

## INFORMATION TECHNOLOGY IN LEARNING IN THE DIGITAL AGE: LITERATURE REVIEW OF THE TEACHER'S ROLE AS LEARNING FACILITATOR

Amar Jufri<sup>1</sup>  
Fatkul Helmy<sup>2</sup>  
Siti Nur Alisyah<sup>3</sup>  
Aji Kurniaku<sup>4</sup>  
Miftah Rizki Ananda<sup>5</sup>

<sup>1, 2, 3, 4, 5</sup>Muhammadiyah University of North Sumatra  
(e-mail: [amaroppo3@gmail.com](mailto:amaroppo3@gmail.com))

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**Abstract:** Education is important in forming quality human resources. Information technology (IT) has become an integral part of learning in the digital era, and can provide great benefits in improving the quality of learning. However, the use of IT in learning requires the active role of the teacher as a learning facilitator. This study aims to review the teacher's role as a learning facilitator in the implementation of IT in learning in the digital era, especially in Indonesia. Through a literature review, this study identified the teacher's role in the use of IT in learning, as well as the challenges and efforts required in implementing IT in learning. Previous research shows that the teacher's role is very important in the use of IT in learning. However, IT implementation in learning also poses challenges for teachers, such as a lack of skills in operating IT and limited access to adequate technology. Therefore, it is important for teachers to be able to choose and manage technology according to learning needs, and ensure that the use of IT in learning is in accordance with the learning objectives and educational standards set. **Keywords:** Education, Information Technology, Learning, Teachers, Learning Facilitators, Digital Age. as well as ensuring the use of IT in learning in accordance with the learning objectives and educational standards set. **Keywords:** Education, Information Technology, Learning, Teachers, Learning Facilitators, Digital Age. as well as ensuring the use of IT in learning in accordance with the learning objectives and educational standards set. **Keywords:** Education, Information Technology, Learning, Teachers, Learning Facilitators, Digital Age.

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### Introduction

Education is very important in the formation of quality human resources. In today's digital era, information technology (IT) has become an integral part of learning. Utilization of IT in learning can open opportunities and provide great benefits in improving the quality of learning.

However, the implementation of IT in learning requires the active role of the teacher as a learning facilitator. Teachers need to be able to utilize IT to help students acquire the knowledge and skills needed. Teachers also need to be able to select and manage technology according to learning needs.

Therefore, it is important to review the teacher's role as a learning facilitator in the implementation of IT in learning in the digital era. This literature review will identify the

teacher's role in the use of IT in learning, as well as the challenges and efforts needed in implementing IT in learning.

Previous research shows that the teacher's role is very important in the use of IT in learning. The teacher acts as a learning facilitator who assists students in acquiring knowledge and skills using technology. In addition, teachers are also responsible for ensuring the use of IT in learning in accordance with the learning objectives and educational standards set.

However, the implementation of IT in learning also poses challenges for teachers, such as a lack of skills in operating IT, limited access to adequate technology, and a lack of support from schools or the government in using IT in learning.

In the Indonesian context, the use of IT in learning is still a challenge that needs to be overcome. Even though there are efforts to increase access to and use of IT in learning in Indonesia, there are still many schools that have not been able to make optimal use of technology. Therefore, reviewing the teacher's role as a learning facilitator in the implementation of IT in learning in the digital era, especially in Indonesia, is very important to do.

## Literature Review

### A. Basic Concepts of Information Technology in Education

Technology refers to the use of knowledge and skills to develop hardware and software used to solve specific problems or achieve certain goals. Thus, technology can be considered as a means to obtain a solution or solution to a problem faced by using the available knowledge and skills. (Hasrian Rudi Setiawan & Danny Abrianto, 2022)

### B. Islamic Views of Technology

Basically, Islam has a view that does not separate religious knowledge from non-religious knowledge. This is because the science developed by humans is the way to seek the truth of Allah himself. As Muslims, it is necessary to have a culture of development, one of which is development in the field of science and technology, which is capable of increasing human capabilities to provide benefits to many people. Conversely, the development of science and technology that aims to destroy nature and the environment is not in accordance with Islamic values. (Hasrian Rudi Setiawan & Danny Abrianto, 2022)

### C. Information Technology in Learning in the Digital Age

The rapid development of information technology in the digital era has had a significant impact on learning. Information technology has become an inseparable part of the world of education and has brought about changes in ways of learning that are more modern and effective (Sumarmo, 2018). The use of information technology in learning in the digital era has changed learning methods that were previously only teacher-oriented, to become more oriented towards students who are more active in acquiring knowledge (Rofi'i, 2016). This is in line with the concept of more active and participatory learning, where students become the center of learning and teachers act as facilitators in providing assistance, supervision, and creative and innovative learning experiences (Susanto, 2018).

### D. The Role of the Teacher as a Learning Facilitator

In learning to use information technology, the teacher has a very important role as a facilitator in supporting student success in acquiring knowledge. According to Wibawa (2019), the teacher's role as a learning facilitator is to assist students in accessing information, selecting relevant information, and guiding students in acquiring knowledge. In addition, teachers must also have the ability to integrate

information technology into learning and guide students in using information technology effectively and efficiently (Sulianta, 2017). Teachers must also understand the characteristics and learning styles of students, so that they can provide learning approaches and strategies that suit the needs of students (Susanto, 2018).

E. Challenges in the Implementation of Information Technology in Education

Several challenges in the implementation of information technology in education have been identified by several studies. According to Aji, Hidayat, and Kurniawan (2018), the challenges faced include limited infrastructure and human resources, concerns about data security and privacy, and a lack of knowledge and skills in using information technology. In addition, according to Fitriana and Anwar (2018), the implementation of information technology can also present challenges in terms of changing the learning paradigm, where teachers need to shift from the role of knowledge holder to the role of learning facilitator.

F. Literature Review on the Use of Information Technology in Learning in Indonesia

The study conducted by Suryandari and Suryadi (2019) shows that the use of information technology in learning in Indonesia is still not optimal. This is caused by several factors such as lack of infrastructure readiness, lack of teacher knowledge in using information technology, and lack of support from the government. However, several studies also show that the use of information technology in learning in Indonesia has a positive impact on the quality of learning and student motivation (Kurniawan, 2018; Puspitasari, 2017). Therefore, efforts are needed to increase the use of information technology in learning, such as providing training and support for teachers, as well as improving education infrastructure.

After reading from the literature above, it can be understood that information technology refers to the use of knowledge and abilities to develop hardware and software used to solve certain problems or achieve certain goals. The basic concept of information technology in education is as a means to obtain a solution or settlement of a problem by using the available knowledge and skills. Islam has a view that does not separate religious knowledge from non-religious knowledge, including the development of science and technology that can enhance human capabilities to benefit many people. The use of information technology in learning in the digital era has changed learning methods to be more oriented towards students who are more active in acquiring knowledge. Teachers have an important role in supporting student success in acquiring knowledge through information technology. However, challenges in implementing information technology in education include limited infrastructure and human resources, concerns about data security and privacy, and a lack of knowledge and skills in using information technology. Studies show that the use of information technology in learning in Indonesia is still not optimal due to several factors such as lack of infrastructure readiness, lack of teacher knowledge in using information technology, and lack of support from the government. However, several studies also show that the use of information technology in learning in Indonesia has a positive impact on the quality of learning and student motivation. Therefore, there needs to be an effort to increase the use of information technology in learning in Indonesia.

## Method

This study uses a literature review or literature study approach. This approach was chosen because this research aims to collect information from various sources of literature related to the implementation of information technology in learning in the digital era and the role of the teacher as a learning facilitator. Sources of data used in this study are journal articles and books that are relevant to the research topic.

After the relevant literature sources have been collected, the authors conduct a content analysis to extract information relevant to the research topic. The information extracted includes the definition of information technology, the advantages and challenges of using information technology in learning, the teacher's role as a learning facilitator in the use of information technology, and the efforts made to increase teachers' understanding of information technology.

The data obtained from the literature study were then analyzed descriptively. Descriptive analysis is used to provide an overview of the information found from literature sources. In addition, the authors also present research findings in a narrative manner in the form of Literature Reviews and Results and Discussions to clarify and strengthen research conclusions.

In this research, it is not necessary to collect primary data because the approach used is library research.

## **Result and Discussion**

### **I. Results**

1. **Information Technology in Learning** There are many studies that have discussed the use of information technology in learning. Information technology can be used to increase learning effectiveness, facilitate collaborative learning, and facilitate remote learning.
2. **The Role of the Teacher as a Learning Facilitator** In learning using information technology, the teacher's role becomes more important as a learning facilitator. Teachers need to have the ability to design learning that makes good use of information technology, manage and facilitate learning, and provide feedback to students.

### **II. Discussion**

1. **Information Technology can Increase the Effectiveness of Learning** Information technology can be used to increase the effectiveness of learning. Based on the literature review, the use of information technology can increase students' interest and motivation in learning, increase student involvement in learning, and improve students' ability to understand and remember learning material.
2. **Information Technology Facilitates Collaborative Learning** Information technology can also facilitate collaborative learning between students. With information technology, students can share information, communicate, and work together in solving problems. Collaborative learning using information technology can help students to develop social skills and cooperative skills.
3. **Information Technology facilitates Distance Learning** Information technology also facilitates distance learning. In a pandemic situation like today, distance learning is the safest and most effective choice. With information technology, students can access learning materials and interact with teachers and classmates via the internet.
4. **The Teacher's Role as an Important Learning Facilitator** In learning using information technology, the teacher's role as a learning facilitator becomes more important. Teachers need to have the ability to design learning that makes good use of information technology, manage and facilitate learning, and provide feedback to students. Teachers also need to develop skills and knowledge about information technology so as to facilitate effective learning using information technology.

5. Challenges in the Use of Information Technology in Learning There are several challenges in the use of information technology in learning, such as limited student access to information technology, lack of teacher skills in designing learning using

## Conclusion

Information technology in learning has many benefits, such as increasing learning effectiveness, facilitating collaborative learning, and facilitating distance learning. However, the use of information technology also faces several challenges, such as limited student access to information technology and a lack of teacher skills in designing learning using information technology. Therefore, the teacher's role as a learning facilitator is very important in ensuring the effective and sustainable use of information technology in learning. Teachers need to develop skills and knowledge about information technology so as to facilitate effective learning using information technology.

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