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The Effect Of Using Ai In Completing Learning Assignments On The Level Of Understanding The Lessons Learned

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Abstract

Artificial Intelligence (AI) has become an increasingly important technology in education, supporting students in completing academic assignments and facilitating the learning process. This study aimed to examine the effect of AI utilization in completing learning assignments on students' level of learning understanding. A quantitative research design was employed using a questionnaire distributed to 80 students in South Tangerang City, Banten, Indonesia. The collected data were analyzed using descriptive statistics and Pearson correlation analysis. The results showed a correlation coefficient of 0.98567 with a significance value of 0.000 ($p < 0.05$) and a coefficient of determination (R^2) of 97.125%. These findings indicate a very strong, positive, and statistically significant relationship between the use of AI in completing learning assignments and students' perceived level of learning understanding. Accordingly, the research hypothesis stating that AI utilization influences students' learning understanding was accepted. The findings suggest that AI can serve as an effective learning support tool when used appropriately to assist students in understanding learning materials. Therefore, educators are encouraged to promote the responsible and constructive use of AI to support meaningful learning and improve students' learning experiences.

Keyword: AI, learning, understanding, learning tasks.

INTRODUCTION

In the era of Big Data 4.0, the use of advanced technologies such as Artificial Intelligence (AI) is increasingly dominating various aspects of life, including the learning process in today's education world. As information and communication technology continues to advance, the use of the latest technologies, such as AI, in the teaching and learning process in education is

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inevitable. The use of AI has now spread to all levels of education. Technology enables teachers to teach more efficiently and effectively, while students can maximize their learning without having to rely entirely on teachers.

Artificial Intelligence (AI) is the effort to model human thought processes and design machines to mimic human behavior. AI plays a crucial role in revolutionizing the education sector, making teaching and learning more effective and efficient. In the world of technology, Artificial Intelligence (AI) is a major topic of discussion and is widely used in various aspects of human life. AI leverages technological advances in developing materials and thinking skills through applications. The high-level thinking capabilities of AI can motivate students to analyze and manipulate information more dynamically to prevent boredom (Alirmansyah, 2019). High-level artificial intelligence systems are capable of identifying students' understanding and presenting learning materials according to their ability levels. This results in AI's role in stimulating and expanding human intelligence (Rahadianto, 2022; Maliandhi, 2021).

Today, teachers must be able to serve the millennial generation, who are more responsive to technology-based learning than conventional learning content. The current educational paradigm is shifting, with the use of slates as writing tools transforming into digital slates. The transformation of current learning media must align with developments in information technology, as highlighted by Pringgar (2020) and Wibawa (2021). The rapid development of technology and information makes it very easy for students to access learning materials without having to wait for teachers. For teachers, this can present new opportunities to develop teaching materials that are appropriate to the current era. The integration of technology into learning can increase student interest and participation in learning. In fact, many students complete their learning assignments using today's sophisticated technology. The existence of Artificial Intelligence (AI), teachers are required to be able to create effective and efficient teaching aids that can attract students' interest and enthusiasm, encouraging them to be more active and enthusiastic in learning.

Although numerous studies have highlighted the benefits of Artificial Intelligence (AI) in education, most of them have primarily focused on its effectiveness in improving learning outcomes, personalized learning, and instructional efficiency. Limited attention has been given to how students perceive the extensive use of AI in completing academic assignments and how this practice influences their conceptual understanding and independent learning. Moreover, empirical evidence regarding whether AI supports meaningful learning or instead promotes excessive dependence on technology remains inconclusive.

This issue has become increasingly important because AI-based tools such as ChatGPT,

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Gemini, Copilot, and other generative AI applications are now widely accessible to students. While these technologies provide significant learning support, they also raise concerns regarding academic integrity, critical thinking, and students' ability to construct knowledge independently. Therefore, understanding students' perceptions of AI-assisted learning is essential for developing appropriate educational policies and pedagogical strategies.

Therefore, this study aims to investigate students' perceptions of the use of Artificial Intelligence in completing academic assignments and to examine its perceived influence on students' conceptual understanding of course materials. The findings are expected to contribute to the development of pedagogical strategies that promote responsible and meaningful AI integration in higher education.

The ever-evolving sophistication of AI, particularly in education, has made students feel like they're being pampered by technology. Many students are utilizing AI to complete their learning assignments without relying on teachers. This phenomenon has led researchers to explore the impact of using AI in completing learning assignments on student understanding, based on their perceptions. The aim is to determine the extent to which AI in completing learning assignments impacts student understanding of a subject.

METHOD

Design and Samples, Quantitative research methods are scientific approaches based on the philosophy of positivism for researching specific populations or samples. This method focuses on collecting numerical data and testing theories and hypotheses through statistical analysis. This study employed quantitative methods, using questionnaires as the primary data collection tool, combined with literature sources on AI. This study aimed to determine the effect of using AI in completing learning assignments on students' understanding, based on their own perceptions. This research was conducted in the City of Tangerang Selatan Banten with 90 respondents consisting of students who live and study in the city of Tangerang Selatan area.

Instruments and procedures, In this study, the researchers used data collection techniques such as questionnaires, interviews, observation, and documentation. The data collection procedure involved interviews, observation, and documentation, as well as distributing questionnaires to respondents. The results were then processed through five main stages: Data Check, Encoding, Entering Data, Data Quality Test, as well as Data analysis using software such as Microsoft Excel to get the desired results or information.

Data Analysis, The data analysis used in this study was quantitative descriptive analysis. The data was presented in descriptive form, aiming to provide an overview of the research

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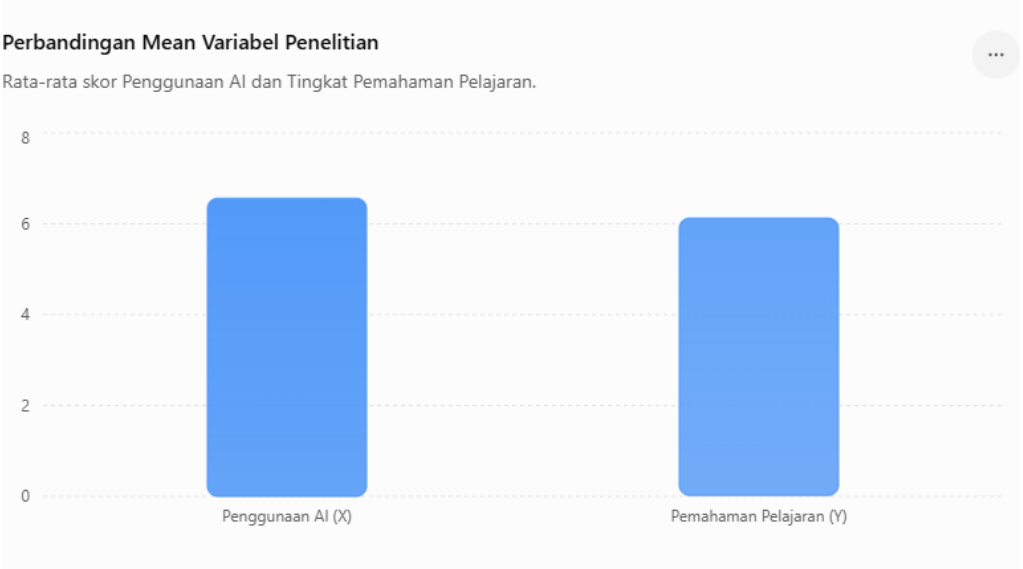
subjects based on variable data obtained from the subject groups studied using tabulation techniques, namely by presenting the research results in tables, charts, or graphs of frequency distributions along with percentages for each group.

RESULTS AND DISCUSSION

RESULT

This study aims to determine the effect of using Artificial Intelligence (AI) in completing learning assignments on students' level of understanding of the lessons. Data were obtained by distributing questionnaires to 80 students.

Based on the results of data processing, the average value (mean) for the use of Artificial Intelligence (AI) was obtained as6,5625, while the average value of the level of understanding of the lesson is6,125This average score indicates that students frequently utilize AI in their learning assignments and have a good level of understanding of the lessons.



The descriptive findings indicate that most respondents perceived Artificial Intelligence (AI) as a useful tool for supporting the completion of academic assignments. Students reported that AI helped them obtain information more quickly, understand complex concepts through simplified explanations, and access additional learning resources beyond those provided in the classroom. These findings suggest that AI has become an important learning companion that supports students in completing various academic tasks more efficiently.

The results of the Pearson correlation test show a correlation coefficient value (r) of 0,98567 with a significance value (Sig.) of0,000. Because the significance value is less than 0.05

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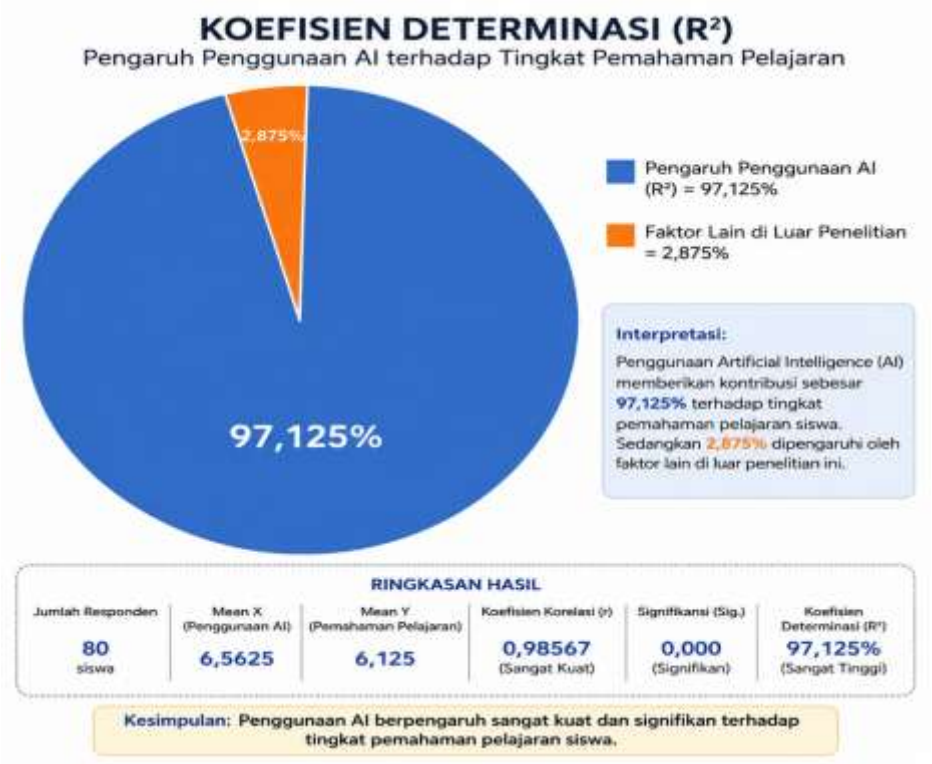
(0.000 < 0.05), there is a significant relationship between the use of AI in completing learning assignments and the level of student understanding of the lesson.

The correlation coefficient value of 0.98567 indicates that the relationship between the two variables is included in the category very strong This means that the greater the use of AI in completing learning assignments, the higher the level of understanding of the lesson that students have.

The positive relationship between AI utilization and students' learning understanding indicates that respondents generally perceived AI not only as a tool for completing assignments but also as a medium that facilitates the learning process. Students who frequently utilized AI tended to report better understanding of learning materials because AI provided immediate explanations, examples, and alternative solutions that supported independent learning.

In addition, the analysis results show a coefficient of determination (R^2) value of 97,125% This value indicates that the use of AI contributed 97.125% to students' understanding of the lesson. The remaining 2.875% was influenced by other factors not examined in this study.

Thus, the research results show that the use of Artificial Intelligence (AI) has a very large influence on the level of understanding of the lessons learned by students.



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DISCUSSION

Based on the research results, a correlation value of 0.98567 was obtained with a significance level of 0.000. These results indicate a positive and significant relationship between the use of Artificial Intelligence (AI) in completing learning assignments and the level of student understanding of the lessons learned.

These findings demonstrate that Artificial Intelligence can function as a complementary learning resource rather than merely a technological tool. Through instant feedback and personalized explanations, AI enables students to revisit learning materials according to their individual learning pace. Such flexibility supports students in developing a deeper understanding of concepts, particularly when classroom instruction alone is insufficient to address individual learning needs.

A positive relationship means that the greater the use of AI by students in their learning and assignments, the higher their level of understanding of the material. Conversely, if AI use is low, the level of understanding tends to be lower.

The correlation coefficient of 0.98567 indicates a very strong relationship. This indicates that the use of AI is closely linked to improved student learning comprehension. AI offers various conveniences for students, such as helping them quickly find information, explaining difficult material, providing example questions, and helping them access a wider range of learning resources.

The study also showed that the use of AI contributed 97.125% to students' understanding of the lesson. This percentage is considered very high, so it can be concluded that the use of AI was a significant factor in improving student understanding in this study. Meanwhile, only 2.875% was influenced by other factors outside the study, such as learning motivation, learning environment, teacher teaching methods, student academic ability, and family support.

The significant contribution of AI to lesson comprehension demonstrates that AI technology can be an effective learning tool when used appropriately. AI enables students to receive quick and easy learning assistance anytime, anywhere, without the constraints of time or location. With AI, students can review material, request additional examples, and obtain answers to questions they may have missed during class.

However, AI must be used judiciously. AI should be used as a learning aid, not as a means of copying answers directly without understanding the concepts being studied. When used appropriately, AI can help improve students' critical thinking skills, creativity, and independent learning.

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The results of this study demonstrate that technological developments, particularly Artificial Intelligence, can have a positive impact on education. AI not only helps students complete assignments more easily but also helps improve their understanding of the subject matter.

Nevertheless, the effectiveness of AI depends largely on how it is used by students. AI should be employed as a learning support system that encourages exploration, critical thinking, and independent problem-solving rather than as a substitute for students' own reasoning. Proper guidance from lecturers and educational institutions is therefore essential to ensure that AI contributes positively to meaningful learning and academic integrity.

Based on the research results and discussion, it can be concluded that the use of Artificial Intelligence (AI) in learning assignments has a very strong and significant impact on students' level of understanding. Therefore, the use of AI in learning activities needs to be directed positively to support improved student learning.

CONCLUSION

Based on the results of the data analysis, a correlation coefficient of 0.98567 was obtained with a significance value of 0.000 ($p < 0.05$) and a coefficient of determination (R^2) of 97.125%. These findings indicate a positive and statistically significant relationship between the use of Artificial Intelligence (AI) in completing academic assignments and students' perceived understanding of learning materials. Accordingly, the research hypothesis stating that AI utilization influences students' learning understanding is supported. The findings suggest that AI has considerable potential to support students' learning by providing immediate access to information, personalized explanations, and additional learning resources that facilitate independent learning. Therefore, AI should be integrated into educational practices as a learning support tool rather than merely as a means of completing assignments. Appropriate guidance from educators is essential to ensure that AI is used responsibly, ethically, and in ways that promote critical thinking and meaningful learning. This study is limited by its relatively small sample size and its focus on students from a single geographical area. Therefore, future research is recommended to involve larger and more diverse samples, examine additional factors influencing students' learning understanding, and employ mixed-method or longitudinal approaches to provide a more comprehensive understanding of the educational impact of Artificial Intelligence.

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