

SECTION V

LINGUODIDACTIC INNOVATIONS OF THE 21ST CENTURY

STUDENTS' PERCEPTIONS ON THE ROLE OF ARTIFICIAL INTELLIGENCE (AI) IN LEARNING ACTIVITIES

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Abstract:

This study aims to examine students' perceptions of the use of artificial intelligence technology in an educational context, focusing on understanding, benefits, and challenges faced. The research is conducted descriptively based on data that has been analyzed qualitatively to explore students' perceptions of the utilization of artificial intelligence technology. Questions were given to students as respondents to obtain an overview of their perceptions of the use of artificial intelligence in learning activities. The questionnaire results can be classified into four aspects: 1) Understanding of Artificial Intelligence (97.8%); 2) Frequency of Artificial Intelligence Use (use of ChatGPT); 3) Perception of Artificial Intelligence; and 4) Benefits of Artificial Intelligence in Learning (77.8%). This study is expected to identify factors influencing student acceptance of AI, as well as provide insights for the development of educational policies that support the effective integration of AI in future learning and education.

Key words: Artificial Intelligence (AI), learning, respondents.

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Introduction

The utilization of artificial intelligence (AI) technology in the field of education has been rapidly growing in recent years. Artificial intelligence (AI) is a rapidly evolving technology in recent years. AI has experienced significant advancements, which have had a considerable impact (Pachegowda, 2023). AI has been applied in various aspects of learning, ranging from automated evaluation systems, chatbots as virtual assistants, to adaptive learning platforms that can adjust material based on individual abilities.

According to Alashwal (2024), *AI-powered education utilizes intelligent tutoring systems, immersive virtual environments, and advanced data analysis with predictive capabilities to broaden educational scope.* AI-supported education uses intelligent tutoring systems, immersive virtual environments, and advanced data

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analysis with predictive capabilities to expand educational coverage. AI has the potential to revolutionize education by enhancing learning personalization, speeding up administrative processes, and improving the learning experience for students.

Students, as one of the primary technology users in the academic world, are the most affected group by this development. As digital natives, students in today's era interact actively with technology in various forms. However, their perceptions of the use of AI in learning remain an intriguing subject of study. According to Giroux, et al. (2022), using AI technologies, such as innovative learning tools, tutoring systems, and virtual facilitators, has proven very valuable. However, he also noted that worries persist regarding irresponsible entities' utilization and potential misuse of AI-collected data, meaning there are still concerns about the use of AI by irresponsible entities and the potential misuse of data collected by AI. This concern is shared by AI users, including students (Giroux et al., 2022).

Concerns regarding privacy and the social impact of AI implementation have also emerged as significant issues. According to a study by Jurewicz et al. (2024), Artificial intelligence and privacy: causes for concern, there are potential risks of existing AI methods to various aspects of our fundamental right to privacy. This refers to the risks and dangers posed by current AI methods to various aspects of our fundamental right to privacy. A study by Idroes et al. (2023) highlights that, however, this advantage is inseparable from the weakness of AI, where students are worried that AI will reduce the relationship between students and teachers. This means that while AI technology has its advantages, students also express concerns about the potential reduction in personal interaction between students and their teachers. This reveals a gap between the technological potential and students' perceptions of the long-term impact of AI in educational environments.

Furthermore, student acceptance of AI is strongly influenced by how effectively the technology aids the learning process. According to (Umoga et al., 2024), AI-driven optimization in enhancing network performance and efficiency has revealed significant potential and opportunities for innovation. This implies that AI-based optimization in improving network performance and efficiency has revealed great potential and opportunities for innovation. The implementation of AI in education requires collaboration and coordination among educators, administrators, developers, and policymakers. This means that it is very clear that implementing AI in education requires collaboration and coordination among educators, administrators, developers, and policymakers (Grace L. et al., 2023).

Thus, a deeper understanding of students' perceptions of AI is necessary to ensure its proper and beneficial implementation in the field of education. This research aims to examine students' perceptions of the utilization of artificial intelligence technology in the context of education, focusing on understanding, benefits, and challenges faced. Through this study, it is expected to identify factors that influence student acceptance of AI and provide insights for the development of educational policies that support the effective integration of AI in future learning and education.

Method

This research was conducted descriptively based on data that was qualitatively analyzed to explore students' perceptions of the use of artificial intelligence

technology. Descriptive research will produce descriptive data, namely data in the form of speech, writing, and behavior of people observed in a certain context that is studied from a whole, comprehensive and holistic point of view (Amir, 2019). Descriptive research yields descriptive data, namely data in the form of speech, writing, and behavior of people observed in a particular context, studied from a complete, comprehensive, and holistic perspective. Students from the Information Systems program at Royal Kisaran University and Prima Indonesia University served as subjects in this study, specifically students from the 2022 cohort, totaling 45 students. The respondents' ages ranged from 18 to 24 years old.

In-depth interviews were also conducted with students regarding the urgency, readiness, knowledge, and need for AI technology. Data was collected by distributing questionnaires created in Google Forms format and shared with students via the WhatsApp group chat network. Google Forms is an effective, efficient and practical service for obtaining certain information (Siswanto, 2022). It means Google Forms is an effective, efficient, and practical service for obtaining specific information. Once the data was collected, analysis was carried out by describing the results from the questionnaire collection. A literature review was also conducted to support the findings related to students' understanding and perceptions of AI.

Results

Questions were given to the students as respondents from September 10th to 14th, 2024. The respondents' answers were then calculated to gain insight into their perceptions of the use of artificial intelligence in learning activities. Below is a description and review of the questionnaire results.

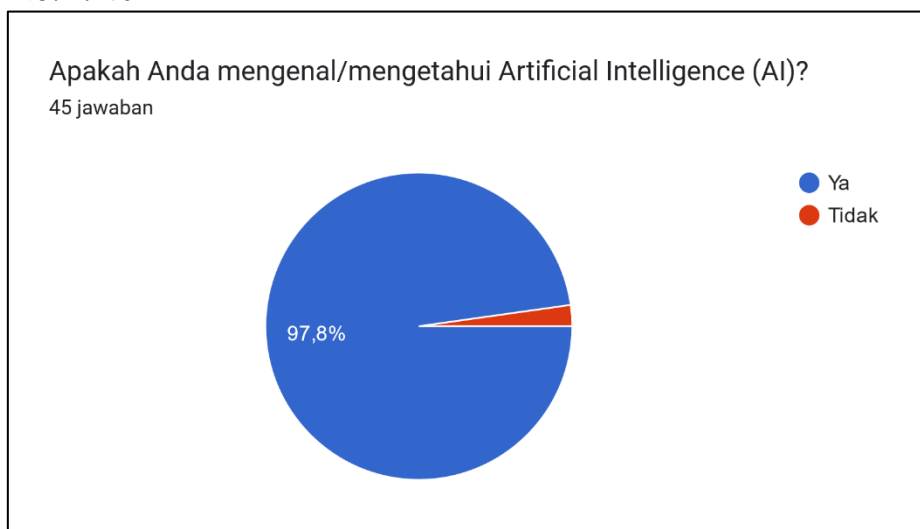
A. Understanding of Artificial Intelligence

In this subsection, the researcher asked questions related to the students' understanding of artificial intelligence, with the following question:

1. Do you know/are you familiar with Artificial Intelligence (AI)?

- Yes: 97.8%

- No: 2.2%



2. How would you rate your understanding of the basic concepts of artificial intelligence (AI)??

- Very good: 15,6%

- Fair: 75,6%
- Poor understanding: 8,9%
- No understanding at all: 0%

B. Frequency of Artificial Intelligence Use

In this section, the researcher collected responses from respondents related to the frequency of Artificial Intelligence (AI) use in their daily lives. The questions were as follows:

1. How often do you use AI technology in your daily activities (e.g., Chatbot, ChatGPT, virtual assistants, recommendation system, etc.)?

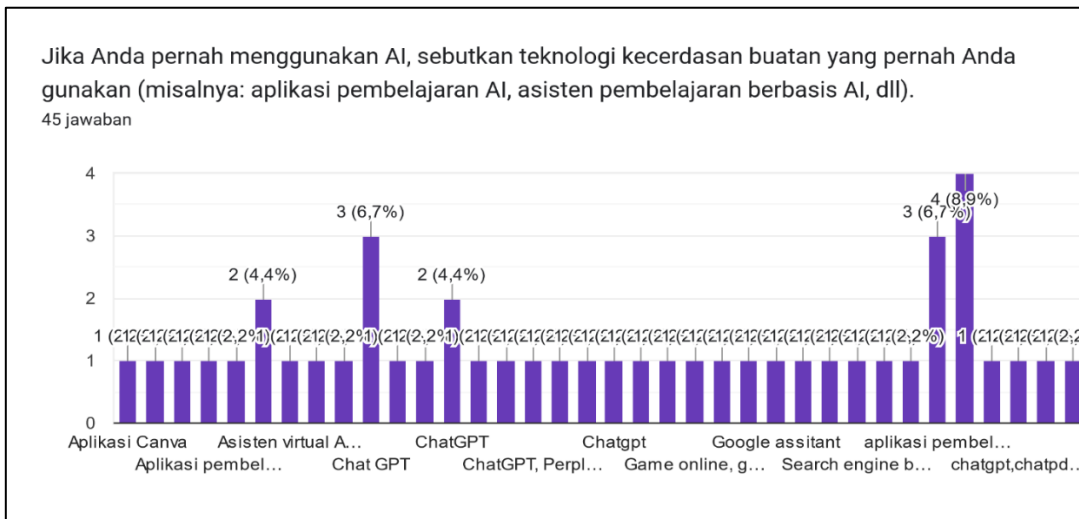
- Every day: 13%
- Several times a week: 47,8%
- Several times a month: 34,8%
- Never: 4,3%

2. Have you ever used AI technology in your learning process?

All participants answered “Yes” (100%). The next question was about the types of AI applications respondents had used.

3. If you have used AI, list the AI technologies you have utilized (e.g., AI-based learning applications, AI-based learning assistants, etc.).

- AI-based learning applications
- AI-based language translators
- Ai virtual assistants
- ChatGPT
- Perplexity
- Gemini
- AI-based search engines
- Online translator
- Online paraphrasing
- Google Bard
- Google Assistant
- Duolingo
- AI-based editing applications
- Canva
- Grammarly
- GPS



4. How often do you use AI technology to help complete your college assignments?

- Often: 33,3%
- Sometimes: 46,7%
- Rarely: 17,8%
- Never: 2,2%

5. Do you complete assignments from your lecturers with the help of AI?

- Always: 8,9%
- Often: 42,2%
- Rarely: 46,7%
- Never: 2,2%

The respondents' answers to questions 4 and 5 indicate a high level of AI usage (over 50%) to assist in completing college assignments and homework from lecturers.

C. Perception of Artificial Intelligence

Perception refers to the process of organizing, recognizing, and interpreting sensory information to provide a picture and understanding of the environment (Schacter et al., 2011). The perception questions included:

1. Do you think AI can improve efficiency in the learning process?

- Strongly agree: 20%
- Agree: 77.8%
- Disagree: 2.2%
- Strongly disagree: 0%

2. Do you feel that AI can personalize your learning experience to suit individual needs?

- Strongly agree: 8.9%
- Agree: 64.4%
- Disagree: 26.7%
- Strongly disagree: 0%

3. Do you feel that AI will be able to replace the role of lecturers or teachers in the learning process?

- Yes, completely: 0%
- Yes, some: 44.4%
- No: 44.4%
- Not sure: 11.1%

4. In your opinion, how important is the role of AI in education for the future?

- Very important: 13.3%
- Important: 84.4%
- Not important: 2.2%
- Very unimportant: 0%

5. Are you worried that AI will reduce human interaction in education?

- Very worried: 17.8%
- Worried: 64.4%
- Not worried: 17.8%
- Not at all worried: 0%



D. Benefits of Artificial Intelligence in Learning

The next question focused on the benefits and role of AI in helping students understand their lessons, with the following questions:

1. How much does AI technology help you in understanding lecture material?

- Strongly agree: 20%
- Agree: 77.8%
- Disagree: 2.2%
- Strongly disagree: 0%

2. How much does AI technology help you in understanding lecture material?

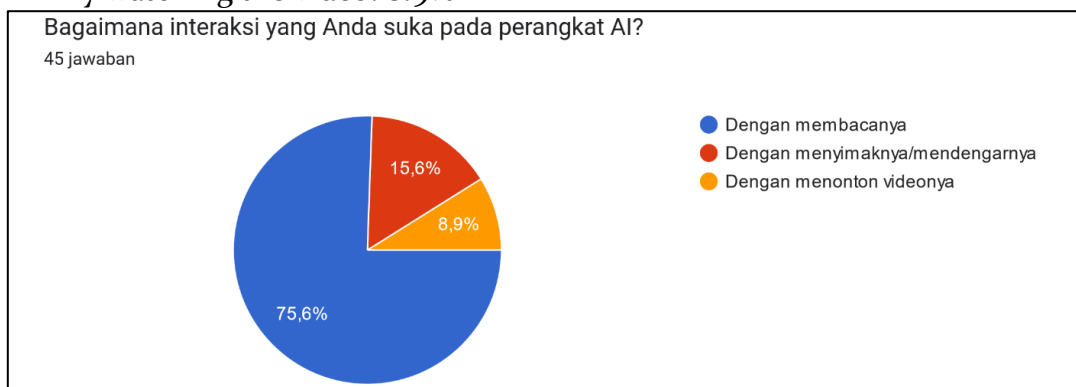
- Very helpful: 37.8%
- Help: 60%
- Not helpful: 2.2%
- Very unhelpful: 0%

3. Does AI help you in language activities (e.g. text translation)?

- How would you like your interactions with AI devices?
- Very helpful: 40%
- Help: 53.3%
- Not helpful: 6.7%
- Very Not Helpful: 0%

4. How would you like your interactions with AI devices?

- By reading it: 75.6%
- By listening to it/hearing it: 15.6%
- By watching the video: 8.9%



Discussion

A. Understanding of Artificial Intelligence

In this subsection, the researcher posed questions related to students' understanding of Artificial Intelligence, asking whether they are familiar with Artificial Intelligence (AI) and their level of understanding of the basic concepts of AI. The responses varied. "Very good" was the answer of 15.6%, "Fairly good" was 75.6%, "Somewhat understood" was 8.9%, and "Not understood at all" was 0%. These responses indicate that the students have a strong understanding of artificial intelligence in the learning process.

B. Frequency of Artificial Intelligence Usage

For this section, the researcher collected responses from participants regarding the intensity of their use of Artificial Intelligence (AI) in their daily activities. The question asked was about how often they use AI technology in daily activities (e.g., Chatbots, ChatGPT, Virtual Assistants, Recommendation Systems, etc.). The dominant response was several times a week, with others using it several times a month, and 13% using it daily. Only 4.3% of respondents never use AI in their daily activities. This indicates that most respondents rely on AI for their learning activities.

Another question was about the use of AI technology in the learning process, and all participants answered 'Yes' (100%). The next question was about the types of AI applications respondents used, and some of the AI applications they mentioned were: AI learning applications, AI-based language translators, AI virtual assistants, ChatGPT, Perplexity, Gemini, AI-based search engines, online translators, online paraphrasing tools, Google Bard, Google Assistant, Duolingo, AI-based editing applications, Canva, Grammarly, and GPS.

The use of ChatGPT was the most frequent, as respondents used AI tools for their college assignments. The tasks given by lecturers were often dominated by definition questions, explanations, and essays, which required information and data in written form.

Respondents' answers to the questions about using AI technology to help complete college assignments or homework given by lecturers indicate that the intensity of AI usage among respondents is very high (over 50%). Respondents stated that their college assignments and homework were also assisted by AI.

C. Perceptions on Artificial Intelligence

The respondents' answers to the perception question indicate that the learning process will be more streamlined or efficient with the help of AI. Responses showing "strongly agree" reached 20%, while "agree" was 77.8%, with only 2.2% answering "disagree" and none answering "strongly disagree" (0%).

Respondents' perceptions of AI are not entirely positive, as reflected in their responses about AI personalizing their learning experience. Although 64.4% agreed, 26.7% of respondents felt that AI could not personalize their learning experience. This is because AI is limited to being a non-human tool, with the students themselves controlling the AI according to their learning needs.

Questions about whether AI could replace the role of lecturers or instructors in the learning process, how important AI will be in education for the future, and whether there are concerns that AI might reduce human interaction in the world of

education reveal the respondents' perceptions of AI's role and interaction in education, as well as human interaction in education. As AI users, respondents feel that AI can become a tool and medium for education in the future, but they are not confident that AI will replace the role of lecturers in the future.

D. Benefits of Artificial Intelligence in Learning

When combining the responses to the question about how much AI technology helps students in understanding course materials, 97.8% of respondents answered “strongly agree” and “agree” regarding AI's assistance in their understanding of lecture materials. Only 2.2% of respondents stated that AI did not help them in their studies or coursework. This indicates that AI plays a significant role in the learning process on campus.

The third question, whether AI helps in language-related activities (e.g., text translation), also shows that AI aids respondents in language activities, such as translation. Only 6.7% of respondents reported that they did not benefit from AI in this regard.

In terms of AI usage, the majority of respondents still predominantly use AI for reading purposes (75.6%). The various AI tools used in learning are largely dominated by “search engines” such as Google Search and ChatGPT, which are frequently used. Academic assignments are also mostly text-based, such as essay questions and articles, which naturally require reading.

Conclusion

The understanding of Artificial Intelligence (AI) among students can be concluded as high and very good. The students have a strong understanding of AI in the learning process, with a relatively high intensity of AI usage. Therefore, it can be concluded that students rely heavily on AI in their learning activities.

The most widely used AI application by students is ChatGPT, as it is used for academic assignments. This is because assignments from lecturers are often dominated by definitive questions, explanations, and essays, requiring students to gather written information and data.

Students perceive that AI makes the learning process more concise or efficient. However, they believe that AI does not fully personalize their learning experience, as AI is limited to being a non-human tool. Students feel that they are the ones controlling AI, and thus it does not provide a new learning experience.

As AI users, students feel that AI could become a tool and medium for education in the future, but they are not convinced that AI will replace the role of lecturers or teachers in the future.

The benefits of AI in learning are significant, especially in helping students understand course materials. AI assists students in comprehending lecture content and also aids them in language activities such as translation. The respondents predominantly use AI by reading or using text-based applications like ChatGPT. Their coursework is dominated by textual assignments, essay questions, and articles requiring reading materials.

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