

The Urgency of Artificial Intelligence in Improving Student Learning Outcomes (Study at PAI FTK UIN SMH Banten)

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Abstract

Technological progress 4.0 is an inevitability that cannot be avoided, where many aspects of life have started to use sophisticated technology, including the use of artificial intelligence in the world of education. The existence of artificial intelligence will make it easier for students to search for materials and references provided that they always prioritize honesty in making assignments. The purpose of this paper is to determine the urgency of artificial intelligence in improving student learning outcomes at PAI FTK UIN SMH Banten using descriptive qualitative research methods, using observation, interviews and documentation instruments in carrying out the research. And the results and discussion of the urgency of artificial intelligence on student learning outcomes at PAI FTK UIN SMH Banten are, with artificial intelligence making people understand material that they previously did not understand, artificial intelligence can develop material, and artificial intelligence keeps up with current developments.

Keywords: Technology 4.0, World of Education, Urgency

Introduction

Artificial intelligence is today's technology in a system created by humans to simplify all aspects of life in various fields. Artificial intelligence is the ability of a computer or system to perform tasks that usually require human intelligence, such as thinking about material, processing data, analyzing data, and making decisions in any aspect. By nature, humans are individual creatures who are innovative. As time advances, humans increasingly want to make various aspects of their lives easier by creating a system called artificial intelligence which is created for the interests and benefits of humans themselves.⁴⁶

Artificial intelligence is like a double-edged sword, in one context it can be used for good things such as making it easier to do their work, but in another context it can harm humans by being too indulgent in using artificial

⁴⁶ Athanasia Octaviana Puspita Dewi, (2020), "Kecerdasan Buatan Sebagai Konsep Baru Pada Perpustakaan", *Jurnal ANUVA*, Vol. 4, No. 4, 453.

intelligence which results in humans being lazy in carrying out their work seriously. And in essence, artificial intelligence is a consequence of the progress of the era itself.⁴⁷ Moreover, currently we are in the era of technological progress 4.0 which is very modern in development.⁴⁸ One important aspect that continues to develop over time is education. Education is a unity of planning, process and evaluation of learning carried out by an educator in order to humanize humans.⁴⁹

Without education, humans will experience a decline in civilization and will not know how to humanize themselves. If in the past humans learned by only using pens and simple media such as physical books to convey information to readers,⁵⁰ now humans can use artificial intelligence to make it easier for humans to search for information other than using existing pens and media. By using existing tools, media and artificial intelligence optimally, you will be able to produce good learning results, because the abilities a person has are the result of learning at a certain time using everything available.⁵¹

The urgency of this research is to find out how urgent artificial intelligence is in improving student learning outcomes, based on the results of researchers' observations of PAI FTK UIN SMH Banten students, students have difficulty understanding and studying lecture material by only relying on personal understanding and are left behind in explanations from lecturers because they are lacking. pay attention when learning. The existence of artificial intelligence can help students experience these various obstacles. In the educational context, artificial intelligence has great potential in improving student learning outcomes. With its ability to process and analyze data quickly and accurately, artificial intelligence can provide a more personalized and adaptive learning experience according to individual student needs. This can help students understand the material more effectively and efficiently, and increase their level of achievement.

This research focuses on the urgency of artificial intelligence in improving student learning outcomes, with a case study in the Islamic Religious Education Study Program (PAI) Faculty of Tarbiyah and Teacher Training (FTK) Sultan Maulana Hasanuddin State Islamic University (UIN

⁴⁷ Michael Reskiantio Pabubung, (2023), “Era Kecerdasan Buatan dan Dampak Terhadap Martabat Manusia Dalam Kajian Etis”, *Jurnal Filsafat Indonesia*, Vol. 6, No. 1, 66.

⁴⁸ Theresiawati, Tjahjanto, Yuni Widiastiwi, (2023), “Factors Influencing the Adoption of Cloud-based Village Information System: A Technology-Organization-Environment Framework and AHP-TOPSIS Integrated Model, *Indonesian Journal of Electrical Engineering and Informatics*, Vol. 11, No. 3, 738.

⁴⁹ Supardi, (2014), *Evaluasi Pembelajaran Pendidikan Agama Islam*, (Jakarta: Haja Mandiri), 1.

⁵⁰ Hamzah Pagarra, Ahmad Syawaluddin dkk, (2022), *Media Pembelajaran*, (Makassar: UNM), 5.

⁵¹ Elabdiansyah, Masyni, (2021), *Belajar dan Pembelajaran*, (Samarinda: Sebatik), 1.

SMH) Banten. The PAI study program has an important role in forming students' understanding and understanding of Islamic religious teachings. Therefore, the use of artificial intelligence in PAI learning can provide significant benefits. With this research, it is hoped that new insights will be opened regarding the use of artificial intelligence in the context of Islamic religious education.

The history of artificial intelligence began in the 1950s when scientists and researchers began to consider the possibility of creating machines that could imitate the capabilities of the human brain. Early in Development in 1950, Alan Turing proposed the "Turing Test" which aimed to measure a machine's ability to imitate human behavior. At the same time, John McCarthy introduced the term "artificial intelligence" and became one of the main figures in the development of AI. Then In 1956, McCarthy and a group of other researchers held the Dartmouth Conference, which is considered the official beginning of the scientific discipline of artificial intelligence. At the conference, participants attempted to create computer programs that could imitate human intelligence capabilities.

After experiencing improvements in its time, artificial intelligence experienced a period of decline in the 1970s and 1980s, progress in AI slowed and experienced a period known as the "artificial intelligence winter." Technological limitations at the time and difficulties in addressing the complexity of AI problems led to a decline in interest and funding in this field. Then in the 1980s and 1990s, developments in artificial neural networks gave new impetus to AI. Artificial neural networks are mathematical models that mimic how the human brain works and allow computers to learn from experience. And most recently in the 200s the development of the internet and advances in computing provided greater access to the data and computing power needed to train artificial intelligence models. The development of AI continues at a rapid pace, and we can expect further advances in the future with continued research and innovation.

It is hoped that the results of this research can become a basis for other educational institutions in adopting and implementing artificial intelligence in their learning strategies. Apart from that, this research can also make a positive contribution to the development of curriculum and teaching methods in the PAI FTK UIN SMH Banten study program, as well as provide input for the development of more effective education policies in the future. This research is research that supports previous research, for example the journal by Afrizal Zein with the title Artificial Intelligence in Service Automation. In this journal it is explained that artificial intelligence helps provide services to humans such as in the industrial sector in the context of

industrial reform in a company. certain.⁵² On this occasion, allow me as a qualitative researcher entitled **The Urgency of Artificial Intelligence in Improving Student Learning Outcomes (Study at PAI FTK UIN SMH Banten)** to explain this research so that it can be useful for all groups who read this research.

Research Methods

Method is a procedure for finding out about something in a structured way, while research is an initial search and returning to something until finding a result.⁵³ This research uses research with narrative added with relevant sources.⁵⁴ The research location was carried out in the PAI class of the new class of 2023 students, the research time was a month of 30 days or one month from 30 September 2023-29 October 2023. The research subjects were the researchers themselves while the objects were PAI students of the new class of 2023. In qualitative research the researcher used instruments namely:

1. Non Participatory Observation

Participatory observation is where the researcher asks about the daily activities of the person being observed or used as a source of research data, in this case the researcher is an incomplete researcher,⁵⁵ where the researcher is not directly involved in classroom learning for the new class of 2023 students

2. Interview

An interview is a method of extracting information by asking sources directly to obtain complete field data⁵⁶

3. Documentation

Documentation is looking for data about things or variables in the form of notes, transcripts, books, newspapers, magazines, pictures, and so on.⁵⁷

Meanwhile, for data analysis, the following are used:

1. Data reduction

Qualitative data reduction is the process of simplifying or reducing the volume of qualitative data collected in research. The purpose of qualitative data reduction is to obtain a narrower focus and allow deeper analysis of relevant and significant data.

2. Data display

Qualitative data display refers to the way qualitative data is presented visually or in a particular format

⁵² Afrizal Zein, (2021), Kecerdasan Buatan Dalam Hal Otomatisasi Pelayanan, *Jurnal Ilmu Komputer*, Vol. 4, No. 2, 16.

⁵³ Karmanis, (2020), *Buku Pedoman Belajar Metode Penelitian*, (Semarang: CV Pilar Nusantara), 1.

⁵⁴ Desi Pristiawanti, Bai Badariah, dkk, (2022), Pengertian Pendidikan, *Jurnal Pendidikan dan Konseling*, Vol. 04, No. 06, 7912.

⁵⁵ Sugiyono, (2013), *Metode Penelitian Kualitatif Kuantitatif Dan R&D*, (Bandung: Alfabeta), 81.

⁵⁶ Sri Wahyuningsih, (2013), *Metode Penelitian Studi Kasus*, (Madura: UTM Press), 35.

⁵⁷ Suharsimi Arikunto, (2019), *Prosedur Penelitian: Suatu Pendekatan Praktis*, (Jakarta: Rhineka Cipta), 274.

3. Data inference

Qualitative data inference is the process of drawing conclusions or drawing meaning from qualitative data collected in research or studies. Qualitative data consists of text, images, audio, or other non-numerical information, which describes the views, attitudes, perceptions, and experiences of individuals or groups. In the context of qualitative data inference, researchers conduct in-depth analysis of the data that has been collected to identify emerging patterns, themes, and relationships. The main goal of qualitative data inference is to understand the meaning contained in the data and gain deeper insight into the phenomenon being studied.

4. Verify data

Data verification is the process of checking the accuracy, validity and reliability of data collected in research or studies. The purpose of data verification is to ensure that the data used in analysis or research reports is correct and trustworthy.⁵⁸

This research is included in the qualitative research category, where the researcher will look for data sources from interviews with various sources and dig up information based on documentation studies, where in this study the researcher will look for a number of references from books, magazines and the internet and then group the data into groups. are primary and secondary⁵⁹.

HASIL DAN PEMBAHASAN

The following are research findings about artificial intelligence which are based on expert opinions. The following are expert opinions about artificial intelligence, namely:

1. Haugeland

An exciting new attempt to make computers think like humans

2. Bellman

A machine that can think, make decisions, and answer existing problems like humans

3. Kurzweil

A machine that can act humanly acts rationally. Suatu mesin yang dapat berpikir, mengambil keputusan, dan menjawab permasalahan yang ada seperti manusia.⁶⁰

Based on the results of interviews with two sources, researchers obtained results and discussions about the urgency of artificial intelligence in improving the learning outcomes of PAI FTK UIN SMH Banten students, namely:

1. Interview results

⁵⁸ Hasan Maulana, Naf'an Tarihoran, Wasehudin, (2013), "Penerapan Media Pembelajaran Interaktif Pada Mata Pelajaran Pendidikan Islam di Yayasan Al-Uyun Lebak", *Jurnal Keislaman dan Ilmu Pendidikan*, Vol. 05, No. 03, 133.

⁵⁹ Tohirin, (2012), *Metode Penelitian Kualitatif dalam Pendidikan dan Bimbingan Konseling*, (Jakarta: Rajawali Pers), 13.

⁶⁰ Stuart J. Russell, Peter Norvig, (2010), *Artificial Intelligence A Modern Approach Third Edition*, (London: Pearson), 2.

The results of interviews from three sources produced three results regarding the urgency of artificial intelligence in improving the learning outcomes of PAI FTK UIN SMH Banten students, namely:

- a. Artificial intelligence makes you understand material that you previously didn't understand
 - b. Material development
 - c. Keeping up with the times
2. Interview discussion

Discussion The results of interviews from two sources produced three results regarding the urgency of artificial intelligence in improving student learning outcomes at PAI FTK UIN SMH Banten, namely:

- a. Artificial intelligence makes you understand material that you previously didn't understand

Artificial intelligence can be used in understanding material, for example, GPT chat can be used to answer students' questions about material that is difficult or they don't understand, which can result in better student learning outcomes.

This is in line with the statement put forward by Muhammad Mukhlis Qolbun Salim with NIM 231210009, who stated, "Artificial intelligence makes me who previously understood the material understand the material."⁶¹

- b. Material development

Through the use of artificial intelligence, the development of learning materials can be carried out more efficiently and effectively. Artificial intelligence can help in developing material by entering relevant commands into the artificial intelligence itself. This has the potential to improve student learning outcomes indirectly

This is in line with the statement put forward by Eka Prasetya Nugraha with NIM 231210035 who stated, "Artificial intelligence made me, who was previously confused about developing materials, into how to develop materials."⁶²

- c. Keeping up with the times

With artificial intelligence, it is the same as keeping up with the times because as time advances, all kinds of activities will become easier "Artificial intelligence makes me who previously understood the material understand your material"⁶³

SIMPULAN

Artificial intelligence is today's technology in a system created by humans to simplify all aspects of life in various fields. Artificial intelligence is like a double-edged sword, in one context it can be used for good things such as making it

⁶¹ Muhammad Mukhlis Qolbun Salim, (2023), Interview by Ridwan Setiawan, Tape Recording, Serang, Oktober 29.

⁶² Eka Prasetya Nugraha, (2023), Interview by Ridwan Setiawan, Tape Recording, Serang, Oktober 29.

⁶³ Muhammad Mukhlis Qolbun Salim, (2023), Interview by Ridwan Setiawan, Tape Recording, Serang, Oktober 29.

easier to do their work, but in another context it can harm humans by being too indulgent in using artificial intelligence which results in humans becoming lazy in carrying out their work seriously. Education is a unity of planning, process and evaluation of learning carried out by an educator in order to humanize humans. It is hoped that the results of this research can become a basis for other educational institutions in adopting and implementing artificial intelligence in their learning strategies. And the results and discussion of the urgency of artificial intelligence on student learning outcomes at PAI FTK UIN SMH Banten are, with artificial intelligence making people understand material that they previously did not understand, artificial intelligence can develop material, and artificial intelligence keeps up with current developments.

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