

Student Perceptions: The Use of Artificial Intelligence in Online Assignments at Affordable Universities in Jakarta, Indonesia

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Abstract

Artificial Intelligence (AI) has become necessary for students to complete online assignments, which threatens the creativity and originality of student thinking. This study explores the background, frequency, and strategies of AI usage from the perspective of management study program students at affordable universities. The qualitative results show that all students use AI with very high frequency. Students consider using AI for (1) practicality, (2) speed, (3) accuracy, and (4) information sources. Students have become wise and intelligent in using AI and hope for the legitimacy of AI as an assistive tool. Students do not feel guilty about using AI as long as they do not engage in full plagiarism and cite other information sources beyond AI. The formation of a new paradigm or sub-paradigm is highly recommended, where AI is encouraged as a reference source and the learner as a quote. Further research development is suggested to use quantitative methods to examine the relationship between practicality, speed, accuracy, and information source on students' assignment outcomes using AI. It is also highly recommended to conduct further research on whether AI can be considered an official citation source and to make AI an official assistive tool for students at affordable universities.

Keywords: Artificial Intelligence, E-Learning, Online Assignment, New Learning Paradigm, Ai-Referenced.

1. Introduction

The use of Artificial Intelligence (AI) has become a daily necessity for students in searching for information and completing campus assignments, including students at affordable universities in the metropolitan city of Jakarta, Indonesia. On the other hand, the use of e-learning has also increased with the shift to online learning since the COVID-19 pandemic, initially leading to increased stress among students (Selvam et al., 2023), with various learning methods utilizing technology, followed by online student assignments. The high desire to use e-learning among undergraduate students (Obidat et al., 2020), with e-learning accommodating everyone regardless of geographic aspects, centralizing education, and providing self-study opportunities (Matete et al., 2023). The next emerging phenomenon is the use of AI in completing students' online assignments, which is suspected to threaten students' creativity and originality of thought. Conversely, AI enables students to think more critically in understanding texts, gathering knowledge, and understanding genre conventions in prose and programming (Steele, 2023). Qualitative research is needed to delve into this phenomenon, particularly to understand what drives students to use AI for their assignments, including understanding the frequency and strategies for detecting AI misuse (Rodriguez et al., 2023).

This research will delve deeper into student perceptions to uncover the background, frequency, and strategies of AI use in completing online assignments, which have not been fully revealed, focusing on affordable universities in the metropolitan city of Jakarta, where access to the internet is readily available but requires additional costs for students, particularly for equipment and network access. Objectivity and transparency are the main strategies that the researchers will apply to accurately address the causes of this phenomenon and seek solutions to improve teaching and learning systems for students in the future. This research aims to answer the following five questions: (1) Is AI used by students at affordable universities? (2) Why do students use AI in online assignments? (3) How frequently do students use AI in online assignments? (4) What strategies do students use to avoid detection by instructors when using AI in online assignments? and (5) What are students' views on the use of AI in completing online assignments?

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2. Research Methods

The research uses an exploratory inductive qualitative method with open and in-depth questions (Tracy, 2019) directed to students at Dian Nusantara University (Undira), Jakarta, Indonesia. The number of informants is adjusted until saturation is reached (Alam, 2020). To ensure the safe boundary of saturation, 20 participants were chosen, supported by Boddy (2016), who states that saturation is generally achieved with 12 participants. To maintain objectivity, the qualitative testing is conducted transparently and well-structured (Crescentini and Minardi, 2009).

All primary and secondary data undergo validation and reliability testing. Interview data are subjected to triangulation by comparing them with all other secondary and primary data. Validation of secondary data involves sourcing primary data references. Interviews are conducted with open-ended, in-depth questions, recorded in transcripts, ensuring data validity, generalization, and that all databases are transparently accessible (Rowley, 2002; Johansson, 2007; Yin, 2012).

AI platforms such as ChatGPT and Gemini are valued for their ability to explain theoretical concepts; however, there are concerns about their ethical use, particularly in completing assignments. There is anxiety about online exam assessment processes and potential cheating supported by AI. The gap between commitment and action in regulating unethical AI use highlights the need for clearer guidelines and investment in technological solutions for effective assessment processes (Eva et al., 2024). As ChatGPT is used more frequently, it helps students to think critically and to become more aware of ethical issues (Leelavathi & Surendhranatha, 2024). AI in entrepreneurial education requires more advanced pedagogical design in diagnosis, prediction, intervention, prevention, and recommendations, combined with specific entrepreneurial learning content and procedure, while adhering to entrepreneurial pedagogy (Ifenthaler et al., 2024).

The participants are students from Universitas Dian Nusantara (Undira), Jakarta, Indonesia, enrolled in the Management program and are in their 3rd to 8th semester during the 2024/2025 academic year. The total number of participants is 20, consisting of 10 men and 10 women. As of July 2024, the total number of active students at Undira is 5,817, with 29.7% or 1,727 students enrolled in the Management program. Undira was selected because it is a private university in Jakarta, Indonesia, that is more affordable compared to several other private universities in Jakarta and its surroundings. The tuition fees at Undira for a 4-year Bachelor's degree program amount to less than USD 2,500. A detailed comparison of tuition fees with other universities is shown in Table 1, assuming the same program of study, Management, and timely completion in 8 semesters by students with average capabilities.

Table 1. Estimated Costs of Several Private Universities in Jakarta, Indonesia in 2024

No	University Name	Location	Cost Breakdown	Estimated Total Cost (IDR)	Equivalent in USD (Exchange Rate 16,000)
1.	Dian Nusantara	Jakarta	Registration, Entrance Fee, Student Affairs, Education	38.200.000	2,388
2.	Indonesia Unggul	Esa Jakarta	Entrance Fee, Education, Pre-College, Alma Mater Jacket	109.750.000	6,859
3.	Trisakti	Jakarta	Donation, Education, Practicum	145.800.000	9,113
4.	Prasetiya Mulya	Serpong, Banten	Registration, Development, Practicum, Orientation	170.800.000	10,675
5.	Bina Nusantara	Jakarta	Education, Laboratory, Equipment, Donation	235.000.000	14,688

Source: Online publications from each university in 2024, processed by the researcher.

An increase in tuition fees can enhance the academic efforts of university students (Beneito et al., 2018). However, the e-learning approach at universities will correlate positively with its financial implications. With adequate training on e-learning platforms for academic staff, e-learning will facilitate communication between students and lecturers, supported by internet subscriptions and mobile device purchases (Eton & Chance, 2022). Based on the author's observations, although Undira is affordable, it still prioritizes the main standards of education, namely reliable teaching staff, a good curriculum, and technological support for teaching and learning programs. There are three teaching patterns with technological support at Undira, detailed in Table 2.

Table 2. Three Learning Patterns per Course per Semester at Undira

	In-Person	Virtual Face-to-Face	eLearning
Number of Meetings	16 times in class	16 times online	3 times online
Exam Frequency	2 times, Mid-Semester Exam (UTS) and Final Semester Exam (UAS)	2 times, UTS and UAS	13 times via online forum 2 times, UTS and UAS
Assignments	Weekly assignments	Weekly assignments	Weekly discussion forum
Pre-Assessment	Quiz at the start of each class	Quiz at the start of class	Quiz at the start of class
Post-Assessment	Paper and assignments	Paper and online assignments	Forum and online assignments
Facilities	Fully equipped classroom	Online learning system	Online learning system

Source: Observation results, processed by the author.

The effectiveness of student collaboration with AI is aligned with the Ideas-Connections-Extension (ICE) theoretical framework. This theory was introduced in 1996 by Professor Robert Wilson from Queen's University, Ontario, Canada, as a tool to help teachers and students develop learning strategies. The assessment of learning effectiveness focuses not only on what students learn but also on how they learn. The ICE framework (Fostaty Young & Wilson, 2000) describes three progressive levels of student assessment. Level 1 is Ideas, Level 2 is Connections, and Level 3 is Extensions. Detailed explanations of the three characteristics of the ICE model for students working with AI can be found in Table 3.

Table 3. ICE Model Framework Levels for Students with AI

No	Level	Characteristics	Activities
1	Ideas	Learning to Understand	Seeking fundamental principles, definitions, and information using keywords
2	Connections	Learning More Complex Concepts	Analyzing information, finding patterns and relationships, comparing different opinions, and attempting to create new concepts
3	Extensions	Creating and Applying New Knowledge	Creating creative applications, innovations, exploring understanding towards testing and applying new concepts

Source: Diao (2021), narrative and interpretation processed by the author

AI has been extensively applied in the world of education with distinctive characteristics in the learning process. Artificial Intelligence in Education (AIEd) has characteristics divided into three paradigms: AI-directed, AI-supported, and AI-empowered (Ouyang & Jiao, 2021). Detailed explanations of each paradigm can be found in Table 4

Table 4. Three Paradigms of AIEd

	Theoretical Framework	Description
Paradigm One AI-directed, learner-as-recipient	Behavioral	AI directs the learning process, where students passively receive knowledge from AI-generated systems.
Paradigm Two AI-supported, learner-as-collaborator	Cognitive, Constructivism	Social AI supports and extends the learning experience. Students collaborate with AI as a learning aid.
Paradigm Three AI-empowered, learner-as-leader	Connectivism, Adaptive Systems	Complex Students control AI as an empowering tool. AI assists in innovation and student independence.

Source: Ouyang & Jiao (2021), processed by the author

3. Results and Discussion

The online homework management system improves student performance and also shows that there is no impact on student satisfaction (Gaffney et al., 2010). Most studies indicate more benefits of using online homework compared to traditional systems (Magalhaes, 2020). Four key areas of focus in distance learning are students, learning methodology, teaching staff, and technology (Casadesus, 2024). College student satisfaction with online teaching is lower than with offline teaching. Factors influencing this include class size, teaching proportion, network, type and subject classification, as well as the age and capability of the instructor (Huang et al., 2024). A similar situation is observed in West Papua, Indonesia, where all students are urging the government to return to offline policies to address various issues related to materials, tutorials, health concerns, and infrastructure (Safkaur et al., 2023). There is a strong need for online course designs that respond to the needs of students with different online learning characteristics to help them achieve high levels of academic performance (Chonraksuk and Boonlue, 2024).

Creating a constructive, supportive, and interactive environment for e-learning is crucial (Xiao et al., 2024). Community is essential for the success of autonomous learning in low-income communities (Huntington et al., 2023). Remuneration is an important factor regardless of the gender of the instructor in online teaching intention (Segbenya et al., 2024). Research has found that self-management and ease of use of the online learning system are direct antecedent factors of student well-being (Cusi et al., 2024). Future needs include research on user-friendly distance learning management systems and comprehensive training to maximize the potential of existing systems (Rarugal and Sermona, 2024).

AI is used in three main areas of higher education operations: student learning experiences; student support; and enrollment management (Hannan & Liu, 2021). AI can help with academic integrity and serve as a predictor of academic integrity (Rodrigues et al., 2023). Instructional design enhanced with ChatGPT reduces learning anxiety and improves learning performance, motivation, and sustainable study habits. Generative AI settings and chatbot design facilitate greater success in online science learning (Ng et al., 2024). ChatGPT has a positive impact on learning motivation, increasing students' interest in learning, and has implications for educational practitioners who want to improve the application of AI technology among students, emphasizing user-friendly design, collaborative learning, and factors affecting satisfaction (Almulla, 2024).

There is a significant difference among students in their basic understanding of AI (Hornberger et al., 2023). Men have more knowledge and experience with AI compared to women; enhancing technological skills can further boost women's confidence in using AI (Nouraldeen, 2023). Female students and those from humanities and medical fields consistently exhibit more negative attitudes and concerns about AI's role in learning and assessment, whereas male students and those from technology and engineering fields show higher usage and greater optimism (Stohr et al., 2024). Experimental studies show that both novice and experienced teachers cannot distinguish between texts generated by ChatGPT and those written by students (Fleckenstein et al., 2024). Other research indicates that a hybrid approach of combining human and AI assistance, with self-regulated strategies, is not more effective than AI assistance alone (Darvishi, 2024), while integrating GenAI into instructional design courses at the master's level improves student comfort (Wood & Moss, 2024).

A qualitative in-depth analysis of 20 informants has reached saturation, as evidenced by the consistent repetition of answers to open-ended questions from each informant. Inductive, exploratory, and triangulation methods have addressed all research questions regarding students in the management program at affordable universities in Indonesia, which can be explained as follows:

RQ1: Is AI used by students at affordable universities?

All randomly interviewed participants, without respondent substitution, convincingly demonstrated that they are well-acquainted with, accustomed to, and already using AI to complete online campus assignments. AI usage has reached all students at affordable universities, irrespective of gender, semester level, or age. Participant profiles can be seen in Table 5.

RQ2: Why do students use AI for online assignments?

Based on interviews, observations with triangulation techniques, and structured construction of reasons, the reasons students use AI are: (1) ease and practicality, (2) speed to cope with assignment deadlines, (3) accuracy of information, and (4) alternative sources of information for comparison.

Here are brief views from Participants 18, 13, 20, 14, and 17:

“... it's easier, so for finding articles, I mostly use AI because it quickly brings up related articles...”
 Arthur, 20, Male
 “... AI is really helpful for time saving...”
 Nining, 24, Female
 “... AI is very accurate for convenience and efficiency...”
 Santoso, 26, Male
 “... it's a tool for finding information, but not only through AI, so we need to look beyond AI...”
 Regiyanti, 27, Female
 “... to find references other than those in journals or articles...”
 Achmad, 21, Male

Table 5. Profile of Undira Management Program Students for the 2024-2025

Characteristic	Number of Participants (person)
Gender	
Male	10
Female	10
Age (Years)	
20 - 23	12
24 - 27	5
≥ 28	3
Semester Level	
1-3	13
4-6	6
7-8	1

RQ 3: How frequently do students use AI for online assignments?

The frequency of AI usage for online assignments is very high among all students in the management program at affordable universities. Notably, Participant 1 made an honest statement:

“... out of ten assignments, maybe eight or seven...”
 Siemens, 20, Male

On the other hand, instructors are very attentive to student originality and creativity, and closely monitoring the results of student work as was demonstrated by the experience of Participant 7, who was reprimanded by a lecturer for using AI:

“... at that time, because the answer came from AI, the lecturer did not want to give a grade and asked me to redo the work...”
 Mira Muluana, 24, Female

Furthermore, to reduce the frequency of AI usage, Participant 6 suggested that instructors require citations from sources other than AI:

“... so the methodology should include references, maybe the references should come from here and there, so we don't always rely on AI...”
 Delal, 22, Female

RQ 4: What strategies do students use to avoid detection by instructors when using AI for online assignments?

AIEd Paradigm

Students are quite savvy in not passively accepting AI results, but rather placing AI within Paradigm Two, AI-supported (Ouyang & Jiao, 2021), where AI is used as a learning aid. The following statements from Participants 2, 4, 15, 12, and 5 illustrate this:

“... the information provided by AI is very limited, so I have to compare it or look for related references, for example on Google, or read other people's articles, or from journals...”
 Sinemai, 27, Male
 “... I don't use AI to just copy exactly as it is; if I did, the lecturer would question it and get upset...”

Nur, 22, Female

“... I edit the answers using my own words...”

Eigy, 28, Male

“... I still develop the answers and use my own language...”

Durotun, 20, Fema

“... if we copy and paste too much, Turnitin can already assess the percentage of similarity. So, it has to be modified...”

Siti, 22, Female

According to the ICE framework, starting with information search (Ideas level) and then developing towards analysis and comparison, as emphasized by Participant 8 with the Connections level (Diao, 2021), in the use of AI:

“... I develop the answer rather than accepting it as is... I compare it with other websites, other answers, or other Artificial Intelligence. So, I don't stick to just one application, and then I further develop the answer...”

Claudia, 22 Female

RQ 5: What are students' views on the use of AI in completing online assignments?

Students no longer feel guilty about using AI as long as it is used wisely and not passively accepted, as expressed by Participants 11 and 3:

“... actually, it's fine as long as we use it wisely. We shouldn't let it diminish our critical thinking as students...”

Sabrina, 23, Female

“... as long as students don't use AI to just copy and paste, and instead use it as a reference to develop their assignments, I think it's quite helpful and acceptable...”

Hendrikus, 21, Male

As a user who has experienced significant benefits from AI, Participant 16 offers the following suggestions regarding AI use on campus:

“... organize training sessions on how to effectively use AI, how to use AI wisely, and how to learn more about AI...”

Ujang, 23, Male

In addition to the classification of Paradigms One through Three (Ouyang & Jiao, 2021), this research opens up the possibility for the formation of a new paradigm, which could be a second sub-paradigm or Paradigm Four, where AI is recommended to be elevated in status and legitimacy as an official reference source. AI as an official reference (AI-referenced), and learner as quoter, can be considered an official source for students in their assignments and be part of a collection of references obtained from various other sources. This is supported by Participants 19, 9, and 10, respectively:

“... I expand the information I get from AI with other sources like academia, SCRIBD, Google Scholar, and sometimes I make some innovations with the help of AI...”

Feri, 30, Male

“... it's better to take those references and present them in our own way of thinking...”

Suryo, 32, Male

“... but we can't say that the answers obtained are one hundred percent correct, so it should only be used as a reference; further analysis from our side is still needed...”

Mira Kurniawati, 20, Female

4. Conclusion

Based on qualitative analysis, it can be concluded that AI has become a daily tool for students to complete their assignments at affordable universities. The reasons students use AI are (1) practicality, (2) speed, (3) accuracy, and (4) source of information. The frequency of AI usage among management program students at affordable universities is very high, with almost all assignments completed using AI tools. To prevent excessive and unwise use of AI, it is recommended that educators require sources of citations other than AI in assignments.

Students are already using AI wisely and intelligently. All students do not passively accept AI results but rather use AI as a tool with the AI-supported paradigm (Quyang & Jiao, 2021). The use of AI by students starts with seeking

information (Ideas level) but is continuously developed, analyzed, and compared with other sources, including modules provided by instructors. The common level of AI usage among students is the Connection level (Diao, 2021). Students strongly desire the legitimacy of using AI as a tool. They feel justified in using AI as long as it is not used for full plagiarism, is used wisely, and other sources outside of AI are cited; thus, AI usage is perceived as valid and legal.

This study also advances the theory of educational paradigms with AI (Quyang & Jiao, 2021). The formation of a new paradigm or sub-paradigm is highly recommended. AI is suggested as a reference source (AI-referenced) and learner-as-quoter, forming a fourth paradigm or second sub-paradigm. Future research should focus on quantitative methods to examine the relationship between practicality, speed, accuracy, and information sources with the results of student assignments using AI. It is also highly recommended to investigate whether AI can be considered an official source for citations and to establish AI as an official tool for students in performing their tasks and assignments

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