



Utilization of Artificial Intelligence (AI) Technology in the Development of Learning Tools at Madrasah Ibtidaiyah Negeri 1 Jember

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The current era of digitalization has influenced various aspects of life, including the world of education. One technology that is increasingly popular is Artificial Intelligence (AI), which has great potential in developing learning tools at Madrasah Ibtidaiyah Negeri 1 Jember. The use of AI in education provides various benefits, such as personalization of learning, in-depth data analysis, virtual assistants for teachers, increased collaboration, and the development of interesting learning content. However, there are several obstacles to using AI, such as limited access to technology, lack of training for teachers, and budget constraints. To overcome this problem, there is a need to invest in technological infrastructure, regular training for teachers, and financial support programs for schools. This research used descriptive qualitative methods and involved teachers and class V students of Madrasah Ibtidaiyah Negeri 1 Jember as respondents. The research results show that teachers have been able to apply AI technology in developing learning tools, especially in preparing lesson plans and teaching materials. Even though AI makes a positive contribution, there needs to be a concerted effort to overcome existing obstacles. The use of AI in developing learning tools at Madrasah Ibtidaiyah Negeri 1 Jember has the potential to improve the quality of education and provide a more effective learning experience. By overcoming obstacles and optimally utilizing the potential of AI technology, Madrasah Ibtidaiyah Negeri 1 Jember can produce a generation of students who are ready to face the challenges of the future.

Keywords— Artificial Intelligence, development of learning tools.

I. INTRODUCTION

The digitalization era currently dominates various aspects of life, including the world of education. One technological development that is experiencing a surge in popularity is Artificial Intelligence (AI), [1] which is translated in other words, namely artificial intelligence. AI is a type of intelligent system that plays a big role in the way humans interact using information in personal life and brings quite a change. [2]

The development of AI technology is experiencing developments that are very difficult to predict, so a teacher's intelligence is needed in an effort to use technology as a means of developing learning tools. Many schools do not have adequate technology so they experience limitations in learning tools, and many teachers' lack of competence in technology causes some schools to experience backwardness.

In the context of developing learning tools at MIN 1 Jember, the use of AI technology has great potential to bring about a revolution in learning and teaching methods. The use of AI technology in developing learning tools at MIN 1 Jember has had a positive impact on teaching staff. One of the advantages of using AI capabilities is analyzing data to identify student learning patterns. With individual learning progress, teachers can understand the needs of each student in more depth. This allows the preparation of learning plans that are tailored to the student's level of understanding and learning speed, increasing the efficiency and effectiveness of the appropriate learning process to be implemented.

The use of Artificial Intelligence in the development of learning tools is important to recognize the important role of AI in creating an effective learning experience for every student at MIN 1 Jember. AI technology can identify students' learning preferences based on optimal learning styles, interests and difficulty levels.

The use of AI technology does not only focus on students, but also on interactions between teachers and students at MIN 1 Jember. AI can function as an assistant for teachers in managing large and diverse classes. By analyzing student behavior and responses to learning materials, AI can provide teachers with valuable insight into areas that need more attention. This helps teachers to provide more effective assistance to students who need it. [3]

The use of AI technology in developing learning tools at MIN 1 Jember is an important milestone towards an educational revolution. [4] From optimizing the learning process to developing adaptive curricula, AI technology opens up promising new opportunities. This is a form of progressive behavior that will bring the implementation of education at MIN 1 Jember to a superior level and in line with the demands of the times. By optimally utilizing the potential of AI technology, MIN 1 Jember can produce a generation of students who are ready to face the challenges of a better future.

This research aims to determine the extent to which teaching staff at MIN 1 Jember can utilize the development of Artificial Intelligence as a learning tool, especially with technological developments which experience significant changes every year.

II. METHODS

This research uses descriptive qualitative research methods. Aims to provide a general overview regarding the use of developments in Artificial Intelligence technology in developing learning tools. The type of research used is Field Research or what is known as field observation. Data collection techniques used were observation, interviews and documentation. The interview was conducted with Mr. Risdi, S.Pd as one of the teachers who is an expert in the use of technology, one of which is AI itself which showed the results that Mr. Risdi, S.Pd. I am very happy with AI because it can help in creating and developing learning tools easily. This research was conducted in class V MIN 1 Jember with respondents from all members of class V MIN 1 Jember for the 2023/2024 academic year.

III. RESULTS AND DISCUSSION

Artificial Intelligence (AI) or what is usually called artificial intelligence is intelligence that is added to a system which can be regulated by a scientific context. According to Jogiyanto H.M (2000), Artificial Intelligence (AI) is defined as a machine or smart device (usually a computer) that can carry out a task that if the task were carried out by a human, intelligence would be needed to do it.[5]

Meanwhile, according to Sri Kusumadewi in Sardianus (2003), artificial intelligence or Artificial Intelligence is a part of computer science that enables machines (computers) to do work like and as well as humans do." So, AI can be said to be a human-made smart tool that is deliberately designed to provide assistance with human work. AI is a technology that operates in the field of computer science which is specialized in solving cognitive problems which are generally related to human intelligence, such as learning, problem solving and recognizing certain patterns. [6]

In the digital era which continues to develop, artificial intelligence (AI) technology has become the main element that is increasingly developing. AI is a concept where computers are designed to be able to carry out tasks that require human intelligence. is a concept where machines or computers can perform tasks that were previously only capable of being done by humans. This includes the ability to learn from experience, adapt to new situations, and perform tasks that require understanding, analysis, and decision making. [7]

Basically, Artificial Intelligence works by using very sophisticated technology which is designed to help humans think and be able to analyze and identify patterns in thinking. With a fast time, IA can help humans in solving something that has a fairly long time element.

AI in its development has several benefits as follows:

a. Personalization of Learning: AI can enable the development of learning systems tailored to each student's abilities and learning style. This allows each student to learn at their own pace and focus on areas that need improvement.

b. Deep Data Analysis: AI can analyze data from multiple sources, such as tests and quizzes, to identify patterns in student progress. This helps teachers determine areas that need more attention and create more effective lesson plans.

c. Virtual Assistant for Teachers: AI can work as a virtual assistant for teachers. They can help in managing administrative tasks, provide suggestions for teaching

methods, and even answer students' questions outside of school hours.

d. Improved Collaboration: AI-based platforms enable better collaboration between students and teachers. They can interact in a virtual environment, share materials and discuss online.

e. Learning Content Development: AI can help in developing more engaging and interactive learning content, such as visual simulations and learning videos. [8]

Based on the use of this technology, IA can provide benefits in efforts to develop learning tools. The development of learning tools includes several learning tools such as materials, tools, media, instructions and also guidelines used in education that are able to support a learning process. The diversity of IA benefits provides a diversity of uses, such as the development of learning media that can be varied and arranged according to the analysis of needs that have been identified for students so that it will form a learning process that suits the characteristics of the students themselves.

There is several content that can be offered by AI to support the learning process by developing learning tools, especially at MIN 1 Jember which can make the learning process easier because in its use AI cannot only be focused on one point, but covers all devices and learning processes that can be used. used inside and outside educational institutions. [9]

AI could take hold decades in the future, bearing in mind the fact that Artificial Intelligence has the potential to radically change almost everything we take for granted about education. Nikita mentioned eight technological trends that we should look forward to in 2019, one of which is Artificial Intelligence (AI) and Machine Learning.[10] By using AI systems, software and support systems, students at MIN 1 Jember can learn from anywhere and at any time. And with a program like AI, it can replace the type of instruction for learning activities in certain classes.

The use of AI must be properly utilized by teaching staff as a concrete form of use so that a teacher can develop competence using adequate tools. Developments can utilize AI media as a tool to simplify the process of implementing the development of a learning tool starting from planning to learning evaluation materials so that it will make the workload of an educator easier. [11]

A quick look shows that there are several educational programs supported by AI that have helped teachers to learn basic skills in learning and are able to assist educators in classroom control efforts. However, in fact, if seen from another point of view, AI is enough to support learning. However, Artificial Intelligence is still only a program that has limited capabilities in programming so that it cannot accept the role of expert function from humans.

At MIN 1 Jember, especially class V, teachers have been able to apply and make simple use of AI technology in developing learning tools, one of which is in preparing lesson plans and teaching materials that will be included in learning, especially in the independent and P5 curriculum. Teachers use AI in preparing learning programs, especially developing thematic material in learning, searching for learning media and preparing chatgpt-based teaching materials.

However, several gaps in the use of AI in developing learning tools include the lack of access to AI technology, especially in less developed areas. Then, many teachers and educators have not received sufficient training in using AI technology. This causes uncertainty in the use of AI in learning. And another obstacle is that schools often have limited budgets to adopt expensive AI technology. This is also one of the obstacles in using AI in learning.

Then several solutions that came to mind to overcome this problem included that the government and educational institutions needed to invest in technological infrastructure. The government program to bring internet access to rural areas is a positive step in overcoming limited access to the use of AI in MIN 1 Jember. Furthermore, periodic workshops and training must be held to ensure teachers are ready to integrate AI technology in teaching. This can overcome teachers' lack of understanding in accessing some AI that can be used in learning. And finally, there must be more financial support programs for schools that want to adopt AI. Partnerships with technology companies can also help in providing more affordable solutions.

In this way, the use of AI in the development of learning tools has been felt directly by teachers in its use so that technological developments can provide support for the implementation of convenience for teachers in implementing quality learning in the future.

IV. CONCLUSION

Artificial Intelligence (AI) or what is usually called artificial intelligence is intelligence that is added to a system which can be regulated by a scientific context. AI can help teachers develop the tools needed for learning. Both in the form of learning plans, learning implementation and learning evaluation. The development of learning tools using this digitalization system can make it easier for educators to design good learning and also be practical in its application so that AI can be utilized in accordance with its programming function which seeks to be able to help make human work easier in the educational, social and technological fields.

The gap in the use of Artificial Intelligence Technology in the development of learning tools is a problem that needs to be addressed immediately. With better access, adequate training, and the right financial solutions, we can achieve AI's full potential in improving education. Integrating AI in learning is not only an investment in students' futures, but also an investment in the future of education.

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