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## **Application Of Artificial Intelligence In Learning And Teaching Activities In The Village**

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### **Abstract**

Artificial Intelligence (AI) has become an increasingly important field in the current era of digital transformation. Artificial Intelligence (AI), is a technology designed to make computer systems able to imitate human intellectual abilities. Artificial intelligence (AI) allows computers to learn from experience, identify patterns, make decisions, and complete complex tasks quickly and efficiently. Artificial Intelligence (AI) is able to connect every device, so that someone can automate all devices without having to be on site. More than that, currently there are many machines that can interpret certain conditions or events with the help of Artificial Intelligence (AI). The processes that occur in Artificial Intelligence (AI) include learning, reasoning, and self-correction. The implementation of AI in human workmanship is to obtain optimal performance results with fast processing times and maximum results. In today's modern era, artificial intelligence (AI) is very necessary to make activities easier, especially in rural areas. So that the village becomes a modern village and is more advanced with today's technology. Therefore, this Community Service was carried out in Cisdane Village, Kwandang District, North Gorontalo Regency, Gorontalo Province. In obtaining the data used were observation and literature study. This service activity is an effort to apply artificial intelligence (AI) in learning and teaching activities in Cisdane Village, Kwandang District, North Gorontalo Regency, Gorontalo Province. This effort was motivated by the lack of implementation and lack of human resources in artificial intelligence (AI) technology in Cisdane Gorontalo Village, which resulted in artificial intelligence (AI) technology in Cisdane Gorontalo Village not being optimal. As a form of the author's thinking, several efforts and breakthroughs are offered, namely; 1.) The role of Artificial Intelligence (AI) for the people of Cisdane Village in creating a modern and technology-literate Village, by making all activities in the village easier. 2.) Increasing Human Resources in utilizing Artificial Intelligence (AI) Technology, which previously did not know, became aware so that can advance the village.

**Keywords :** *Artificial Intelligence, AI, Cisdane Village, Community Service*

## INTRODUCTION

Artificial Intelligence (AI) is currently a technological field that has experienced rapid development in recent years (Ilyas, 2023). Its ability to process data quickly, learn from experience, and make complex decisions has changed many aspects of human life. However, with this progress also arises ethical, social and economic challenges that humans must face in the future (Haryono, 2024). According to Prasetyo *et al.* (2023) Artificial intelligence (AI) aims to enable computers to perform tasks that typically require human thinking, analysis, decision making and problem solving.

According to Barus *et al.* (2023) Artificial Intelligence (AI) has become an increasingly important field in the current era of digital transformation. Alan Turing, a British mathematician, first proposed the concept of testing machines to determine their level of intelligence. The results of this test are known as the Turing Test, where machines are tested for their ability to disguise themselves as humans by providing responses to a series of questions (Rozaq, 2019).

Artificial intelligence (AI) has become one of the greatest technological advances in the ever-evolving digital era. Artificial intelligence not only changes the way we interact with technology but also expands the learning space in many fields (Purnama, *et al.*, 2024). Artificial intelligence (AI), manifested by machines that exhibit aspects of human intelligence, is increasingly used in services and is currently a major source of innovation. For example robots for homes, healthcare, hotels and restaurants have automated many parts of our lives, virtual bots are turning customer service into self-service, AI and Bigdata applications are being used to replace portfolio managers and social robots like Pepper are being used to replace human greeters for welcoming customers to customer-facing services (Zein, 2021). These developments have led some to claim that we are in the fourth industrial revolution where technology is blurring the boundaries between the physical, digital and biological realms (Lee, *et al.*, 2018).

Rusmiyanto, *et al.* (2023) stated that technological developments in the field of Artificial Intelligence (AI) have experienced very rapid developments which have fundamentally changed the paradigm of human life. This technological revolution not only opens the door to new innovations, but also presents complex ethical challenges and questions. In the context of this innovation, public understanding of artificial intelligence is very important to ensure its optimal and positive use (Wulantari, *et al.*, 2023).

According to Pabubung (2023) states, Types of Artificial Intelligence (AI) have 3 categories, namely Artificial Narrow Intelligence (limited artificial intelligence), Artificial General Intelligence (general artificial intelligence), and Artificial Super intelligence (super artificial intelligence). Artificial Narrow Intelligence is designed to perform specific tasks on command, such as voice assistants or facial recognition. Meanwhile, Artificial General Intelligence imitates human intellectual abilities as a whole and is able to carry out tasks independently without human direction (Laraswati, 2022).

There are significant advantages to using artificial intelligence, such as fast and accurate data processing capabilities, efficiency in work, enhanced user experience, and the ability to handle dangerous and high-risk tasks. However, there are also several drawbacks that need to be considered, such as dependence on large amounts of data, limited AI capabilities in specific terms, impact on human labor, security issues, and image manipulation through AI technology (Sulartopo, *et al.*, 2023).

This Artificial Intelligence (AI) technology has evolved and penetrated many areas of industry, health and education. This explains how the future of artificial intelligence (AI) will shape our society and how it will impact everyday life (Sirait, 2023). Artificial intelligence (AI) itself is the ability of machines to imitate and perform tasks that usually require human intelligence (Hidayat, 2023). According to Soori, *et al.* (2023) stated that in recent years, developments in computerization and data processing have influenced the development of increasingly complex algorithms and artificial intelligence systems. Technologies such as machine learning and deep learning have enabled AI to learn from data and improve its performance over time.

Although Artificial Intelligence promises many advances and innovations that can help society in various aspects of life, it is also important to understand that artificial intelligence (AI) has social and ethical implications that must be taken into account. Therefore, what must be understood and explained is how the development of artificial intelligence affects society as a whole, including the challenges, risks and ethical considerations involved (Masrichah, 2023).

Artificial Intelligence (AI) can be called that because Artificial Intelligence itself can apply knowledge, can study human life and record various responses given by humans for them (AI) to develop with its own abilities. However, despite its advantages, Artificial Intelligence also has disadvantages, namely that Artificial Intelligence is not emotional in communicating and responding to feedback from humans (Afandi, *et al.*, 2023).

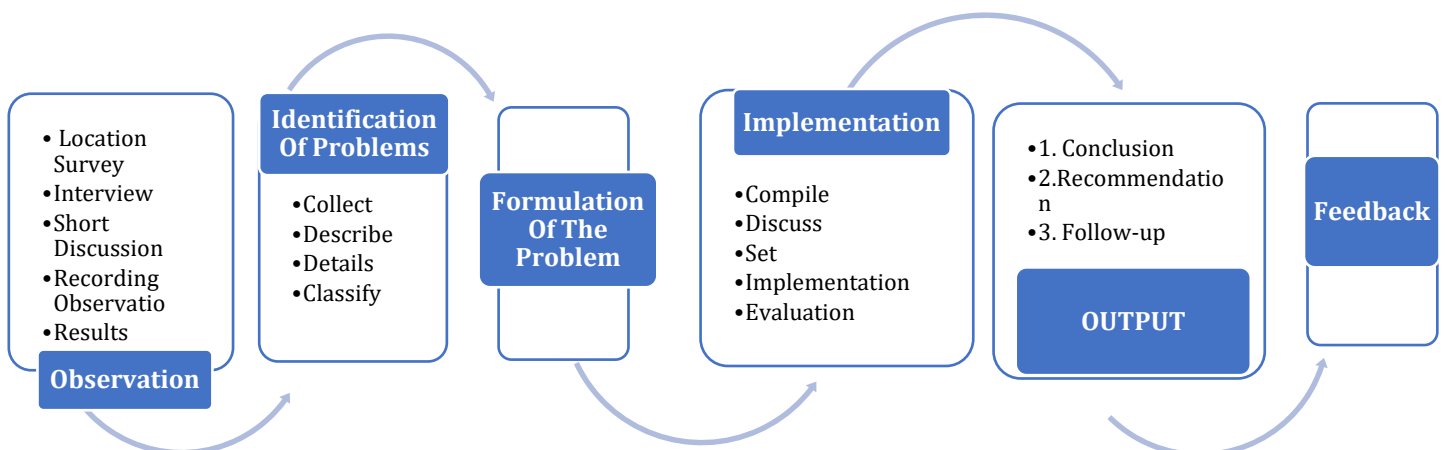
Artificial intelligence (AI) is a result of human creation, which has both good and bad impacts on society. This artificial intelligence was created with the aim of making human work easier in the digital world, but due to increasingly rapid advances in information technology and industry, artificial intelligence has also raised concerns among the public about the negative impacts that might result from the development of this Artificial Intelligence. So it can be said that artificial intelligence or Artificial Intelligence is ontologically a big question for which the answer cannot yet be found (Afandi, *et al.*, 2023).

At the time the author carried out his service in Cisadane village, Kwandang District, North Gorontalo Regency, Gorontalo Province. The author encountered problems experienced by the Cisadane village community, namely the lack of information and socialization that the application of Artificial Intelligence (AI) could help facilitate activities in the village itself.

Therefore, the author is of the opinion that holding socialization activities regarding the Application of Artificial Intelligence (AI) in Learning and Teaching Activities in the Village is useful for facilitating activities in Cisadane Village and opening the insight of the village community, especially teenagers in Cisadane Village, to be more technologically literate and The current development of Artificial Intelligence (AI) has progressed and developed very rapidly and has made the village advanced in the development of artificial intelligence (AI) technology in Cisadane Village, Kwandang District, North Gorontalo Regency, Gorontalo Province.

## METHODS

**Figure 1.**  
Problem discovery and problem solutions



When discussing with village officials and the Cisadane Gorontalo village community, the activity methods used were theory and guidance to the village community as well as introducing and providing guidance to the village community regarding the benefits of applying

artificial intelligence (AI) in facilitating activities in the Cisadane Gorontalo village. From the observations made, it can be concluded that the village community does not fully understand the benefits of implementing artificial intelligence (AI) which can facilitate activities in Cisadane Village itself. The problems presented in this method are such as:

1. The benefits of applying Artificial Intelligence (AI) in facilitating village activities for the community in Cisadane Village, Kwandang District, North Gorontalo Regency, Gorontalo Province.
2. The solution is how to apply Artificial Intelligence (AI) so that it can be a solution to problems for village communities, especially teenagers in Cisadane village, in utilizing artificial intelligence and making the village a more modern and technologically literate village in Cisadane Village, Kwandang District, North Gorontalo Regency, Gorontalo Province.

## **RESULT AND DISCUSSION**

This community service activity carries the theme "Application of Artificial Intelligence (AI) to facilitate activities in Cisande Village, Gorontalo" in the form of an introduction to what Artificial Intelligence (AI) technology is. The number of participants in this socialization was 20 participants, each consisting of 5 village officials and 15 socialization participants, especially teenagers in Cisadane Village, Gorontalo. Village socialization is carried out in several stages. The first stage is the preparation stage. At this stage the service team first observes the condition of the surrounding community. This observation was carried out to obtain information related to the conditions and goals to be achieved by the people of Cisadane Village, Gorontalo. Observations were carried out by conducting direct observations by conducting interviews with several residents of Cisadane Village, Kwandang District, North Gorontalo Regency, Gorontalo Province. After obtaining sufficient information, the author and the service team then carried out the problem identification process. This process is carried out so that the solutions offered can solve the problems of the Cisadane village community and so that the community can achieve the goals they desire.

Furthermore, based on the problems that have been identified, several solutions are obtained and become the most appropriate solution. Based on this solution, a needs analysis is then carried out to find out what is needed during the activity implementation process. An activity plan is then prepared according to the needs that have been identified. This activity plan is important so that the implementation of the activity can run smoothly, be directed, and in accordance with the initial objectives of implementing the activity in order to solve the problems of the people of Cisadane Village, Kwandang District, North Gorontalo Regency, Gorontalo Province.

The final stage is to prepare for the implementation of activities based on the plan that has been designed. First of all, the activity was officially opened by the Head of Cisadane Village, Gorontalo. The opening activity was carried out so that the activities could be more focused and participants could understand the purpose and meaning of the activities carried out.

Next, a quiz was given to teenagers from Cisadane village as participants in the activity, where the participants in this activity were 5 members of the village apparatus and 15 teenagers from Cisadane Village, Kwandang District, North Gorontalo Regency, Gorontalo Province. quiz given to participants to obtain information on the extent of the participants' initial knowledge regarding the field of Artificial Intelligence (AI). With this quiz session, the information obtained can be the basis for the presenter's consideration in delivering the material, both in terms of the context of the material and the technique of delivering the material that will be used. After carrying out the quiz, the next stage is the stage of delivering the material. This stage is the core stage of the activities carried out. The material presented at this stage is what is Artificial Intelligence (AI)? Understanding Artificial Intelligence, objectives and benefits of artificial intelligence (AI), positive and negative impacts of using Artificial Intelligence (AI), and interesting videos related to the implementation of artificial intelligence in various fields.

This material is delivered by combining several methods such as interactive lecture and practicum methods. Apart from that, in between the material presented, a small quiz was also held to broaden the participants' insight in following the material presented. After all the material was delivered, the implementing team then conducted a posttest to find out the extent of the participants' understanding and breadth of insight after following the material that had been delivered. The posttest will also be an illustration of the effectiveness of implementing the activity as well as the materials that will be used to measure the success of solving the problem that is the aim of this activity. This implementation stage then ends with closing activities. Next, the third stage is evaluating the implementation of activities. Evaluation is carried out by distributing satisfaction questionnaires with the implementation of activities to participants. The aim is for the activity implementation team to be able to identify weak points in the implementation of the activity so that it can be improved in subsequent similar activities.

**Figure 2.** Number of Training Participants

No.	Participant	Number of participants
1	Village Officials	5
2	Participants	15
Total		20

This community service activity takes the form of introducing the application of Artificial Intelligence (AI) to assist activities in Cisadane Village, Kwandang District, North Gorontalo Regency, Gorontalo Province. has gone well from the preparation stage to the evaluation stage. At the initial observation stage, it can be seen that the author and the community service team have tried to encourage and support the Cisadane village community, especially the teenagers in the village, to be able to develop their interests and talents for the progress of the village to become an advanced and technologically literate village. The current author understands that currently technology has developed so rapidly that it is necessary to develop insight regarding this matter.

On the other hand, the facilities and learning support tools, as well as internet access, are quite good at the community service location. However, based on the results of the problem identification carried out, it can be seen that the Cisadane village community >55% of the village community, especially village teenagers, have never received information about Intelligence technology (AI) and also that the village does not have adequate human resources (HR) in the field of The technology currently developing is Artificial Intelligence (AI). Therefore, this is the main problem that the writer and the community service team are targeting to solve. Based on this problem, several solutions were then given to implement and finally the solution chosen was an activity to introduce Artificial Intelligence (AI) technology. In connection with this solution, the service team plans what is needed during the training process, such as a village hall as a study room, internet access, LCD, laptop, material presentation slides, as well as several components to support learning about artificial intelligence (AI) technology. The author and the community service team also formulated what training materials were needed during the activity to attract participants' curiosity about the field of artificial intelligence (AI) itself.

Furthermore, a successful activity plan is prepared starting from the opening of the activity to the closing and evaluation is carried out from the morning until the afternoon. The material presented is divided into several main materials, namely material related to knowledge about artificial intelligence (AI) and practical application of artificial intelligence. Participants looked enthusiastic because they gained interesting new knowledge that they had never thought of before. Another most interesting thing was during the practical application of simple artificial intelligence. Initially, participants were given a simple example and then given challenge questions to modify the practicum that had been done previously. When working on this challenge question, the participants' curiosity was very visible and the participants competed to solve the given case. This shows that the participants' curiosity and interest in the application of Artificial Intelligence (AI) technology is starting to grow. In fact, almost all groups were able to solve the simple cases given, which means that the participants' interests and

talents had begun to grow within the participants. It can be seen that participants experienced increased understanding regarding Artificial Intelligence (AI) Technology material. Before ending the activity, another quiz was held. Based on the quiz conducted at the end of the session on participants, the results showed that there was an increase in knowledge about Artificial Intelligence Technology and its use in village communities after the education was carried out. Village communities can answer questions asked by education facilitators correctly.

Where initially the participants only got an average score of 25, and after the presentation of the material, the participants had obtained a score of 80. This shows that the material presented was effectively absorbed by the participants. This also shows that the participants' insight has broadened. It can be seen that the majority of participants were happy with the delivery of the material in this activity. This was also shown during the activity where the participants were very enthusiastic.

Listen to the material presented. Participants also felt that the media used made it easier for them to understand the material they were studying. In fact, all participants felt that this activity was in line with what they wanted. This is also reflected in the opinions of the majority of participants who felt that this material was very useful and gave them the opportunity to be more productive. In this way, it can be seen that this community service activity has gone well and effectively resolved the problems of the people of Cisadane Village, Kwandang District, North Gorontalo Regency, Gorontalo Province.

## **CONCLUSION**

Based on the explanation above, it can be concluded that this service activity has broadened the knowledge of village officials and the community in realizing that the application of artificial intelligence (AI) technology can help facilitate activities that take place in the village and make the village more advanced so that it can become a more developed village. modern. The socialization of the application of artificial intelligence (AI) currently still has many obstacles such as:

1. Lack of knowledge and awareness of village communities in utilizing artificial intelligence (AI) technology in Cisadane Village, Kwandang District, North Gorontalo Regency, Gorontalo Province
2. Lack of Human Resources in advancing villages by utilizing technology in the field of Artificial Intelligence (AI) in creating modern villages
3. It is felt that the role of local government has not been optimal in handling the development of artificial intelligence (AI) technology to advance villages

## **EXPRESSING OF THANKING**

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