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## Socialization of the Utilization of Artificial Intelligence on Education to Improve the Professional Competence of Educators in the Era of **Technological Development**

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### **Abstract**

Community service is organized by the Non-Governmental Organization Noorwangsanegara, located in Bogor, West Java, Indonesia. In the pre-service, it was found that there was a gap in understanding artificial intelligence which is now widely used both in the world of education and in the world of work where students, namely students, will later work. In addition, it is also a challenge for lecturers, especially in improving not only their understanding but also their competence in writing and publishing scientific articles in journals that have a reputation for improving performance in the world of higher education. The problem in this service is how to improve the competence of lecturers through the use of artificial intelligence in writing and reputable publications. The results of the service show that the tendency of participants does not understand the meaning and use of artificial intelligence that can be used in educational activities such as the use of tools that can facilitate work in the world of education. In addition, these tools can also be used in writing articles or disseminating articles through publication in reputable journals.

Keywords: Artificial Intelligence, Education, Competence, Technological Development, Socialization

### **INTRODUCTION**

Digital technology is a tool that is used and operated with a system that is centered on computerization. This definition can also be referred to as wireless technology using signals as a bridge between the system maker and the recipient. Signals in the digital world have many advantages, including having a speed that can exceed the speed of light. This system was never found in a system in ancient times, namely in analog technology (Laksana and Dharmayanti 2018).

In the world of communication, technology is often referred to as one of the most efficient, easy, and very dynamic message delivery without being hindered by anything including distance and time. Digital technology is very much attached to human life today, one of which is the internet that we use every day to exchange information and communicate. In the big dictionary of the Indonesian language, technology has other meanings and understandings regarding technology (Wardana et al. 2024). A scientific method used to achieve a goal and as one of the applied sciences. Digital technology can be said to be one of the information technologies that prioritizes activities carried out by computer/digital rather than using human power. But it tends more towards a processing system and its use which is very effective and efficient, especially since everything can be installed quickly and the data processed is also very quickly read by the computer (Wijaya et al. 2023).

Basically, a digital technology is a fast and accurate calculation system that can ultimately process a form of information as a numerical value. Along with the development of the era, there are many technologies that improve their quality both in terms of efficiency of use and the capacity of data used is getting bigger and more sophisticated. Some things that improve the quality of the technology itself are the speed of the signal on the internet where at this time messages can be sent and received with 0.001 seconds which shows that today's technology is developing very rapidly (Hapriyanto 2024).

The advancement in the world of technology is able to bring about major changes in everyday life, this is marked by the ease of interacting with anyone without knowing the distance and time to the fulfillment of other needs such as becoming one of the fields for humans to gain knowledge or earn income. In today's digital era, technology is not only associated with computers and mathematics, but today's technology is able to help various sectors, one of which is in the agricultural, fisheries, information industries and even in the field of education. Development is certainly a positive thing for human life that is able to utilize it well, but it can also backfire for someone who rejects the development of this era (Dwi Aditya Putra 2022).

Technology can also be interpreted as one of the means of various human needs to fulfill the continuity of life to get comfort and convenience without having to waste more energy, one of which can be done is to buy something via the internet, this certainly has a good impact on the needs of a person who cannot come to the store. This shows that with technology humans are able to become more practical and efficient. Miarso in his book says that digital technology is one form of process to increase a value. This process runs to produce a certain product and technology can be developed into one part of an integral in which there is a certain system (Mistriani and Putra 2023).

So it can be concluded that technology is one of the signals of the existence of science developed by humans. Current technology is advancing so rapidly because of the flexibility of creative and innovative humans in building and improving scientific civilization along with the development of the era. The presence of technology in today's life brings many changes to humans to be more creative and create innovations and works to be given to the public who need them (Sudaryo 2020). One of the benefits of using technology is being able to carry out marketing of educational services as a form of digital promotion. This is indicated by the fact that digital technology can bring major changes to an educational institution. With the presence of digital technology, educational institutions are able to make the public aware of the existence of the school without having to visit first, this also provides efficiency and effectiveness to customers of educational services. Therefore, currently websites and social media must be able to attract the attention of each user so that many marketing customers visit and are interested in finding out more about the educational institution (Narto and Hotimah 2024).

The changes currently being experienced by various industries in the fields of education, agriculture, fisheries and other sectors by utilizing digital technology such as artificial intelligence which aims to facilitate obtaining information and creating effectiveness and efficiency is called digital transformation. Technology has created many

new innovations including e-learning, e-banking, e-government and several other sectors. This is focused on work effectiveness and also utilizing databases as data processing to make it more practical and easy to use when needed suddenly (Ustadriatul Mukarromah, Mirtan Sasmita, and Lilis Rosmiati 2022). The current digital era makes humans inseparable from the smart devices they hold, including artificial intelligence. Technology in the form of artificial intelligence has penetrated everyday life such as education, economy, information, and even transactions currently use more e-banking. This certainly makes humans directly connected to bioinformatics technology. Every human has equipment that is already owned by the body and can access all parts of the body from activities before going to bed until waking up again. Like the database used in every company is used to facilitate and monitor all work efficiently (Narto and Hotimah 2024).

Based on the explanation above, the devotee believes that Digital Technology can be useful in the teaching and learning process and improve competence in carrying out activities related to education and teaching, in addition, digital technology that is currently developing such as artificial intelligence can be utilized in teaching and learning activities and activities of creating or writing articles which are then distributed or published by utilizing artificial intelligence through reputable publications.

#### **METHODS**

This community service was carried out in Bogor in collaboration with the Noorwangsanegara Non-Governmental Organization for approximately two days, finding the following problems:

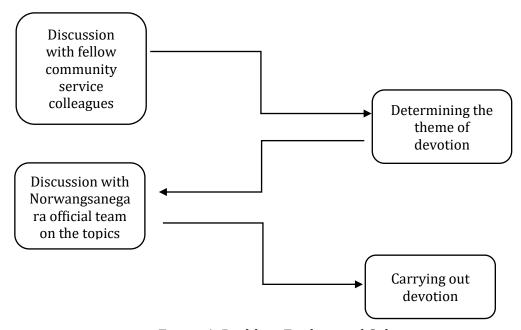


Figure 1. Problem Finding and Solutions

# **RESULT AND DISCUSSION Artificial Intelligence**

Artificial Intelligence (AI) has become one of the most important innovations in education, offering a variety of tools and methods that can enhance the learning and teaching experience. AI can be used to personalize learning, improve teaching efficiency, and provide support to students with special needs. In this context, there are several important aspects to consider regarding the use of AI in education.

In community service activities, it is carried out by starting to provide an explanation

of the purpose of implementing community service activities, namely to introduce artificial intelligence to the community, especially lecturers who provide insight into the development of information technology which is now entering a more advanced era with the emergence of artificial intelligence. The advancement of technology through artificial intelligence is undeniably something that must be faced because technology is something that cannot be avoided but must go hand in hand and use it for its benefits. Although in its development, technology that has entered the era of artificial intelligence is also easy to use negatively. Such as using it for plagiarism or duplication. However, the world of education such as lecturers should also understand the benefits of tools thanks to this technological advancement.

The next activity is to introduce the technological functions of artificial intelligence that allow personalization in learning experience activities. By using calculations through algorithms in a learning process in an educational technology platform that uses an AI base, then you can adjust the teaching materials that will later be in accordance with what is needed and what can be done by students. In an adaptable learning system, you can change the learning method and content based on the progress of the student's learning. Conditions allow for the creation of a more interesting and effective learning process. This personalization allows for an increase in the involvement and motivation of students or students so that it can help students or students in achieving better learning outcomes

Artificial intelligence can also increase the effectiveness of the teaching and learning process. The use of tools that automatically provide assessments for example. Thus, educators can provide easier responses to students or students, and it is also easier to manage administrative tasks. So that it allows educators to be more focused on interacting with students or students and also in developing the curriculum. The use of artificial intelligence in teaching allows educators' workload to be reduced and improves the quality of education.

The understanding given to educators in this community service is also about the function of artificial intelligence which has sophisticated capabilities in supporting the learning process also for students with special needs. Artificial intelligence can also have a positive impact on the learning process for autistic students who have developmental disorders. Through the use of artificial intelligence, it can also help individual students more focused and easy. In its use, artificial intelligence can not only be used to assist in the teaching and learning process for students or students in general, but can also be used for those who have needs or are inclusive.

Knowledge and understanding of artificial intelligence is also provided by explaining its role in providing convenience in the form of access to information and learning resources. Artificial intelligence such as virtual assistants or chatbots, for example, can make it easier for students to be able to access information and get help easily without being limited by time and place. In the context of modern education that requires accessibility and flexibility, this tool is very important in achieving more optimal learning outcomes.

However, despite the many benefits offered by artificial intelligence, challenges also need to be addressed. One of the main challenges is the need to ensure that the use of artificial intelligence does not compromise ethical and privacy aspects. Research by Zhang shows that excessive reliance on artificial intelligence can reduce the ability of independent judgment for both students and educators. Therefore, it is important to integrate moral education into professional curricula to establish a coherent relationship between the application of artificial intelligence technology and educational subjects.

In this context, socialization regarding the use of artificial intelligence in education should include an understanding of the benefits, challenges, and ethical implications of the

use of this technology. A comprehensive approach will help educators not only adopt new technologies, but also understand how they can be used to improve the quality of their education and professional development.

Overall, the use of artificial intelligence in education offers great opportunities to improve the professional competence of educators and the quality of student learning. With proper socialization and adequate training, educators can leverage this technology to create more inclusive, efficient, and personalized learning environments.

In this training on artificial intelligence, it was also conveyed that in addition to the benefits that can be used to facilitate the learning process, there are also challenges that must be considered by educators, such as ensuring that the use of artificial intelligence does not enter into a realm that violates privacy and ethics. In addition, it is also given an understanding that the use of artificial intelligence related to student or student personalization data must also be done carefully, and institutions should create policies related to data that must be protected. Likewise, in the use of these tools, effective use in the learning process needs to be considered.

## Socialization of the Utilization of Artificial Intelligence on Education to Improve the Professional Competence of Educators in the Era of Technological Development

The use of Artificial Intelligence in education is important, in the context of improving the competence of educators professionally. Artificial intelligence can be used as a tool to help educators in the teaching and learning process, as well as improving the teaching process and a more personal experience in the learning process of students. It is very important to carry out socialization activities for the development of technology, especially in the use of artificial intelligence in education.

The use of this tool can provide enormous benefits, especially in its ability to improve management in education, by collaborating between humans and technological machines. This utilization can be in the form of managing student data, responding quickly, monitoring the learning process with students which can ultimately improve the quality of the teaching and learning system.

In more appropriate utilization, artificial intelligence is also used in personal learning experiences. By developing models of content, interaction, and learning. The use of this tool allows educators to make adjustments to materials that are in accordance with the abilities and needs of students with an impact on an interesting and effective learning experience.

With the many benefits that can be used in the learning process using assistive devices, it is appropriate to emphasize professional training that will develop the potential of educators. With this training, educators can provide interesting learning experiences, provide inspiration and build interactive conversations and environments.

Socialization of the use of artificial intelligence in education cannot be separated from the benefits obtained even though there are challenges that must be considered. A comprehensive approach is needed that can help educators apply technological aids, understand them, and use them to obtain quality education and provide benefits by developing the professional competence of educators.

### **CONCLUSION**

In this community service activity the participant have understood that artificial intelligence has great benefits to help the learning process and dissemination of scientific works. In the world of education, in addition to being used in the learning revolution, it is also used to publish with the help of artificial intelligence. The challenges faced in using

this technology need to be carried out wisely so as to achieve the expected goals with a more efficient, inclusive and personal learning process with evaluation and monitoring of the effects that may occur during the use of artificial intelligence in the teaching and learning process so that both institutions, educators, and students get maximum benefits.

### STATEMENT OF THANKS

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