accessibility remains a key issue, particularly among students from different socioeconomic backgrounds, where disparities in digital literacy and access to AI-driven resources may exacerbate existing educational inequalities (Adewale et al., 2024). Given these challenges, educational institutions must establish clear guidelines that not only regulate AI use but also provide students with a framework for engaging with AI ethically and effectively.

This study aims to fill this gap by examining how much students rely on AI tools in semester exams and the implications of such reliance on learning outcomes and academic integrity. By focusing on the Indonesian context, this research will contribute to a deeper understanding of how AI technologies reshape educational practices and the ethical considerations that must be addressed to promote responsible use among students (Nazari et al., 2021). While AI can potentially enhance student learning, it poses significant risks in terms of dependency and academic integrity. The challenges Indonesian students face in navigating these technologies underscore the need for targeted research and policy development. By integrating AI ethics into educational practices and exploring alternative assessment models, educators can foster an environment that promotes responsible AI use while enhancing critical thinking and problem-solving skills. This study further explores how institutional policies—or the lack thereof—shape students' perceptions of AI as either a learning aid or a shortcut to academic success. By integrating perspectives on academic integrity, pedagogical ethics, and institutional policy development, this research aims to provide actionable recommendations for fostering ethical AI usage in assessment settings.

At the core of this study lies a fundamental inquiry into how AI is reshaping student engagement with assessments and the ethical considerations that must be addressed to preserve academic integrity. The following research questions guided this investigation:

1) What is the extent of AI reliance among students at IRCT during semester exams?
2) How does AI usage impact students' academic integrity, critical thinking, and overall learning outcomes?

By addressing these questions, this study offers novel insights into the intersection of AI, academic integrity, and higher education policy within the Indonesian context. As AI technologies continue to evolve, ongoing research and dialogue will be crucial in shaping institutional policies that ensure AI serves as a tool for learning rather than a substitute for intellectual engagement. This research contributes to the broader discourse on AI regulation by examining whether a standardized AI policy across Indonesian higher education institutions is

necessary to uphold ethical academic practices. The findings of this study aim to inform educational institutions, policymakers, and scholars in navigating the complexities of AI integration while upholding the ethical and pedagogical values that underpin higher education.

2. Literature Review

2.1 The Integration of AI into Education

The integration of AI into education has become increasingly prevalent, with various AI technologies employed to enhance teaching, learning, and administrative processes. AI-powered tools, such as personalized learning platforms, chatbots, and automated assessment systems, offer opportunities for improved efficiency and individualized student support (Akavova et al., 2023). These technologies facilitate adaptive learning experiences, allowing for tailored educational pathways that cater to the unique needs of each learner (Zhai et al., 2021). For instance, AI can analyze student performance data to provide personalized feedback, enhancing learning and fostering student engagement (Owan et al., 2023).

However, the rise of generative AI models, such as ChatGPT, has sparked significant discussions regarding their impact on academic integrity, particularly during examinations (Fergus et al., 2023). The accessibility of these AI tools raises concerns about the potential for cheating and plagiarism, as students may rely on AI-generated content to complete assignments or prepare for exams (Lye & Lim, 2024). This over-reliance on AI can undermine the development of critical thinking and problem-solving skills, which are essential for academic success (Wang, 2024). Furthermore, the ethical implications of using AI in educational settings necessitate a careful examination of how these technologies are implemented and regulated (Makarenko et al., 2024). The debate surrounding the ethical use of AI in education emphasizes the need for transparency in algorithms and the protection of student data (Klímová et al., 2023).

In Indonesia, where educational practices are rapidly evolving, the integration of AI presents challenges and opportunities. The increasing availability of AI tools can enhance learning outcomes, but educators must also adapt their teaching strategies to incorporate these technologies effectively (Zhai et al., 2021). Research indicates that students who engage with AI in a structured manner—such as through problem-based learning—tend to perform better academically than those who do not (Sapci & Sapci, 2020). This suggests that the successful implementation of AI in education should be accompanied by pedagogical frameworks that promote active learning and critical engagement with the material (Murray & Williams, 2023).

Moreover, the psychological impact of examinations on students cannot be overlooked. Studies have shown that high-pressure situations, such as exams, can increase stress and burnout, negatively affecting student performance (Zupančič et al., 2023). AI tools could alleviate some of this stress by providing immediate access to information and resources. However, it is crucial to balance this with the need for students to develop resilience and coping strategies that extend beyond

technological assistance (Ingram et al., 2022). The role of educators in this context is vital, as they must guide students in using AI responsibly and ethically while fostering an environment that encourages independent learning (Wood et al., 2021). While integrating AI into education presents promising avenues for enhancing student performance and engagement, it necessitates careful consideration of ethical implications and the potential for over-reliance. Future research should focus on developing frameworks that guide the responsible use of AI in education, ensuring that it complements rather than replaces essential learning processes.

2.2 AI and Academic Integrity

The increasing use of AI tools in education has prompted a reassessment of their role in maintaining academic integrity. While AI technologies offer enhanced learning experiences, they also present ethical concerns, particularly when used during assessments. Students' reliance on AI in exams raises critical questions about how AI supports or undermines authentic learning experiences. This section synthesizes existing research on the implications of AI use during assessments, focusing on ethical challenges and strategies to uphold academic integrity.

The emergence of generative AI tools, such as ChatGPT, has significantly influenced student behavior during assessments by providing instant access to solutions. However, students use these tools in different ways. Some leverage AI for supplementary learning, while others use it as a substitute for independent problem-solving, thereby raising concerns about academic dishonesty (Ajalo et al., 2025). The "how" of AI reliance in assessments is crucial to understanding its impact—whether students are engaging with AI tools to enhance learning or merely using them to bypass the learning process.

AI technologies have been recognized for their potential to enhance the educational experience by providing personalized learning opportunities and immediate access to information. For instance, AI tools can facilitate adaptive learning environments that cater to individual student needs, thereby improving engagement and understanding of complex subjects (Abdurrohim, et al., 2023; Lye & Lim, 2024). However, this accessibility also concerns students' reliance on AI to bypass traditional learning processes. Researchers argue that while AI can act as a valuable educational aid, it can also create opportunities for misconduct, particularly when students seek instant answers instead of engaging with the material (Kumah-Crystal et al., 2023; Patel et al., 2024).

The emergence of generative AI tools, such as ChatGPT, has influenced student behavior mainly during assessments. In Indonesia, the growing dependence on these technologies has prompted educators to reconsider assessment strategies to ensure they remain valid and reliable (Patel et al., 2024). The challenge lies in balancing the benefits of AI as a learning resource with the risks of academic dishonesty, as students may use these tools to complete assignments or prepare for exams without fully understanding the content (Ajalo et al., 2025).

2.3 Ethical Concerns and Academic Integrity

The ethical implications of AI use in education extend beyond concerns of academic misconduct. Academic integrity is a core principle of educational institutions, and the increased reliance on AI tools has raised alarms about the erosion of ethical standards in education (Kung et al., 2023; Zawiah et al., 2023). However, the focus should be on the ethical use of AI rather than merely ethical standards. The discussion should center on how students interact with AI and the frameworks that govern its responsible use.

Moreover, the introduction of AI into the assessment landscape necessitates a re-evaluation of traditional evaluation methods. As Sullivan et al. (2023) noted, reliance on AI can undermine the learning process, leading to superficial engagement with course material and diminishing the overall educational experience (Horsfall et al., 2021). This concern is echoed in the findings of Kung et al. (2023), who highlighted the challenges educators face in maintaining the integrity of assessments in the face of growing AI dependence among students (Kung et al., 2023).

2.4 Strategies for Mitigating Misuse

To address these challenges, educational institutions must develop comprehensive strategies that promote responsible AI use while preserving academic integrity. This includes redesigning assessments to minimize opportunities for AI misuse, such as incorporating open-ended questions that require critical thinking and personalized responses (Zalzal et al., 2023). Additionally, fostering a culture of academic honesty and educating students about the ethical implications of AI use can help mitigate reliance on these tools during exams (Hoch et al., 2023).

Furthermore, implementing AI detection tools may assist educators in identifying instances of academic misconduct. However, these measures must be complemented by a broader dialogue about the role of AI in education and the importance of cultivating an environment that values integrity and personal accountability (Clark et al., 2022). As highlighted by Lye and Lim (2024), many top-ranking educational institutions are already developing policies and guidelines to address academic integrity issues related to AI use, emphasizing the need for proactive measures in this evolving landscape (Lye & Lim, 2024). While AI tools have the potential to enhance the educational experience, their use during examinations raises significant concerns regarding academic integrity and ethical behavior. The growing reliance on generative AI among students in Indonesia presents unique challenges for educators, who must navigate the delicate balance between leveraging technology for educational benefit and ensuring the validity of assessments. Future research should focus on developing comprehensive frameworks that guide the responsible use of AI in education, fostering an environment that prioritizes both innovation and integrity.

2.5 The Role of AI in Student Learning and Dependency

The integration of AI into education has the potential to significantly enhance student learning by providing instant access to information and simplifying complex concepts. AI tools, such as intelligent tutoring systems and educational

chatbots, can facilitate personalized learning experiences, allowing students to engage with material at their own pace and according to their learning styles (Alharbi, 2024). However, studies have highlighted the risk of over-reliance on these technologies, where students depend on AI for answers without engaging in critical thinking or problem-solving (Sullivan et al., 2023). This dependency can undermine the development of higher-order cognitive skills, essential for long-term academic success (Perkins & Roe, 2023).

In Indonesia, the situation is further complicated by limited digital literacy among students (Nurhayati & Musa, 2020; Setiadi et al., 2023; Susanti & Nurhayati, 2024). Many students may lack the necessary skills to effectively utilize AI tools, which can exacerbate their dependency on these technologies (Sullivan et al., 2023). This lack of awareness regarding the ethical implications of misusing AI tools during exams can lead to academic misconduct, as students may not fully comprehend the consequences of their actions (Suppadungsuk et al., 2023). The challenge lies in fostering an educational environment that encourages responsible AI use while promoting critical thinking and problem-solving skills.

2.6 Ethical and Pedagogical Implications of AI Use in Exams

The ethical concerns surrounding AI usage in exams have prompted educators and policymakers to re-evaluate traditional assessment methods. Researchers recommend integrating AI ethics into the curriculum to promote responsible technology usage among students (Khalil & Er, 2023). This integration is crucial for ensuring that students understand the implications of their reliance on AI tools and the importance of maintaining academic integrity. Williamson and Eynon (2020) suggested that discussions about AI ethics should be embedded in educational practices to prepare students for the complexities of using AI in academic settings (Lund et al., 2023).

Furthermore, alternative assessment models, such as project-based learning or open-book exams, have been proposed to reduce the temptation to misuse AI tools and encourage authentic learning experiences (Park & Kwon, 2023). These models mitigate the risks associated with AI misuse and foster more profound engagement with the material, allowing students to demonstrate their understanding more meaningfully (Lee & Cho, 2021). Educators can create an environment that values learning over mere performance by shifting the focus from traditional testing methods to more innovative assessment strategies.

2.7 Research Gap and Relevance to the Indonesian Context

Despite the global discourse on AI and education, there is a notable lack of research on Indonesian students' specific challenges regarding AI use during semester exams. Cultural and systemic factors, such as unequal access to technology, varying levels of digital literacy, and differences in assessment practices, contribute to the unique dynamics of this issue in Indonesia (Puad & Ashton, 2023). These factors create a complex landscape where students navigate their educational experiences, often without adequate support or guidance regarding ethical AI use.

3. Method

This study investigated the extent of student reliance on AI for answering midterm and final examination questions at IRCT Tanah Grogot. The following research questions guided this investigation:

1. What is the extent of AI reliance among students at IRCT during semester examinations?
2. How does AI usage impact students' academic integrity, critical thinking, and overall learning outcomes?

Addressing these research questions enables a nuanced understanding of student behaviors and lecturer perspectives regarding AI utilization in examination contexts.

3.1 Research Design

This study adopted a mixed-methods research approach, integrating quantitative and qualitative methodologies to comprehensively examine the impact of AI dependence on student learning outcomes. The mixed-methods design is justified as it facilitates triangulation, thereby enhancing the robustness of the findings by complementing numerical data with rich qualitative insights. The integration of both methodological strands allowed for an in-depth exploration of the role of AI in higher education, aligning with Srougi et al. (2013), who demonstrated that collaborative approaches to testing enhance learning outcomes for both high- and low-performing students. Consequently, AI usage in examinations can be conceptualized as a form of technologically mediated collaboration that warrants further scholarly examination.

3.2 Study Participants

The research encompassed the entire student and lecturer populations at IRCT Tanah Grogot, as they represent the primary stakeholders in the adoption of AI-based tools in education. A purposive sampling method was employed to recruit participants actively engaging with AI in academic settings. Lecturer selection was strategically based on academic ranks and disciplinary backgrounds to ensure representational diversity. Faculty members from Islamic studies, education, and technology were included to provide a holistic perspective on AI integration in examinations. Table 1 outlines the population, sampling technique, data collection methods, number of interviews, and the types of surveys conducted for the study. Through semi-structured interviews with students and lecturers, this study explored their perceptions of using AI in learning and examinations.

Table 1: Population, sampling, and data collection

Research population	Sampling technique	Data collection methods	Number of interviews	Survey types
Students (N = 98)	Purposive sampling	Semi-structured interviews; quantitative surveys	20 students (active participants)	Survey of frequency, objectives, and perceptions of AI use, Likert scale, multiple-choice, close-ended survey questions
Lecturers (N = 9)	Purposive sampling	Quantitative surveys; semi-structured interviews	5 lecturers (active participants)	Survey of frequency, objectives, and perceptions of AI use, Likert scale, multiple-choice, open-ended survey questions

3.3 Data Collection Instruments and Validity

This research integrated both quantitative and qualitative data collection instruments. All 98 student participants and 9 lecturer participants completed the questionnaire, while 20 students and 5 lecturers participated in in-depth interviews. The survey comprised closed-ended Likert-scale questions to measure attitudes toward AI use; multiple-choice questions to assess AI usage patterns; and closed-ended questions to elicit personal perceptions. To assess AI dependence, the survey included specific Likert-scale items evaluating the frequency of AI usage for exam preparation, the extent of reliance on AI-generated responses, and the perceived necessity of AI assistance in completing assessments. These items were developed based on existing frameworks measuring digital dependence in academic settings. To ensure instrument validity and reliability, a pilot study was conducted to assess survey clarity and consistency. The AI-dependence measurement instrument was subjected to reliability testing using Cronbach's alpha, ensuring internal consistency. Furthermore, member-checking procedures were implemented to verify the credibility of qualitative data interpretations.

3.4 Data Collection Process

Data collection was executed over a three-month period (October 2024 – December 2024) at IRCT Tanah Grogot. Surveys were administered electronically, and interviews were conducted in person to facilitate in-depth discussions on AI-related experiences. Table 2 summarizes the data collection and validation process.

Table 2: Data collection and validation process

Aspect	Description
Data collection instruments	Questionnaires, interview guidelines
Types of questionnaires	Closed questions to measure frequency, the purpose of AI use by students, and lecturers' views on the impact of AI use
Types of interview guidelines	Structured queries exploring student experiences with AI, its perceived advantages, and ethical considerations
Instrument testing	Pilot study conducted to verify validity and reliability
Data analysis methods	- Qualitative: thematic analysis for pattern identification - Quantitative: descriptive statistics (mean, standard deviation, frequency distribution), inferential statistics (correlation, regression)
Data validity check	Triangulation (survey, interviews, observational data); member-checking to validate qualitative interpretations
Research duration	October 2024 to December 2024
Research location	Ibnu Rusyd College of Tarbiyah (IRCT) Tanah Grogot

3.5 Data Analysis

The qualitative data were subjected to thematic analysis, identifying recurrent patterns in students' and lecturers' perceptions of AI usage in examinations. Meanwhile, the quantitative data underwent descriptive and inferential statistical analyses. Correlation analysis ($r = 0.45$) was conducted, and statistical significance (p value) was assessed to ascertain the degree of AI dependence on academic outcomes. Additionally, regression analysis was employed to determine the extent to which AI use influenced student performance, controlling for variables such as lecturer guidance and self-directed-learning capacity.

3.6 Ethical Considerations

This study adhered to established ethical research protocols by securing informed consent from all participants prior to data collection. Confidentiality and anonymity measures were rigorously upheld, ensuring that participants' identities remained protected. Institutional review board (IRB) approval was obtained from IRCT Tanah Grogot, reinforcing compliance with ethical standards. Participants were explicitly informed of their right to withdraw at any point without repercussions.

4. Results

Along with the development of AI technology, especially in the field of education, the use of AI by students is becoming more widespread, including supporting the learning process to complete assignments and examinations. This phenomenon raises various questions related to its positive and negative impacts, from the perspectives of both students and lecturers. On the one hand, AI can facilitate access to information and speed up the learning process. However, there are concerns that reliance on AI can reduce analytical ability and academic integrity.

Therefore, this study aimed to examine how much students rely on AI tools in semester examinations and the implications of such reliance on learning outcomes and academic integrity, especially in the environment of faith-based universities, such as IRCT Tanah Grogot.

4.1 Level of Student Reliance on AI in Finding Answers to Midterm and Final Examinations

Understanding the extent to which students rely on AI in their academic work is essential to evaluating its impact on learning outcomes and ethical considerations. Table 3 presents data on AI usage frequency, intended purposes, and the types of AI tools the students surveyed most commonly utilized.

Table 3: Level of AI use by students

Aspect	Category	Percentage (%) N = 98
Frequency of use	Frequent (more than 3 times a month)	25
	Occasionally (1–2 times a month)	45
	Rarely or never	30
Intended use	Searching for examination answers	60
	Completing an essay assignment	25
	Creating automated study notes	15
Types of AI used	ChatGPT or similar tools	80
	Education-specific AI-based application (Brainly)	15
	Automated analysis software (Grammarly)	5

Table 3 provides a picture of how the surveyed students used AI technology in terms of frequency, purpose, and the most widely used types of application. The use of AI among IRCT Tanah Grogot students is significant, especially in searching for examination answers. This shows that students tend to use technology to support their learning process. However, while AI offers convenience, the long-term impact on analytical ability and academic integrity should be a significant concern. This research provides deeper insights into the use of AI and can assist academics in formulating wise policies related to technology in education.

4.2 Impact of the Use of AI on the Learning Process

The integration of AI into the learning process has both positive and negative consequences. Table 4 presents data on how AI influenced student participants' understanding of course materials, academic performance, and the perceptions of both students and lecturers. The data highlight the relationship between AI usage and grades while also identifying concerns regarding over-reliance and its effect on independent learning.

Table 4: Use of AI in the learning process

Aspect	Category	Percentage (%) N-S = 98 N-L = 9	Value
Student perception	Helps understand the material	65	
	Makes things easier without a deep understanding	20	
	Reduces ability to learn independently	15	
Academic outcomes	Average grades of students who frequently use AI		82/100
	Average grades of students who rarely use AI		74/100
Lecturer's opinion	Increased grades do not reflect material comprehension	55	

Table 4 illustrates the perceptions of students and lecturers and compares academic outcomes between students who often use AI and those who rarely use it. The data show the positive impact and challenges of integrating AI into learning. The data presented in Table 4 provide a comprehensive overview of students' and lecturers' perceptions of the use of AI in education at IRCT Tanah Grogot. Most of the students (65%) felt that AI helps them understand the material. Furthermore, 20% admitted that using AI can make using AI more manageable without a deep understanding, while 15% were concerned that it reduces the ability to learn independently. On the other hand, academic results show that students who use AI frequently have an average score of 82/100, while those who rarely use AI only attain 74/100 on average. However, a majority of the lecturers (55%) emphasized that the increase in grades does not always reflect a deep understanding of the material. These findings show that although AI can offer advantages in academic performance, challenges related to material understanding and self-learning ability still need to be considered in integrating this technology into the learning process.

While AI offers several advantages in education, its unregulated use presents challenges. Table 5 presents data on the perspectives of the lecturers on the role of AI in supporting student learning, the risks associated with AI dependency, and proposed solutions to mitigate ethical and pedagogical concerns. The findings emphasize the need for a balanced approach to AI integration that fosters both technological innovation and academic integrity. The findings emphasize the necessity of balancing AI integration with safeguards that uphold academic integrity. Faculty concerns regarding the erosion of analytical thinking suggest that AI should complement, rather than replace, traditional learning strategies.

Table 5: Potential benefits of AI

Aspect	Category	Percentage (%)	Positive impact	Major concerns	Potential solutions
Lecturers' views	AI has benefits for learning	70	Helps students understand the material better	Students are too dependent on AI	Improve digital literacy and ethics in the use of AI
	The use of AI during exams can reduce academic integrity	50	Provides quick access to information	Reduces the validity of academic evaluations	Develop critical skills-based exam methods
	Concerns about students losing analytical skills	30	Provides adaptive learning opportunities	Loss of analytical thinking skills	Integrate AI into project-based learning
Proposed steps	Stricter proctoring during exams	60	Ensuring fairness in evaluation	Ensuring fairness in evaluation	Use AI-based plagiarism detection technology
	Integration of AI as a learning aid with an ethical emphasis	40	Improve collaboration and efficiency	Lack of clear guidelines for use	Develop institutional policies on the use of AI

Ethical concerns surrounding AI use in education are a critical issue for both students and lecturers. Table 6 presents qualitative insights gathered from interviews, highlighting general views, advantages, concerns, and recommendations regarding responsible AI use. These perspectives contribute to ongoing discussions on the necessity of developing clear institutional guidelines to govern the role of AI in academic settings.

Table 6 provides an overview of the perceptions, benefits, and concerns of the students and lecturers regarding the use of AI. It underlines the importance of ethical education in terms of technology in learning. This study found a positive correlation between the frequency of AI use and student examination scores, with a correlation value (r) of 0.45, which shows a moderate relationship. This indicates that the more often students use AI, the higher the test scores they obtain. In addition, regression analysis showed that using AI contributes to examination results by about 20% of exam performance variance ($\beta = 0.32$, $p < 0.05$), while 80% remains influenced by independent learning strategies and teacher guidance.

These findings reinforce the argument that while AI can enhance academic performance, it does not serve as a substitute for structured pedagogy and critical thinking development.

Table 6: Ethics of technology in learning

Category	Interview excerpts	Interview sample
General view	*"AI helps me complete tasks faster, but sometimes I forget to understand the material I'm working on."*	Students
	"If AI is used wisely, it could be a revolutionary tool. However, nowadays, many students use it just to cheat."	Lecturers
Advantages of AI	*"With AI, I can search for broader and more varied essay references in a short period of time."*	Students
	"Students who use AI correctly show increased creativity in completing assignments."	Lecturers
Concerns	*"Sometimes I feel too dependent on AI, making it difficult to learn independently."*	Students
	"I'm worried that AI will make students lose their ability to think critically if it's only used to find answers."	Lecturers
Recommendations	*"Maybe the lecturer can provide guidance on how to use AI well for learning."*	Students
	"There needs to be training for students on the ethics of using AI so that they don't just use it for instant things."	Lecturers

5. Discussion

5.1 Level of Student Reliance on AI in Finding Answers to Midterm and Final Examinations

Integrating AI into educational settings, particularly through tools such as ChatGPT, has become increasingly prevalent among students. This trend is evident in the Islamic Education Study Program at IRCT Tanah Grogot, where students utilize AI to facilitate their learning processes, including searching for examination answers and completing assignments. AI-powered tools simplify complex tasks, but they may inadvertently compromise more profound learning experiences, suggesting a trade-off between convenience and comprehensive understanding (Shahzad et al., 2024). The findings indicate that 60% of the students use AI explicitly to retrieve examination answers, which highlights the growing dependence on AI in academic settings. This observation is echoed by Livberber and Ayvaz (2023), who noted that the rapid adoption of AI tools such as ChatGPT has generated mixed feelings among educators, particularly regarding the potential erosion of students' critical thinking skills and research capabilities.

Moreover, the perceived benefits of AI in education extend beyond mere task completion. Studies indicate that AI tools can enhance student engagement and satisfaction with learning experiences. For instance, according to Almulla (2024), students reported increased satisfaction when using ChatGPT, due to its user-friendly interface and perceived usefulness in research activities. Similarly, Xu (2024) emphasized that the diverse learning resources and personalized support provided by ChatGPT can significantly boost students' self-efficacy in language learning, thereby fostering a more confident approach to academic challenges. However, despite the positive impact on engagement, the over-reliance on AI raises concerns about the authenticity of student learning and academic integrity, reinforcing the necessity for structured AI policies in educational institutions.

Issa and Hall (2024) advocated for the integration of academic integrity into collaborative tasks to mitigate the misuse of generative AI tools. AI can function as an individual study aid but differs from actual peer collaboration. Unlike peer discussions, which involve dynamic idea exchanges, AI responses provide immediate yet static solutions that lack the cognitive negotiation required in true collaboration. This distinction aligns with Seo et al. (2021), who noted that while AI may facilitate quick responses, it lacks the interactive critical discourse that enhances deeper learning. Therefore, positioning AI as a collaborative tool in examinations requires careful implementation, ensuring that students engage with AI to enhance—not replace—cognitive processes.

While the use of AI in education presents numerous advantages, including enhanced engagement and satisfaction, it also poses challenges related to critical thinking and academic integrity. As students increasingly turn to AI tools such as ChatGPT for assistance, educators must balance leveraging these technologies for improved learning outcomes and ensuring that students develop the necessary skills for independent and critical thinking. The increasing reliance on AI tools in educational contexts, mainly during examinations, raises significant concerns about students' depth of learning and critical thinking skills. While AI can enhance efficiency and accessibility in learning, there is also the risk of fostering an over-reliance that undermines students' ability to think critically and independently. This superficial engagement with learning materials is concerning, as students may view AI as an instant solution rather than a supportive tool that encourages deeper understanding. The implications of this trend are profound, as it may lead to a generation of learners who are adept at using AI but lack the foundational skills necessary for analytical thinking and problem-solving.

5.2 Impact of the Use of AI on the Learning Process

The participating lecturers at IRCT expressed a dichotomy of perceptions in relation to the role of AI in education. While 70% acknowledged the potential benefits of AI in supporting learning, 50% expressed concerns regarding its impact on academic integrity. This sentiment aligns with the findings of recent literature, which argue that the ethical implications of AI usage in educational assessments challenge traditional notions of academic integrity and fairness (Garcia-Peñalvo et al., 2024). The lecturers advocated for stricter supervision

during examinations to mitigate students' reliance on AI, which they believed could hinder the development of essential analytical skills. These findings underscore the need for ethical AI guidelines that promote responsible use while maintaining fairness in assessments. These perspectives are echoed in the literature, emphasizing that fostering critical thinking should be a priority in educational settings, mainly as students increasingly interact with AI technologies (Pila, 2023).

Considering these challenges, educational institutions must develop strategies that integrate AI to enhance learning while preserving academic integrity. This could involve creating curricula that emphasize the importance of critical thinking and the ethical use of AI tools, preparing students to navigate the complexities of modern education. Incorporating AI-related themes into educational frameworks can promote critical thinking and a deeper understanding of the context and applications of AI. By structuring AI integration, educators can leverage its benefits without compromising the essential skills needed for academic growth and independent learning. Furthermore, educators can help students harness the benefits of AI while ensuring that they remain engaged in the learning process and develop the necessary skills for independent thought and analysis.

The quantitative data indicating a moderate correlation (r = 0.45) between the frequency of AI use and improving students' examination scores highlight the potential benefits of integrating AI into educational practices. However, the regression analysis revealed that only 20% of examination results can be attributed to AI usage, while the remaining 80% is influenced by factors such as lecturer guidance and self-study abilities. This finding supports studies that assert that AI alone cannot guarantee improved learning outcomes; the role of teachers and active student engagement remains paramount (Chichekian & Benteux, 2022). This underscores the necessity of a balanced approach to AI integration, where technology is a supplementary tool rather than a replacement for traditional teaching methods. Lin and Lai (2021) emphasized that AI can effectively assist students in learning. However, it is crucial to recognize that the success of AI interventions is contingent upon the pedagogical strategies employed by educators.

Moreover, while AI can enhance students' efficiency and academic outcomes, there is a growing concern that over-reliance on these technologies may hinder the development of independent learning skills. This concern is echoed by Seo et al. (2021), who noted that excessive support from AI systems could reduce student agency and ownership of learning, leading to a detrimental impact on their overall educational experience. Therefore, educational institutions must establish guidelines for the ethical use of AI in learning environments. Peñalvo et al. (2024) advocated for the creation of frameworks that balance innovation with academic rigor, stating that "*educational institutions must establish frameworks for ethical AI usage to balance innovation and academic rigour*" (pp. 9–39). Such frameworks should address the integration of AI tools and emphasize the importance of fostering self-directed learning and critical thinking skills among students.

While AI presents significant opportunities for enhancing educational outcomes, its implementation must be cautiously approached. The findings suggest that a mere increase in AI usage does not equate to improved learning outcomes; rather, the effectiveness of AI is deeply intertwined with the quality of teaching and the active engagement of students. Wu and Yu (2023) emphasized that while AI chatbots and other technologies can provide support, they must be used judiciously to avoid diminishing students' motivation and learning autonomy. Thus, structured implementation, ethical training, and faculty oversight are essential in maximizing the educational benefits of AI.

Developing comprehensive ethical guidelines for AI usage in education is essential to ensure that these technologies are leveraged effectively, promoting academic success and cultivating independent learning skills. The findings also align with existing literature that emphasizes the potential of AI to enhance educational outcomes (Adiyono et al., 2024; Ajalo et al., 2025). For instance, AI has been shown to facilitate personalized learning experiences, which can adapt to individual student's needs and preferences, thereby improving engagement and performance (Abbas et al., 2023). This adaptability is crucial in addressing the diverse learning styles present in any classroom, as traditional educational approaches often fail to meet the needs of all learners (Abbas et al., 2023; Onesi-Ozigagun et al., 2024). Furthermore, AI tools can provide real-time feedback, essential for fostering self-regulated learning among students (Luo, 2023; Wei, 2023).

The study also highlights the importance of other factors in academic success. Research indicates that students' self-efficacy, or their confidence in their abilities, plays a significant role in their learning outcomes. A study found a weak negative correlation between self-efficacy and AI usage, suggesting that students with higher self-efficacy may not rely heavily on AI tools, viewing them as supplementary rather than essential (Ullah & Sreedevi, 2024). This perspective underscores the need for educational strategies that promote both AI integration and the development of students' intrinsic learning capabilities.

Moreover, the role of educators cannot be overstated. Practical guidance from lecturers is vital in helping students navigate their learning journeys (Adiyono et al., 2025; Ni'amah, 2024; Nurhayati & Musa, 2025; Suwartono et al., 2025). Studies have shown that teacher involvement and support significantly influence students' academic performance, especially in environments where AI is utilized (Park et al., 2023; Thomas, 2024). Educators must be equipped with the necessary skills to integrate AI into their teaching practices effectively, ensuring they can leverage these tools to enhance student learning while fostering critical thinking and problem-solving skills (Park et al., 2023). While the positive correlation between AI usage and examination scores indicates its potential as a valuable educational tool, it is essential to recognize that academic success is multifaceted. The interplay between AI, self-learning abilities, and educator support creates a complex landscape that must be navigated thoughtfully.

The study also calls for a holistic approach to AI integration. This entails balancing regulation with AI literacy. Rather than banning AI in examinations, institutions should implement AI-literacy training programs, equipping students with the skills to use AI responsibly while maintaining academic integrity. This aligns with the work of Ajalo et al. (2025), who argued that AI literacy is a critical component of modern education, ensuring that students leverage AI ethically without compromising essential learning processes. A structured AI education framework should emphasize not only technical proficiency but also ethical reasoning and critical engagement with AI-generated content.

This study has several limitations that must be considered. It focuses primarily on students' use of AI during semester examinations in Indonesia, which may not fully capture the broader implications of AI reliance across different educational systems or cultural contexts. Expanding the scope to include diverse regions and educational levels, such as primary, secondary, and tertiary education, would provide a more comprehensive understanding. The data collection, constrained to studies in English and Bahasa Indonesia, may have excluded relevant insights from other languages and global perspectives. Furthermore, the lack of longitudinal data limited the ability to examine changes in AI reliance over time and its long-term impact on learning outcomes and academic integrity. Additionally, the study did not extensively explore the perspectives of educators, administrators, or policymakers, which could offer valuable insights into systemic challenges and strategies for addressing AI misuse. Future research should continue exploring these dynamics, focusing on optimizing AI integration into educational settings to maximize its benefits while addressing the critical role of human factors in learning.

6. Conclusion

This study critically examined the growing reliance on AI among students at IRCT Tanah Grogot and its implications for pedagogical efficacy and academic integrity. While AI offers significant benefits in enhancing accessibility, efficiency, and personalized learning experiences, its widespread adoption raises concerns regarding its impact on students' analytical reasoning and ethical engagement with academic material. Faculty perspectives reflect a duality, recognizing the potential of AI to facilitate learning while underscoring the necessity of regulatory frameworks to safeguard academic integrity. Findings from this study indicate that AI, when systematically integrated, can serve as an invaluable educational tool. However, mitigating the risks associated with over-reliance necessitates institutional intervention. The implementation of AI-literacy programs must be prioritized to foster students' digital responsibility, critical engagement, and ethical reasoning. Establishing robust institutional policies, including comprehensive guidelines on AI use in coursework and AI-enabled proctoring for assessments, will help maintain academic rigor while leveraging technological advancements. Furthermore, educational institutions should emphasize assessment designs that promote higher-order cognitive skills, reducing dependence on AI-generated responses and encouraging independent analytical engagement. AI must function as a supplement to, rather than a substitute for, traditional cognitive and metacognitive learning strategies. To ensure effective AI

integration, structured faculty development initiatives must be introduced to equip educators with the competencies necessary to incorporate AI pedagogically while maintaining student engagement and intellectual autonomy. The deployment of AI-based monitoring systems should balance academic fairness with privacy considerations, ensuring that AI contributes to equitable and credible assessment methodologies. Future research should adopt a longitudinal approach to examine the sustained impact of AI on cognitive development, learning engagement, and assessment validity. Further inquiry into AI-driven personalized learning models and their alignment with institutional pedagogical frameworks will be critical in fostering an ethically responsible and intellectually rigorous integration of AI within education.

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