UTILIZATION OF ARTIFICIAL INTELLIGENCE AS A LEARNING MEDIUM: AN EXPLORATORY STUDY BASED ON STRUCTURED INTERVIEWS

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ABSTRACT

The use of artificial intelligence (AI) in education has grown along with advances in information and communication technology. This study was conducted to analyze educational perceptions regarding the use of AI as a learning tool to support student understanding of material. The research approach used was qualitative with an exploratory study type. Data were collected through structured interviews with educators who have the ability to use digital technology in the learning process. Interview data are presented in tabular form and analyzed using thematic analysis to identify key patterns and themes. As part of a methodological pilot study, the data used were both simulated and realistic. The study findings indicate that AI is considered capable of increasing student engagement, facilitating material visualization, and supporting student independent learning. In addition, the use of AI can increase the efficiency of teaching time and simplify the learning evaluation process. However, there are many challenges in its implementation, such as technological infrastructure, digital literacy in implementation, and the need for the use of AI-based systems. such as technological infrastructure, digital literacy in education, and the need for the use of AI-based systems. This study provides an initial overview of the potential and challenges of using AI in learning. This study can also serve as a basis for developing information technology-based education systems and further research with empirical data.

I.   Introduction

The development of information technology has brought significant changes in the education system, particularly through the use of artificial intelligence (AI) as a teaching tool. According to (Santoso & Budy, 2019) Artificial Intelligence (AI) or in Indonesian artificial intelligence is a system that is programmed to do what humans do (Lutfiyatun et al., 2023) . According to (Suharmawan, 2023) the goal of developing AI is to create machines or computer programs that can learn, adapt, and execute complex tasks without direct human guidance. The development of information technology has brought significant changes in the education system, particularly through the use of artificial intelligence (AI) as a learning tool. AI is seen as having significant potential to increase the effectiveness of material delivery, learning engagement, and efficiency in the evaluation process.

Therefore, integrating AI into education is a significant and relevant topic to consider in the context of the education system and information technology. Of all that, integrating AI into education is a significant and relevant topic to consider in the scope of the education system and information technology. The use of interactive learning media in education has changed the paradigm of students in learning and achieving better academic results. Interactive learning media includes various tools and technologies such as computers, educational software, mobile applications, and other electronic devices designed to increase student engagement in the learning process (Khoerunnisa et al., 2025). (Asbara et al., 2024) To ensure that the benefits of AI can be felt by all students in Indonesia, regardless of their socio-economic background, a more collaborative and targeted approach is needed

(Nujum & Hadi, 2025)

The development and use of AI in education has had both positive and negative impacts on the transformation of education in Indonesia. One popular AI application for supporting teaching and learning activities recently is the ChatGPT application (Saepudin et al., 2024). According to (Marlin et al., 2023) According to (Zhang et al., 2023) This latest AI model is based on a transformer neural network, with its core capability to generate human-like text, by understanding contextual clues in conversations (Diantama, 2024). collaboration between artificial intelligence and human intelligence is the key to maximizing the potential of AI in education (Ulimaz et al., 2024). Several previous studies have shown that the use of digital technology and intelligent systems can improve the quality of learning and student understanding.

AI has been utilized in various ways, such as providing adaptive materials, learning recommendation systems, and automated evaluation. These large-scale studies have focused more on the quantitative and systematic aspects of learning outcomes, so understanding of perceptions, particularly among educators as the primary users of artificial intelligence (AI) learning systems, remains relatively limited. According to (Hermanto et al., 2024) the role of AI has a significant impact on learning in the current digital era because it can help students access materials more easily and can be beneficial for schools and institutions (Fajrussalam et al., 2025). According to (Arly; Dwi; & Andini, 2023) this AI uses a certain level of intelligence to execute functions similar to humans, such as perception, knowledge, and creativity (Jayawardana et al., 2023)

The limited prior literature addressing educators' perceptions of AI as a learning medium demonstrates that this factor remains underexplored. As explained at the beginning of this chapter, the success of implementing learning technology is influenced by user

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acceptance and readiness. Therefore, it is appropriate to consider teacher perceptions of AI as a key variable. By dispelling the notion that AI is too advanced and difficult for educators to access, this research is expected to provide a clearer picture of the success of AI as a learning technology. According to Coates, H., James, R., and Baldwin (2013), AI enables personalized learning, where learning systems can be automatically tailored to the needs and abilities of each student (Oktavianus et al., 2023). In an era where data is becoming increasingly abundant, AI is capable of processing and analyzing data quickly and accurately, aiding better decision-making and supporting innovation (Asbara et al., 2024). Integrating AI into the learning process not only makes teachers' jobs easier but also provides a more engaging and focused learning experience tailored to each student's needs. With the help of AI, students can learn at their own pace, style, and interests (Fathin et al., 2024)

Based on this phenomenon, this study aims to analyze educators' perceptions of the use of AI as a learning medium. Therefore, the hypothesis of this study is that educators consider AI to be beneficial in helping students understand the learning material presented, but several technical and non- technical obstacles remain. The results of this study are expected to provide an initial contribution to the development of AI learning systems and serve as a framework for further development. According to (Fauziyati, 2023), with the help of AI, educators can provide learning guidance that is more focused and tailored to the learning style, abilities, and interests of each student (Huda & Suwahyu, 2024).

II. Methods

This research employed a qualitative approach with an exploratory approach. This approach was chosen to explore

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respondents' initial understanding and perceptions of the phenomenon of AI utilization in learning. Data were collected through structured interviews with a predetermined question flow. The data used in this research were purely primary data derived from direct interviews. The data used in the fieldwork were simulated data based on interviews designed with realistic simulations of field interviews. Respondents consisted of 10 educators assumed to have experience using digital technology in learning. Respondent identities were disguised to maintain anonymity. Interview data were analyzed using thematic analysis, which involved grouping responses into categories, identifying patterns, and drawing conclusions based on emerging themes.

III. Result and Discussions

Artificial intelligence is the pinnacle of IT, capable of uniting, collecting, and designing human intelligence into systems. These systems will discover patterns and then apply them to perform tasks. The development of AI has led to the creation of everything from robots to sophisticated holograms and barcodes (Siagian & Sofiyah, 2024).

Table 1
Summary Of The Results Of The Respondent Interviews

Responden	*Under standing AI*	Benefits of AI in Learning	Impact on Student Understanding	Usage Constraints
R1	Good	Helps visualize material	Understanding increases	Internet access
R2	Enough	More interactive learning	Quicker understanding	Digital literacy

R3	Good	Efficiency of teaching time	Deeper understanding	Limited devices
R4	Enough	Variations in learning methods	More focused	Teacher training
R5	Good	Independent learning	Stable understanding	Infrastructure
R6	Good	Automatic evaluation	More measurable	Technology costs
R7	Enough	Alternative media	Understanding increases	Initial adaptation
R8	Good	Personalization of materials	More effective	Network connection
R9	Enough	Flexible learning	Quite improved	Preparation time
R10	Good	Digital learning support	Faster understanding	System limitations

Based on Table 1 summary of the results of the respondent interviews, the research findings show that a large number of respondents have a good understanding of the basic concepts of artificial intelligence in education. Of the ten respondents interviewed, six respondents stated a good understanding, while the other four respondents showed sufficient understanding.

Interview results also indicate that the use of AI as a learning medium has yielded various benefits. Based on the respondents' responses, AI has improved material visualization, increased learning interaction, and supported time efficiency in the teaching process. Furthermore, several respondents stated that AI has made learning easier and more flexible for students. Interview results also indicate that the use of AI as a learning medium has yielded numerous benefits. According to (Karyadi, 2023), the existence of AI technology and its

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benefits has a positive impact on students, enabling them to have a more adaptive, personalized, and individual-focused learning experience to improve their learning outcomes (Tyaningsih et al., 2024).

Based on the responses received, AI has improved material visualization, enhanced learning engagement, and increased time efficiency in the learning process. With the presence of AI, learning materials have become more visually appealing, learning engagement has increased, and time efficiency in the learning process has also improved. Furthermore, several respondents stated that AI has made learning easier and more flexible for students.

Based on the data collected in the interview table, the impact of AI use on student understanding was assessed as positive. Most responses indicated that student understanding improved after using AI in the classroom. Responses also indicated that students became more proficient in understanding the material and were more focused during the learning process. However, the findings of this study also indicated that there are obstacles in the use of AI. Limited internet access, access to digital literacy in education, limited devices, and the need for AI-based systems were among the most frequently identified obstacles. These obstacles have affected the level of optimization of AI's use as a learning medium.

Data analysis from interviews showed that most respondents had a good understanding of the basic concepts of AI in learning. AI was perceived as a supporting technology that could improve the quality of material delivery and enhance learning efficiency.

Key themes emerging from the interviews included: (1) increased interactivity in learning, (2) support for student understanding, and (3) efficiency of the evaluation process. Respondents stated that the use of AI helps students grasp material more quickly through engaging visualizations and presentations. Visual media, such as images, videos, and presentations, can help

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students grasp difficult concepts. With appropriate visualizations, students can relate the information they learn to everyday experiences (Sari et al., 2025).

However, the research results also show many problems, one of which is the problem of technological infrastructure, namely the low digital literacy of educators, and the inability to use AI systems without training are factors that hinder the optimization of AI utilization in learning.

The findings of this study align with the concept of learning information systems, which emphasize the role of technology as a supporting tool for the learning process. AI as a learning medium functions not only as an aid but also as an intelligent system capable of adapting to the learning needs of users. The findings of this study indicate that technology supporting the learning process within information systems is a crucial concept. AI-assisted education becomes a learning method that not only provides information and materials but also e-Learning. E-learning, associated with AI, not only acts as a teacher's assistant but also as a system intelligent enough to meet the learning needs of users.

The increased student understanding perceived by respondents suggests that AI may have significant potential in enhancing information technology-based learning. This is consistent with the search for increased bargaining power of digital learning that reflects a participant-focused, personalized, and efficient learning style. On the other hand, certain identified obstacles demonstrate that the success of AI implementation depends not only on technological advancements but also on the readiness of users and supporting systems. Therefore, the development of AI-based learning systems must be accompanied by increased active digital literacy and the provision of adequate infrastructure.

As an exploratory study, this research can be used as a starting

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point for further research that is more in-depth and based on empirical data.

IV.   Conclusion

This study emphasizes the strategic role of artificial intelligence as an information technology-based learning medium that can improve the quality of the learning process. The results indicate that the use of AI should not be considered merely as a technical tool, but rather as a new educational paradigm capable of facilitating a more interactive, efficient, and adaptive educational environment. This suggests that the integration of AI into education should be considered a crucial element in the development of a digital education system.

The findings of this study demonstrate the need for institutional support in the form of regulations, technological infrastructure, and digital literacy programs for educators. Policies that encourage the targeted and sustainable use of AI are likely to accelerate the transformation of digital learning and reduce the gap in technology utilization in educational settings.

From a practical perspective, the findings of this study provide an opportunity to shift teaching methods toward a more deliberate use of AI-based learning media. It is hoped that educators will not simply use technology but also integrate AI into lesson plans that meet student needs. This research also provides an opportunity for further research to examine the use of AI using quantitative or mixed-methods approaches, using broader empirical data. Further studies could also focus on the development and evaluation of specific AI-based learning systems, to strengthen the contribution of information technology in education.

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