

Students' Perception on Artificial Intelligence Use in Learning Process (Case Study of PAI Students at Singaperbangsa University Karawang)

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Abstract: Artificial Intelligence is the ability of a machine to display human-like capabilities such as reasoning, learning, planning and creativity. Nowadays, the usage of Artificial Intelligence is rising. Artificial Intelligence (AI) technology has become increasingly important in the modern world due to its numerous applications and benefits and is quickly changing how we live our lives. This study aims to understand the students' perception on AI use in enhancing students' learning process. This study is a qualitative descriptive research which try to potray the students' perception on AI. In the field of education, Artificial intelligence has the potential to transform education by enabling personalized learning and improving student outcomes substantially. Results shows that most of students' think that Artificial Intelligence is a very powerful tool to improve and to enhance their learning process. Artificial Intelligence helps them to find learning sources easier, faster, and more comprehensive. On the other hand, some of students stated that Artificial Intelligence could lead to dependency on Artificial Intelligence, declining critical analysis, and lazyness.

Keywords: Artificial Intelligence; Learning Process; PAI Students; Students' Perception.

Abbreviations: AI (Artificial Intelligence), PAI (Pendidikan Agama Islam, read: Islamic Religious Education)

Introduction

The idea of artificial intelligence (AI) goes back thousands of years, the roots of modern AI can be traced back to the classical philosophers of Greece, and their efforts to model human thinking as the mechanical manipulation of symbols. (Foote, 2022) In the present day, AI has made significant strides in recent years, with the development of deep learning and neural networks. AI is now used in a wide range of applications, including Education. The number studies conducted by (Crompton & Burke, 2023) shows that the trend towards the use of AI in Higher Education has greatly increased. In higher education, the use of artificial intelligence, particularly Generative Artificial Intelligence such as ChatGPT is for enhancing students' learning

experience through its ability to respond to user prompts to generate highly original output. (Chan & Hu, 2023)

Timms on (Chen et al., 2020) stated that AI is very powerful and has the potential to permeate and heavily cause changes in different sectors of the society, with the education sector being one that is likely to be majorly impacted by AI. The field of artificial intelligence (AI) has great promise for transforming education in numerous ways. AI has the potential to customize learning by giving students timely feedback and recommendations based on their unique needs and skills. This can keep students motivated and engaged and improve their academic performance. According to the study carried out by (Kumar, V. V. & Raman,

2022) students believe that artificial intelligence (AI) can be applied successfully in academic administration and teaching processes, but it shouldn't be utilized in some admissions, testing, and placement procedures.

Generation Z emerged after Generation Y and holds an intimately strong relationship with digital and technological means. (Oliveira & Barros Neto, 2022) the students of Islamic religious education year of 2021 study program at Singaperbangsa University are Generation Z. (Farida, 2017)(Rahmawati et al., 2023) Nowadays Generation Z or GenZ deal with Artificial Intelligences in their daily activities a lot. Doing homework, editing photos, making videos, answering questions, and many aspects of their life are already connected with AI, and this is included in the field of education.

This study aims to understand the students' perception on AI use in enhancing the learning process, more particularly, the study will also seek how AI has affected their learning and how they perceive their position as a future teacher.

Materials and Methods

This study uses qualitative approach. Qualitative research is interpretative research, with the inquirer typically involved in a sustained and intensive experience with participants. (Creswell, 2009) The purpose of qualitative research is to collect and examine non-numerical data to comprehend people's attitudes, beliefs, and motivations in order to better understand their social reality. This study is descriptive qualitative research that tries to portray the students' perceptions on AI in general.

We conducted semistructured interviews with the students at Islamic Religious Education study program, year of 2021 with the number participants 18 students. We designed interview questions to understand how students' perceive the Artificial Intelligence use in learning process. First, to understand the students' perspective on AI, we asked the following question: "How do you perceive the use of AI in learning?". Subsequently, students are asked the following question: "What

impact do you feel with AI and after using AI in the learning process?" and followed by: "What is your concern if AI heavily used?" to address their concern if AI overly used. Regarding to their position as a future teacher, students are asked: "Can AI replace the current teacher? Why?". An analysis of the study's data was conducted using content analysis. Content analysis's primary goal is to identify the ideas and connections that can be used to explain the data.

Results and Discussion

Students' Perception on AI use in Learning Process

In a learning environment, students' perceptions of a technological innovation such as Generative AI, as well as their views, concerns, and experiences with the technology, can influence their willingness to use the tool and, as a result, the extent to which the tool is integrated into the learning process. (Chan & Hu, 2023) Generative AI used by the PAI students for example such as ChatGPT, Perplexity.ai, Bing AI, and so on. Students have various perception on Artificial Intelligence.

As one remarked "In particular, AI greatly aids students in their quest for knowledge and task completion; however, as learners and future educators, we must be able to use AI responsibly without sacrificing our inherent intelligence." It means there's concern on overusing AI. One student agreed the previous statement that: "I think the only reason using AI is acceptable is if it makes our lives easier. However, in order to maintain our capacity for critical thinking, we must remain aware of its limitations and avoid overusing it"

(Jin et al., 2023) found that learners recognized that AI applications to support metacognitive, cognitive, and behavioral regulation in different areas of self-regulated learning are generally helpful. AI can acquire, compile, and consolidate information (Chan & Hu, 2023) as one student stated:

"As a future teacher, technology will be very useful in assessing or locating educational resources or media to support the teaching and learning process."

"In conclusion, I believe that AI technology can provide great benefits to students and future educators if used wisely and responsibly. However, its use must be carefully considered and well monitored to ensure that it is used for positive purposes and benefits for all."

"I see that AI technology has great potential to help students and future educators in various aspects of life. AI can help students in obtaining the information they need, accelerate the learning process, and improve efficiency in completing academic tasks. In addition, AI can also help educators and future educators in developing more effective and efficient teaching methods, as well as help in evaluating students' progress individually."

AI described as something powerful if it used wisely and responsibly. In the field of education, Artificial Intelligence (AI) has the potential to provide numerous benefits to both students and teachers such as personalized learning, immediate feedback, improved accessibility, improved teacher performance, personalized support, and efficiency.

Positive Impact of AI in Learning Process

One of the primary advantages of using artificial intelligence in learning is the ability to provide students with a more personalized learning experience. (Jin et al., 2023) (Chan & Hu, 2023) (Bates et al., 2020) AI algorithms can analyze student data and adapt to their learning styles, providing personalized feedback and recommendations based on their specific needs and abilities. (Melo, 2023) This can help to keep students engaged and motivated, resulting in better academic performance. One student stated: *"AI has the potential to teach. Artificial Intelligence facilitates learning, particularly self-directed learning"*

AI can provide students with immediate feedback, allowing them to identify and address gaps in their knowledge. This can help students learn more effectively and efficiently. Several PAI students stated:

"extremely beneficial for finishing tasks involving theory and text"

"I believe that the use of this AI greatly facilitates learning and makes the process more straightforward and useful"

"Helps in answering questions and finding references"

"Can help to think broadly in finding answers"

"The impact is that we can find out faster what we're looking for"

"Obtain an information right away"

"AI can increase productivity and efficiency in a variety of spheres of life. I can easily find journal references with AI for more information and solutions."

Artificial intelligence (AI) not only beneficial for the students but also for the teachers. Automating administrative tasks can be done by AI such as grading, scheduling, and data management. It can swiftly and accurately complete tedious and repetitive tasks, freeing up time and human resources for tasks requiring human intelligence and creativity.

Students' concern on Relying too heavily on AI in Learning

While Artificial Intelligence (AI) has the potential to revolutionize education, there are also potential drawbacks to relying too heavily on AI in education. As several students marked:

"It causes someone to grow reliant on the usefulness of the AI, making them lazy to seek out alternative sources of information"

"I believe that my interest in literacy will wane and my learning effort will decrease if I keep using AI"

"Makes students less capable of critical thinking"

"It seems that students lack literacy and are reluctant to think critically is one of the negative impacts of AI"

"most students don't want to look for other answers"

"...make students too dependent on AI"

Most of the students stated that overusing AI in Learning creatin dependency and loss of control. The wider the use of AI in everyday life, the more we become dependent on the technology. Loss of control and excessive dependence on AI can be a problem, especially if there is a system failure or unwanted manipulation. According to multiple

studies, AI can contribute to laziness among students. One student stated clearly: *"it makes us dependent on AI and becomes lazy"* The overreliance on AI can lead to a decline in decision-making skills, cognitive impairment, and a lack of personal development. (Ahmad et al., 2023)

Using AI requires gathering and analyzing enormous volumes of data. Because personal information may be accessed and misused, this raises concerns about data security and privacy. To solve this issue, robust data protection and transparent privacy guidelines are required. (Seo et al., 2021) While the opportunities for AI are promising, students and instructors may perceive the impact of AI systems negatively. For instance, students may perceive indiscriminate collection and analysis of their data through AI systems as a privacy breach.

AI can not replace the current teacher

While AI has the potential to improve learning and support teachers in a variety of ways, there are some teacher tasks that AI cannot replace. *"Nothing can take the place of a teacher."* A short and clear statement from one student. There is consistent evidence that AI solutions open a new horizon of possibilities for teaching and learning in higher education. However, it is important to admit the current limits of technology and admit that AI is not (yet) ready to replace teachers (Popenici & Kerr, 2017) A student said that: *"For now, it is not possible because teachers have an important role in the learning process directly such as motivating students, as well as inspiring students."*

A teacher plays a big role to shape the critical thinking, human connection and emotional intelligence, creativity, real-time adaptability and collaboration.

"AI is currently unable to fully understand the social context and human emotions. This is very important in the learning process, especially in building relationships between teachers and students. Teachers can also provide emotional support and motivation to students, which is difficult for AI to do" said one student.

(Seo et al., 2021) found that lack of explainability of AI would make it hard to blame despite the fact that it may hold a position of responsibility in some situations, such as answering questions where its answers should be considered as truth. 'Trust but verify.' This phrase was made famous by Ronald Reagan in December 1987 after the signing of the INF Treaty with Mikhail Gorbachev. (Bates et al., 2020) *"I don't believe 100% in Artificial Intelligence, so when I use Generative AI such as ChatGPT I double check with other scientific literature"* stated one Student.

The complexity explanation also being questioned by the students. AI provide the same information to every student and on the other hand the level understanding of the students is different. Students need both complex and simple explanation at the same time, depend on the students' ability. One student stated:

"Current AI is still limited in providing complex explanations. A teacher, on the other hand, can provide more detailed explanations and can tailor the explanations to the needs and abilities of the students."

This statement is supported by other student: *"As smart and efficient as AI is, teachers cannot be replaced. Teachers are a noble profession. A teacher is followed and imitated by his students (being a role model)"*.

Human interactions with AI are increasing day by day. For example, various AI applications, like robots, chatbots, etc., are used in education. Many will learn human-like habits one day, but some human attributes, like self-awareness, consciousness, etc., will remain a dream. (Ahmad et al., 2023) AI has the potential to transform education, but it must be used ethically, transparently, and with consideration for students and teachers alike. (Greene-Harper, 2023) Teachers will continue to play an important role in education by teaching critical thinking, building human connection and emotional intelligence, creating real-time adaptability, discovering creativity, and making collaboration with the students. Artificial Intelligence will be a valuable tool to assist them to enhance the learning process.

Conclusions

In conclusion, students generally have a positive perception of AI in learning. Students are believing that AI can enhance the learning experience and improve academic performance. Artificial Intelligence (AI) has the potential to provide numerous benefits to both students and teachers such as personalized learning, immediate feedback, improved accessibility, improved teacher performance, personalized support, and efficiency. However, there may be negative effects from using AI in teaching too much. Student express their concerns about the dehumanization of the learning experience and the over-reliance on technology. It is important to strike a balance between AI integration and human cognition and to ensure that students do not become too reliant on AI-generated content. In the context of whether AI can replace the current teacher, there are some teacher tasks that AI cannot replace. AI has the potential to improve learning and support teachers in a variety of ways. Artificial intelligence will be a useful tool in assisting them in improving the learning process.

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