

Analysis of the Use of Information Technology in Supporting the Learning Process in the Era of Industrial Revolution 4.0 among Parak Elementary School Teachers in the Selayar Islands

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Article Info	Abstract
Information Technology, Learning Process, Industrial Revolution Era 4.0	This research aims to find out how information technology is used to support the learning process in the era of the Industrial Revolution 4.0 among teachers at SDN Parak No. 11 Selayar Islands. The type of research used is Qualitative Research Methods. The data processed is the result of interviews with 1 (one) school principal, (two) civil servant teachers, 2 honorary teachers, and 2 students. The data collection methods used in this research are observation, interviews and documentation, where the author directly sees the conditions that occur in the field. From the results of this research, the use of Information Technology in Supporting the Learning Process in the Era of the Industrial Revolution 4.0 among teachers at SDN Parak No. 11 Selayar Islands are considered good in this regard, making it easier for teachers and students in the learning process, the use of information technology has a positive impact on the learning process in schools because with information technology the learning process in schools becomes more efficient for teachers and students also feel happy With the existence of information technology, lessons become more fun and easier to understand for students, therefore these two variables are mutually sustainable between information technology and learning to create a more optimal learning process.

1. INTRODUCTION

Revolution is change that occurs quickly. Relovusi had a big impact on society. Society quickly accepted the impact of the new revolution. In its development, the revolution has undergone changes four times. The first industrial revolution (1.0) believed that humans could only rely on muscle power, water power, or wind power to produce goods or services. Humans could only rely on muscle power, water power, or wind power to produce goods or services. The second revolution (2.0) is also known as the Technological Revolution. The revolution that began at the end of the 19th century to the beginning of the 20th century was marked by the presence of electric power. In the third industrial revolution (3.0), humans no longer play an important role. The industrial age is slowly ending, in its place the information age begins. The fourth stage of revolution (4.0) or known as the industrial revolution 4.0 embeds intelligent technology that can be connected to various areas of human life.

The development of information and

communication technology continues to increase along with increasing human needs, including in the field of education. Teachers in applying the use of information and communication technology more appropriately are very much needed in order to provide a better idea to the younger generation regarding the use of technology more precisely and more usefully. Through the use of information and communication technology we can improve the quality of education, namely by how to widen open access to knowledge and provide quality education (Tekege, 2017: 41) Currently, information and communication technology is something that cannot be avoided in order to improve the quality of learning. (Kurniawan, 2019) Learning that is designed and developed using learning technology will be able to improve the quality of learning because students receive optimal services according to their respective characteristics and learning styles so that they feel happier, more active and easier to learn (Kurniawan, 2019: 56)

The learning process should be oriented towards the active role of students. In other words, learning is an active process. In line with the development of information and communication technology, the learning process in schools should be designed by utilizing information and communication technology. The role of information and communication technology in active learning is quite significant, because information and communication technology is able to help active learning (Kurniawan, 2019: 56). Information technology can be said to be the science needed to manage information so that the information can be searched easily and accurately. The development of information and communication technology is currently growing increasingly rapidly, making it easier to solve various problems, information creation, channel maintenance, selective transmission, selective reception, storage and search, and use, ultimately providing critical evaluation and feedback. Information and communication technology includes two aspects, namely information technology and communication technology (Kasmahidayat & Marcia, 2018).

In today's learning, teachers are required to be able to utilize technology in learning. According to the Minister of National Education Regulation Number 16 of 2007 concerning Academic Qualification Standards and Teacher Competencies, it is explained that teachers must utilize information and communication technology for learning purposes. In the Government Regulation of the Republic of Indonesia Number 74 of 2008 concerning Teachers, article three paragraph four states that the pedagogical competencies that teachers must master in managing student learning, one of which is the use of learning technology. There is a ministerial regulation regarding the competencies that teachers must have, so the use of information and communication technology should really be applied to the learning process to achieve learning goals.

Another thing is that if conditions do not allow students to use technology, teachers can switch to using alternative learning media. The government has attempted to improve the

quality of teachers in the field of technology by perfecting the 2013 Curriculum. The curriculum currently being used requires students and teachers to jointly develop competencies, especially to answer global challenges. However, this effort has not been optimal because teachers have not maximized the use of technology in the learning process. Learning at SDN Parak No. Most of the 11 Selayar Islands are still conventional, using blackboards as media. Some teachers are also unable to use a variety of technologies to deliver material.

Students still use it printed teaching materials provided by schools in the learning process. Even in some subjects, teachers ask students to use books alternately. The use of information technology-based learning media is indeed very good in schools. However, there are several obstacles faced by teachers at SDN Parak No. 11 Selayar Islands. These obstacles include aspects of facilities and infrastructure, student aspects, and teacher aspects. Teachers have not prepared themselves thoroughly to face changing times. From the aspect of facilities and infrastructure, schools still do not have enough projectors to use at the same time. The school only has 3 projectors. In one learning session, only 3 classes can use the projector. From a student's perspective, there are still many students who have not utilized computers as a medium for learning and information.

Some students who can operate computers only use computers for entertainment such as playing online games. Likewise with the use of cellphones only as a medium for communication and entertainment, not for looking for learning materials. From the teacher aspect, there are still teachers who don't have computers. Some teachers still do not fully know about IT-based learning media. There are also teachers who are still limited in terms of time and skills to create learning media. This description is the basis for this research where the researcher wants to analyze the use of information technology in supporting the learning process in the era of the industrial revolution 4.0 among teachers at SDN Parak No. 11 Selayar Islands and solutions to existing problems.

2 RESEARCH METHODOLOGY

This research uses a qualitative approach with research methods that focus on understanding social phenomena and human problems. The aim is to understand in depth the use of information technology in supporting the learning process in the industrial revolution 4.0 era, especially for teachers at SDN Parak No. 11 Selayar Islands. Qualitative methods produce descriptive data in the form of written and spoken words, obtained through observation and interviews. The research focus is limited to the use of information technology in the learning context at the school.

The research was carried out at UPT SDN Parak No. 11, District. Bonto Manai, Kab. Selayar Islands, South Sulawesi, with a research period of approximately two months in May 2023. Data sources consist of primary data and secondary data. Primary data was obtained through observations and interviews with school principals, civil servant teachers, honorary teachers and students. Meanwhile, secondary data was obtained from various reports and documents relevant to the use of information technology in learning. Interview informants included the school principal, two civil servant teachers, two honorary teachers, and two students. Data collection techniques involve field observations, interviews, and documentation, with data analysis using the Miles and Huberman category model. The analysis process consists of data reduction, data presentation, and drawing conclusions that are supported by strong evidence.

3. RESULTS AND DISCUSSION

3.1 Research Result

Based on research conducted in May 2023 at UPT SDN Parak No. 11 Selayar Islands regarding the Use of Information Technology to Support the Learning Process in the Era of the Industrial Revolution 4.0, the type of research used is qualitative with data sources from interviews with informants at the school. Informants consisted of school principals, civil servant teachers, honorary teachers and students. The use of information

technology in the teaching process in schools aims to increase the efficiency and effectiveness of learning, face the globalization of education, and is in accordance with the principles of the 2013 curriculum which emphasizes the use of information and communication technology (ICT). In exploring data, research includes informant characteristics, focuses on the use of information technology, research site and time, data types and sources, and data collection techniques. Informants consisted of school principals, civil servant teachers, honorary teachers and students. Utilization of information technology in teaching activities at UPT SDN Parak No. 11 Selayar Islands have been started since 2015, but have not yet reached 100%. The school has provided facilities such as laptops, LCDs and WiFi to support teachers' use of information technology. Use of information technology by teachers at UPT SDN Parak No. The 11 Selayar Islands provide positive impacts, such as making it easier to deliver material, making learning more interesting and interactive, and providing variety in the presentation of information. However, there are also negative impacts, such as students becoming less enthusiastic about writing and potentially becoming cyber addicts. In dealing with these positive and negative impacts, it is important for teachers to improve their ability to use information technology optimally. Apart from that, adequate facilities from the school also play an important role. By combining information technology in learning, it is hoped that the quality of education at UPT SDN Parak No. 11 Selayar Islands can continue to increase.

3.2 Discussion

The development of information and communication technology continues to increase along with increasing human needs, including in the field of education. The role of teachers in applying the use of information

and communication technology more appropriately is very necessary in order to provide a better idea to the younger generation regarding the use of technology in a more appropriate and more useful manner. Learning that is designed and developed using learning technology will be able to improve the quality of learning because students receive optimal services according to their individual characteristics and learning styles so that they feel happier, more active and easier to learn (Kurniawan, 2019).

Based on the results of interviews with informant S as a civil servant teacher at UPT SDN Parak No. 11 Selayar Islands stated that the use of information technology in teaching and learning activities has both positive and negative impacts. The positive impact is that with the existence of information technology, students can learn easily and efficiently and can do it anytime and anywhere, as well as teachers, who can provide various interesting learning media for students by using information technology in teaching activities. Meanwhile, the negative impact is that if students use cellphones too often it can have a bad impact on health, especially eye health.

The same opinion regarding the impact of using Information Technology in the process of teaching activities was also expressed by one of the Non-PNS Teachers at UPT SDN Parak No.11 Selayar Islands. I think the negative impact is that students use cellphones too often and can cause health problems, secondly, students don't interact enough, while the positive impact is that it makes it easier to access information, secondly it makes the communication process easier, thirdly it makes learning media easier for students. (Results of an interview with MR, one of the non-civil servant teachers at UPT SDN Parak No. 11 Selayar Islands, Friday 26 May 2023).

a. Utilization of Information Technology in the Teaching Activity Process at UPT SDN Parak School No. 11 Selayar Islands

The results obtained from research conducted by researchers at UPT SDN Parak School No. 11 Selayar Islands regarding the use of information technology in the teaching process, that is, almost all teachers use information technology when teaching, but the use of information technology in the classroom is not optimal because there are still some teachers who are not very skilled at using information technology such as operating laptops and installing LCDs so that in the process Teaching is still alternated with providing material through books or classroom learning modules.

The school has also facilitated various types of information technology in each class such as laptops for teachers, both civil servants and non-civil servants, LCDs in each class, and also adequate internet network access so that each teacher can search for various learning media so that students are more interested in the material. which are given. Before entering the class, usually the teacher first looks for various pictures and videos related to the learning material that will be delivered, then when the lesson starts the teacher will displays various pictures and videos in class which are then followed by explanations regarding the learning material.

By using information technology in the teaching process, teachers feel helped and can also optimize the process of delivering material to students because students not only hear but can also see images of learning material through pictures or videos so that in the learning process students do not feel bored while studying in the classroom. Students also revealed that if teachers teach using information technology, they are more enthusiastic about receiving learning material because they can see various interesting pictures and videos followed by explanations by the teacher regarding the subject matter so that it is easier for them to understand and understand the material. They can also find out at home about the material that has been presented if they forget or still don't understand it when it is explained in class.

There are similarities in the results of previous research with my current research, namely (Fuis Mukaromah, 2020) concerning "Use of Information and Communication Technology in Increasing Student Passion for Learning at

MTsN 4 Ciamis" with the result that the use of information technology by teachers is still limited as a learning medium for students in class, and in line with the research I conducted on "Use of Information Technology in the Teaching Activity Process at UPT SDN Parak No, 11" with the result that information technology has been used well where almost.

All teachers use information technology as a learning medium in class, but its use is not optimal because there are still some teachers who are not proficient in operating information technology, such as using laptops and LCDs. Likewise, previous research (Kurniawan Arie 2020) on "Use of Information and Communication Technology (ICT) for Learning at SMPN 5 Ponogoro, East Java" stated that teachers lack literacy in the use of information technology and the process of teaching activities which is in line with my research. do, namely that not all teachers are able to use information technology during the process of teaching activities at school.

b. Impact of the Use of Information Technology in the Process of Teaching Activities at UPT SDN Parak School No. 11 Selayar Islands

The use of information technology in the process of teaching activities at school will certainly have various impacts, both positive and negative impacts. Based on research I conducted at UPT SDN Parak No. 11 Selayar Islands, namely the use of information technology in the teaching process has many positive impacts for teachers and students. There are various positive impacts in using information technology for teaching, namely that learning in the classroom is easier and more efficient because apart from providing verbal explanations to students, teachers can also show videos related to learning material so that it helps students understand the lesson more easily. Apart from that, by using information technology teachers also feel helped in administrative matters such as inputting student grades. Another positive impact is that by using information technology teachers can show various types of material to students so that in the learning process students will not feel bored and will focus more on listening to the learning material.

The results of the research I conducted are supported by previous research, namely (Fuis Mukaromah, 2020) about "Use of Information and Communication Technology in Increasing Students' Passion for Learning at MTsN 4 Ciamis" with the result that the use of information technology in teaching activities makes students feel less bored and stimulates students to be more enthusiastic in receiving lessons, in line with the research I conducted in about "Use of Information Technology in the Teaching Activity Process at UPT SDN Parak No, 11" with the result that students are more enthusiastic and interested in learning when the teacher uses information technology where students not only listen to the teacher's explanation but can also better understand the learning material by looking at it. pictures and videos.

This research is also in line with research (Ade Salahudin Permadi, 2020) on "The Influence of the Use of Information and Communication Technology on Learning Motivation" namely that there is an influence of the use of information and communication technology on student learning motivation, which is in accordance with the results of the research I have conducted, namely that students feel You don't get bored if the teacher provides material using information technology where the teacher displays various pictures and videos related to the learning material, which means students become more motivated to carry out learning in class.

4. CLOSING

4.1 Conclusion

Based on interviews with several informants at UPT SDN Parak School No. 11 Selayar Islands, it can be concluded that the use of information technology in the process of teaching activities has been carried out, but has not yet reached the maximum level. Some teachers still do not understand the use of information technology in teaching activities. However, the school has provided facilities to support the use of information technology, such as laptops, LCDs in each class, and adequate internet access.

The use of information technology has a positive impact on the process of teaching activities, both for teachers and students. Teachers can more easily explain the material by displaying

pictures and videos, so that the presentation of the material becomes more interesting. Students also feel the benefits, with increased enthusiasm and interest as well as ease in understanding the material.

4.2 Suggestion

1. For further research, it is recommended to use more up-to-date measuring instruments and different research methods to achieve maximum research results. Examining each variable with the latest and most relevant theoretical approaches can provide a more comprehensive view.
2. For UPT SDN Parak School No. 11 Selayar Islands, it is recommended to maximize all teaching staff in the use of information technology in the process of teaching activities. This aims to maintain student enthusiasm and motivation for learning.

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