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The Role of Artificial Intelligence (AI) in the Learning Process PGMI Students at STIT Al-Bukhary Labuhanbatu North Sumatra

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ARTICLE INFORMATION	ABSTRACT
 	Information technology has become an important part of human life, especially with the rapid development in the field of artificial intelligence (AI). AI plays a significant role in improving the effectiveness and efficiency of learning, especially in higher education environments. This study aims to explore the role of AI in students' lives, focusing on the application of AI in education and its impact on students' learning experiences. This study uses a quantitative descriptive method with data collection through a survey of 30 Elementary Madrasah Teacher Education (PGMI) students at STITA Labuhanbatu. The survey results show that the majority of students have a good understanding of AI and a positive perspective on its influence on learning. AI has been shown to improve personalization in learning, assist academic administration, and prepare students for an increasingly digital workforce. However, this study also identified negative impacts, such as the potential for declining student literacy and the risk of technology addiction. Therefore, it is important to improve digital literacy and education about AI so that students can utilize this technology optimally and responsibly.

1. INTRODUCTION

Information technology has become a necessity in all aspects of human life (Tri Septiyantono, 2017). Due to the rapid advancement of technology, people must adjust their needs in finding information. Artificial Intelligence is a computer science designed to do work as humans do. With that, Artificial Intelligence is believed to be able to help humans learn more effectively and efficiently.

The development of artificial intelligence (AI) has changed many aspects of human life (Ahmad Abdul Rochim, 2024), including the world of education. In the digital era, AI is increasingly important in helping students face learning challenges and achieve academic success. The existence of AI has made a significant contribution to the development of educational technology, facilitating more effective and personalized Learning. In this journal, I will explore the role of AI in students' lives, introduce the application of various AI in education, and detail its impact on students' learning experiences.

In addition, Artificial Intelligence can be used to improve access to education. This technology enables better distance learning (Iqbal Anas & Supratman Zakir, 2024). allows students to access learning materials from anywhere and anytime. Using Artificial Intelligence, learning materials can be adjusted to each student's speed and learning style so that no one is left behind. The problem formulation in this paper is: What are the Influences of Artificial Intelligence (AI) on students in Learning? What are the Benefits of Artificial Intelligence in Student Learning?

From the formulation of the problem above, we can draw the following writing objectives: (1) to find out what the Influences of Artificial Intelligence (AI) are for students in Learning, and (2) to find out what the Benefits of AI are in Student Learning.

2. THEORETICAL BASIS

a. Definition of Artificial Intelligence (AI)

Artificial Intelligence (AI), or artificial intelligence in Indonesian, is a branch of computer science that aims to develop systems and machines capable of performing tasks that normally require human intelligence. (Eka Suryokta W Taruklimbong and Hotmaulina Sihotang, 2023). AI uses algorithms and mathematical models to enable computers and other systems to learn from data, recognize patterns, and make intelligent decisions. (Hari Nugraha Saputra, Rahmat Rahmat, and Kokom Komalasari, 2024).

In the context of AI, there are several important concepts, such as machine learning, neural networks, natural language processing, and many more. The development of AI has had a major impact in various fields, such as speech recognition, facial recognition, autonomous cars, medicine, and many more. There are many definitions of Artificial Intelligence (AI) according to the development of Artificial Intelligence technology (Sehan Rifky and others, 2024).

According to John McCarthy, often referred to as the "father of AI," he defines AI as "the science and engineering of making intelligent machines, especially intelligent computer programs." This broad definition encompasses any form of intelligence that machines can perform. (Sriwanti Belani, 2023).

Stuart Russell and Peter Norvig. Also explained in their book entitled "Artificial Intelligence: A Modern Approach," Russell and Norvig define AI as "the study of intelligent agents." namely systems that can take perspective from their environment and take actions that maximize their chances of success. (Lathifa Lathifa, 2024).

In her book Artificial Intelligence, Elaine Rich defines AI as "the study of how to make computers do things that humans currently do better." (Siti Hanila and Muhammad Afif Alghaffaru, 2023).

b. Students' Understanding of Artificial Intelligence

Understanding the concept of artificial intelligence has significant implications for students. In the ever-growing digital era, students are among the groups most affected by technological developments, including Artificial Intelligence. Therefore, students' knowledge of Artificial Intelligence has the potential to have a major impact on their learning experience and preparation for the future. (Alfi Yuni Mustika, 2024).

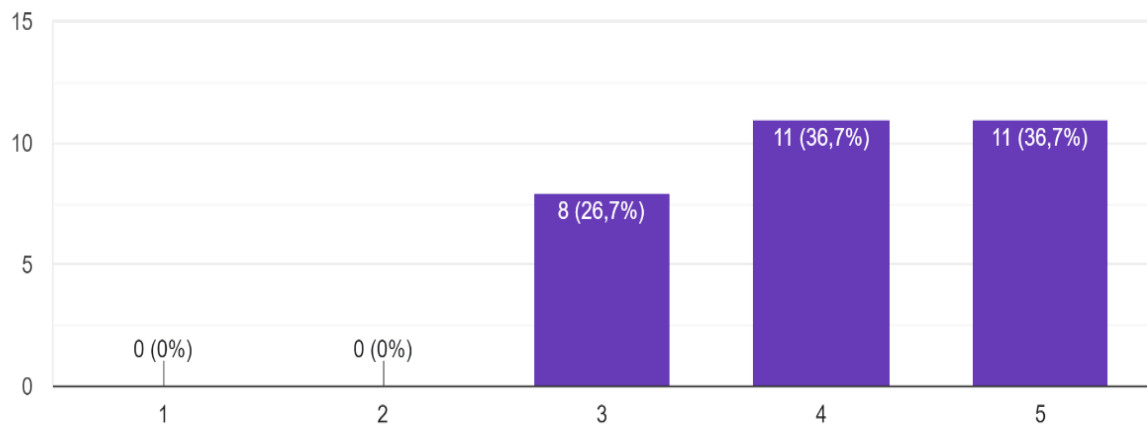Seberapa paham kamu mengenai Artificial Intelligence

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Figure 1. Level of understanding of students of STITA Labuhanbatu Elementary School Teacher Education Study Program (PGMI) regarding Artificial Intelligence (AI)

Based on the results of a survey that I conducted on 30 students of STITA Labuhanbatu Elementary School Teacher Education Study Program (PGMI), it shows that most respondents, around 73.3%, have a good to very good understanding of the concept of Artificial Intelligence, with values of 4 and 5. This indicates that most students have a strong understanding of Artificial Intelligence. This certainly makes students tend to be more prepared to face technological changes in the future.

Students will be more adaptable to Artificial Intelligence-based learning tools and be able to maximize the benefits of their learning process. However, around 26.7% of respondents scored 3, indicating a limited understanding of artificial intelligence. This indicates the importance of education and digital literacy among students. Students with limited understanding may need additional support in understanding the basic concepts of Artificial Intelligence, its implications in various fields, and how this technology can impact future jobs. Campuses and educational institutions are responsible for ensuring that no student is left behind in understanding this technology.

c. **Student Perspectives on the Influence of Artificial Intelligence (AI) in Learning**

The presence of artificial intelligence triggers various student perspectives on the influence of AI on learning. AI itself aims to help facilitate use with a framework of thinking and reasoning designed like humans based on human commands themselves. There are many benefits to be gained from AI. (Dwike Zaira Nurmila, 2024). However, there are also disadvantages to AI. After distributing a questionnaire with five research instrument indicators and being closed, here is the data that I have collected. I have 30 respondents from Elementary Madrasah Teacher Education (PGMI) students, Al-Bukhary Tarbiyah College (STITA) Labuhanbatu. Here is the data that I have collected.

Seberapa sering Anda menggunakan teknologi AI dalam kegiatan akademik/pembelajaran Anda?
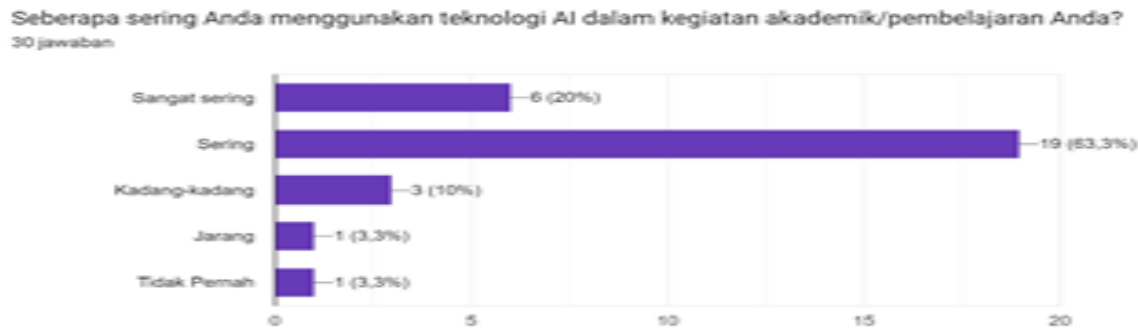30 jawaban

Figure 2.
Student perspective levels on the influence of AI in learning

Based on the second indicator, namely how students' perspectives on the influence of AI in learning, it can be concluded that more than half of the respondents claim familiarity with AI to apply in everyday life. This means that understanding of AI is quite widespread among respondents, but some are still less familiar with it.

Although most respondents claimed to be familiar with AI, not all were fully convinced that it can help or support the learning process. This suggests that despite awareness of AI, perspectives on its role and benefits in learning may vary based on individual experiences with the technology.

This data highlights the importance of further education on the role and benefits of AI in learning. By increasing understanding of the capabilities of AI and how it can be applied in educational contexts, it is expected that the level of support for using AI in learning will also increase. Educational institutions and policymakers need to continue strengthening educational programs about AI and how it can be used positively to assist the learning process. This can increase understanding and acceptance of AI technology among elementary school teacher education (PGMI) students. This data emphasizes the urgency of increasing understanding of the potential of AI in learning through a more targeted educational approach. With increasing awareness of the capabilities of AI and its implementation in learning contexts, support for the use of AI in learning will also increase. Therefore, educational institutions and policymakers must continue strengthening educational programs about AI to encourage better understanding and wider acceptance of this technology in educational environments.

Seberapa setuju Anda dengan pernyataan berikut: "AI dapat membantu meningkatkan pemahaman saya terhadap materi kuliah."
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Figure 3. Level of student respondents regarding AI can help improve understanding of learning materials.

Based on the third indicator, namely, How much do you agree with the following statement: "AI can help improve my understanding of learning materials, " most respondents tend to agree that AI can help in the learning process. However, there are still some who are neutral or even disagree. Some respondents have a positive view of using AI technology in learning, although some feel neutral or even have doubts. The results of respondents who mostly agree that AI technology shows that there is a positive adoption of the use of AI in the field of learning. Respondents also see the potential for implementing AI to increase efficiency and help the student learning process. The results of respondents also show the need to expand awareness and understanding of how AI can be used to improve inequality in education. Also, the respondents' answers show that there is room to clarify the concrete benefits and address concerns that some individuals may have regarding the use of AI technology in learning further.

Given the differences in opinions and understandings that need to be considered, it is important to continue to consider various perspectives and needs in developing and implementing AI technology in learning. Most respondents were optimistic about the role of AI technology in learning, although many still felt hesitant. This indicates a positive adoption of AI in education. In addition, respondents also identified the potential to improve student learning efficiency through the implementation of AI. However, the survey results also highlighted the need for increased awareness and understanding of how to use AI to address disparities in learning optimally. In addition, respondents' responses indicated the need for further explanation of the concrete benefits of AI and overcoming potential concerns related to its use. Therefore, differences in views and varying levels of understanding need to be seriously considered in developing and implementing AI technology in learning.

d. Benefits of Artificial Intelligence in Student Learning

The use of Artificial Intelligence (AI) for students has opened up new educational opportunities, bringing positive changes in how students learn, interact, and develop skills. Here are some paragraphs that describe the use of AI for students. (Velda Aurelia Putri, 2023).

First, using Artificial Intelligence AI in education has created a more personalized learning experience. Using intelligent algorithms, AI systems can analyze students' preferences, abilities, and learning styles. (uhdan Abdullah Muarif and others, 2022). This allows for the delivery of customized learning materials, ensuring that each student can access information according to their needs and level of understanding. In addition to being a learning aid, AI contributes to the administrative aspect. AI virtual assistants and chatbots can provide information about schedules, registration procedures, and other academic services. This makes it easier for students to access information and manage their academic activities.

Finally, the use of Artificial Intelligence (AI) opens up opportunities to develop digital and technological skills. Students can become familiar with AI technology, preparing them for the workplace demands that are increasingly related to innovation and technological development.

e. Positive and Negative Impacts of Using AI in Student Learning

a. Positive impact

Precision and accuracy in doing their tasks. This technology is set to help facilitate human work, including students' work. Work will be more flexible and take less time. All that students ask will be answered in it.

Replacing repetitive and routine human tasks. Not only flexible, AI can also be a student assistant that can work repeatedly and continuously. Students do not need to bother looking for their assignments.

AI has no time limits. Students can use it anytime, even for a long period of time, which is a unique attraction for AI.

Cheaper: By using AI, students do not need to spend money to complete their assignments. AI knows the ins and outs of the problems because AI is designed like humans.

Can do work faster and better. Using AI will shorten the time spent doing something. Students will have more free time because of the ease of AI in doing work. (Astrid Savitri, 2019).

b.   Negative impact

This makes students much lazier than before because the features offered make it easy to complete their college work. Students will easily underestimate the work given.

Artificial Intelligence (AI) does not have Common Sense. Although it is able to learn and work on its own like humans, AI cannot understand the purpose of the information it was created for because a complete understanding can only be had by humans. Although designed like humans, AI also has shortcomings.

AI is still lagging behind in vertical information processing and requires complex sense. Behind the convenience offered, AI is still a technology that requires time for such information.

Student literacy will decline because students do not need to bother reading journals or books. AI has an appeal that makes students prefer an easy way rather than having to read references.

Using AI for a long time can potentially be addictive. Just like online games, AI is the same. If used for too long, someone can become addicted. (uhdan Abdullah Muarif and others, 2022).

3.   RESEARCH METHODS

In this study, I use a quantitative descriptive method to support the analysis of "The Role of Artificial Intelligence in the Learning Process of PGMI Students at STITA Labuhanbatu". This method aims to describe phenomena, understand individual perspectives, gain in-depth insights, provide a basis for further research, and support theory development.

This research will collect survey data that I will publish through Google Form media to several Elementary Madrasah Teacher Education Study Program (PGMI) students at the Al-Bukhary Islamic Education College (STITA) Labuhanbatu. The survey questions will focus on the extent to which students have used Artificial Intelligence in their studies, such as using online learning platforms based on Artificial Intelligence, Artificial Intelligence tutors, or automated learning tools. The data generated from this survey will provide insight into the extent of the adoption of Artificial Intelligence in the learning of students of the Elementary Madrasah Teacher Education Study Program (PGMI) at the Al-Bukhary Islamic Education College (STITA) Labuhanbatu.

4.   RESULTS AND DISCUSSION

1. Research result

This study uses a quantitative descriptive method with data collection through a survey involving 30 Elementary Madrasah Teacher Education Study Program (PGMI)

students at STITA Labuhanbatu. The following are the results and discussions based on the survey that has been conducted.

Students' Understanding of Artificial Intelligence: The survey results showed that 73.3% of respondents had a good to very good understanding of the concept of Artificial Intelligence, while 26.7% of respondents showed limited understanding. This shows that most students already have a fairly strong understanding of AI, which will help them adopt this technology in their learning.

Student Perspectives on the Impact of AI in Learning: Most respondents stated that they have a positive view of using AI in learning. As many as 60% of respondents agreed that AI can help improve their understanding of learning materials, while 30% of respondents were neutral, and 10% disagreed. These results show that although some students are still hesitant, most have seen the positive potential of AI in learning.

Benefits of AI in Student Learning: AI has been shown to benefit the learning of PGMI students at STITA Labuhanbatu significantly. Some of the benefits identified from the survey results include personalized learning: AI allows the delivery of materials tailored to each student's needs and level of understanding. Administrative Support: AI virtual assistants and chatbots make it easier for students to access academic information and manage their activities. Digital Skills Development: Students are accustomed to using AI technology, preparing them for an increasingly digital workforce.

2. Discussion

This study shows that AI has great potential to improve the effectiveness and efficiency of learning in higher education environments. Most PGMI students at STITA Labuhanbatu have a positive view of using AI in learning, and various benefits have been felt. However, it is important to pay attention to the negative impacts that may arise, such as decreased literacy and the risk of technology addiction.

To optimize the use of AI in learning, digital literacy and education about AI among students need to be improved. Educational institutions are important in ensuring students can utilize this technology optimally and responsibly. Education about AI should include understanding the potential benefits and risks and how to integrate this technology into the learning process wisely.

5. CONCLUSION AND SUGGESTIONS

This study reveals the important role of AI in improving the effectiveness and efficiency of learning in higher education environments, especially for PGMI students at STITA Labuhanbatu. The results of a survey involving 30 students showed that the majority had a good understanding of AI and viewed its impact on the learning process positively.

The development of artificial intelligence (AI) has changed many aspects of human life, including the world of education. In the digital era, AI is increasingly important in helping students face learning challenges and achieve academic success. The existence of AI has made a significant contribution to the development of educational technology, facilitating more effective and personalized learning. In this journal, I will explore the role of AI in students' lives, introduce various applications of AI in education, and detail its impact on students' learning experiences.

This research shows that AI has great potential in supporting student learning, but it needs to be balanced with good understanding and wise use to avoid possible negative impacts.

BIBLIOGRAPHY

Anas, Iqbal, And Supratman Zakir, 'Artificial Intelligence: Solusi Pembelajaran Era Digital 5.0', J-Sakti *(Jurnal Sains Komputer Dan Informatika)*, 8.1 (2024), Pp. 35–46

Belani, Sriwanti, 'Artificial Intelgence Sebuah Inovasi Baru Menjual Produk (Membandingkan Keunggulan Fb, Wa, Instagram, Telegram Dan Youtube)', Lentera: Multidisciplinary Studies, 1.2 (2023), Pp. 111–18

Hanila, Siti, And Muhammad Afif Alghaffaru, 'Pelatihan Penggunaan Artificial Intelligence (Ai) Terhadap Perkembangan Teknologi Pada Pembelajaran Siswa Sma 10 Sukarami Kota Bengkulu', *Jurnal Dehasen Mengabdi,* 2.2 (2023), Pp. 221–26

Lathifa, Lathifa, 'Peran Artificial Inteligence Dalam Membantu Pembelajaran Jarak Jauh Berbasis E–Learning', *Scientica: Jurnal Ilmiah Sains Dan Teknologi,* 2.8 (2024), Pp. 133–38

Muarif, Juhdan Abdullah, Fadhil Abu Jihad, Muhammad Isa Alfadli, And Dede Indra Setiabudi, 'Hubungan Perkembangan Teknologi Ai Terhadap Pembelajaran Mahasiswa', *Seroja: Jurnal Pendidikan,* 1.2 (2022), Pp. 117–27

Rifky, Sehan, Lalu Puji Indra Kharisma, H Achmad Ruslan Afendi, Segar Napitupulu, Mustika Ulina, Wulan Sri Lestari, And Others, Artificial Intelligence: Teori Dan Penerapan Ai Di Berbagai Bidang (Pt. Sonpedia Publishing Indonesia, 2024)

Rochim, Ahmad Abdul, 'Kecerdasan Buatan: Resiko, Tantangan Dan Penggunaan Bijak Pada Dunia Pendidikan', *Antroposen: Journal Of Social Studies And Humaniora,* 3.1 (2024), Pp. 13–25

Saputra, Hari Nugraha, Rahmat Rahmat, And Kokom Komalasari, 'Pemanfaatan Artificial Intelligence Pada Pelajaran Pendidikan Pancasila Berbasis Projek Di Smp Daarut Tauhiid Boarding School', Sanskara Pendidikan Dan Pengajaran, 2.02 (2024), Pp. 115–25

Savitri, Astrid, Bonus Demografi 2030: Menjawab Tantangan Serta Peluang Edukasi 4.0 Dan Revolusi Bisnis 4.0 (Penerbit Genesis, 2019)

Septiyantono, Tri, 'Konsep Dasar Literasi Informasi', Jakarta: Universitas Terbuka.[Online] Diakses Dari: Http://Repository. Ut. Ac. Id/4198/1/Pust4314-M1. Pdf Pada, 2017, Pp. 10–25

Taruklimbong, Eka Suryokta W, And Hotmaulina Sihotang, 'Peluang Dan Tantangan Penggunaan Ai (Artificial Intelligence) Dalam Pembelajaran Kimia', *Jurnal Pendidikan Tambusai,* 7.3 (2023), Pp. 26745–57