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Teachers' Obstacles in Utilizing Information and Communication Technology

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Abstract: This study aims to study teacher barriers to utilizing information and communication media (ICT) for learning media. This research was carried out at Public Elementary School 24 Pulau Rimau located in Karang Manunggal village, Pulau Rimau sub-district, Banyuasin district. The subjects of this study were teachers at Public Elementary School 24 Pulau Rimau who tested 16 people. In conducting this research, data from certain sources are needed that are as expected in this study. The technique of collecting data is by observation and interview. Data were analyzed using percentages to see the percentage of respondents' answers. Furthermore, all data is processed by analyzing qualitative data, namely data reduction, data display, and data verification. The formulation of the problem in this study is what forms are questioned by the teacher in utilizing technology-based media in Public Elementary School 24 Pulau Rimau ? From the results of research on teacher barriers to using Information Technology (ICT) in Public Elementary School 24 Pulau Rimau, two aspects related to the ability of teachers and Information and Communication Technology (ICT) were inadequate. The obstacle of the teacher's ability to master ICT is that the teacher is not proficient in using computers, judging from the percentage of teacher answers, 75% say they are not proficient in using technology-based media, whereas using computers is one of the activities that support computer-based media. In addition, teachers do not have an advanced educational background in the use of ICT media. Another obstacle in terms of facilities, in Public Elementary School 24 Pulau Rimau there is no electricity network (PLN). In addition to not having a PLN, there is also the unavailability of computer facilities and laptops at the Public Elementary School 24 Pulau Rimau.

Keywords: Obstacles; Information; Communication and Technology

1. Introduction

The advancement of communication and information technology has made it easier for humans to be able to interact quickly, easily and affordable by almost all people. The development of information technology is very influential in the innovation of learning models encourage the use of innovative learning models.

Heinich, et al. (2002) suggested that learning using computers developed very rapidly, especially after the availability of "superhighway" and "internet" computers. The internet learning system is known as e-learning, online learning, virtual learning, virtual campus, school-net, web-based learning, resource-based learning, distance learning, and other names.

In the current era of Industrial Revolution 4.0, the use of information and communication technology (ICT) has had a major influence on the world of education. The internet allows us to study anytime and anywhere with unlimited scope. But the application of information and communication technology (ICT) in education in Indonesia, especially in remote areas there are still many obstacles. One obstacle is that there are still many educators/teachers who cannot operate computers or laptop. Based on the results of observations at the Rimau Island Elementary School 24 the problem faced was that teachers lacked the technology, so they had not yet used it. Of the 16 educators and education staff available, as many as 6 people can operate computers/laptop properly. While

10 people cannot use it at all. This becomes an obstacle in utilizing computer-based media. Nasution (2010) suggests that teachers play an important role in the development of educational technology so they must try to learn how to use it.

Media Information and Communication Technology (ICT) is one of the teacher's current needs, as stated by Yaumi (2013) that the media is able to provide a learning experience that is rich in various creativity. Thus the development of technology-based learning is very important to be carried out by teachers. The teacher is not enough to only have knowledge about the media of education, but also must have the skills to choose and use and try to make the media good (Asf, 2013) (Kristiawan et al, 2019).

Based on the description above, the formulation of the problem in this study is what are the forms of obstacles faced by teachers in utilizing technology-based media in Pulau Rimau Public Elementary School 24 ? And this study aims to find out the form of obstacles faced by teachers in utilizing computer-based media in Rimau Island 24 Elementary School. The obstacles often occur in the world of education, such as learning models, approaches, learning media and assessment of students. So it can be concluded that obstacles are a problem or a situation that becomes an obstacle to achieving the goals to be achieved and must have certain solutions that are in accordance with the constraints faced. And the teacher's obstacles in the use of media referred to here is the use of media or tools Information and Communication Technology (ICT) (Kristiawan, 2014).

The word media comes from Latin and is the plural form of the word medium, literally the word means intermediary or introduction (Susilana, 2009). Furthermore Arsyad (2011) classifies media into 8 types, namely; (a) Printed Media; (b) Pajang media; (c) Transparency overhead; (d) Audiotape Records; (e) Series of slides and film strips; (f) Multi-image presentation; (g) Live video and film recordings; (h) computer. Warsita (2008) the use of communication technology for educational purposes in terms of its function as a learning media is not new.

So basically information technology includes everything related to the process, use as a tool, manipulation, and management of information. While communication technology is all related to the use of communication media to process and transfer data from one device to another. Therefore, information and communication technology are two inseparable concepts.

Information technology encapsulates all aspects related to computer machines and communication and techniques used to capture, store, manipulate, deliver and present a form of information (Sa'ud, 2009) (Kristiawan et al, 2018). According to Munir (2010). Information technology is used to produce quality, relevant, accurate and timely information, which is used for personal, business and government purposes which is a strategic aspect for decision making Information technology is always related to hardware and software. Hardware concerns the equipment that is physical in nature, such as memory, printers, and keyboards. According to Munir (2010), the software is related to instructions to set hardware to work in accordance with the purpose of these instructions.

According to Russell et al. (2011), technology and media can play a large role in learning. If teaching is centered on teachers, technology and media are used to support the presentation of teaching. Furthermore, Hosnan (2013) suggests the distribution of learning media in several types, namely print, electronic and multimedia, seen from the type and the form of learning media have different characteristics.

In the teaching and learning process, teaching methods and learning media are two very important elements creative use of media will increase the likelihood of students to learn more, what they learn will be better, and improve their appearance in doing certain

skills according to what becomes predetermined learning goals (Soeharto et al. 2003).

In addition to providing advantages, computers also have weaknesses, according to Sukiman (2012), namely; 1). Although the price of computer hardware tends to decrease (cheaply), the development of software is still relatively expensive; 2). To operate a computer, special computer knowledge and skills are needed; 3). Diversity of computer models (hardware) often causes available software (compatible) with other models; 4). The program currently available has not taken into account the creativity of students, so it certainly will not be able to develop the creativity of students; 5). Computers are only effective for use by one person or several people in a small group, for large groups it requires projection on a monitor to a wider screen.

If discussed further about the presence of information and communication technology both as a medium and a learning resource in the learning process, Prawiradilaga (2013) formulates a number of questions about what can be done so that ICT empowerment can improve the quality of learning, how to implement it into subjects we manage, and what efforts can be made by a teacher to minimize the negative impact caused by the presence of ICT in learning. In this case, the teacher is required to be able to master the technology and be able to use it into the learning process.

2. Research Methods

The research approach was carried out with qualitative methods. Qualitative research is a research method based on the philosophy of positivity, which is used to examine the scientific condition of the object where the researcher is a key instrument (Sugiyono, 2009). In this study, researchers wanted to describe the obstacles encountered by educators in the use of ICT media in Rimau Island 24 Public Elementary School.

According to Moleong (2010) qualitative research aims to observe behaviors, perceptions, motivations, actions holistically and carried out by means of descriptions in the form of words and languages, in a specific natural context and by utilizing various natural methods.

This research was carried out in the 24th Elementary School of Pulau Rimau located in Karang Manunggal village, Pulau Rimau sub-district, Banyuasin district. The subject of this research were 16 teachers at the Rimau Island State Elementary School. In conducting this research, data from certain sources were needed. as expected in this study. Techniques for collecting data by observation and interviews.

The use of the observation method according to Arikunto (2010) the most effective way is to complete it with a format or blank observation as an instrument, a format composed of items about the events or behavior described will occur. Data were analyzed using the percentage formula to see the percentage of respondents' answers. Furthermore, all data is processed through qualitative data analysis, namely data reduction, data display, and data verification.

3. Results and Discussion

Based on the results of the study through observation and interviews with teachers at Rimau Island 24 Elementary School, two obstacles were encountered, namely the teacher's ability and inadequate Information and Communication Technology (ICT) Infrastructure. The obstacle of the teacher's ability to master ICT is that the teacher is not proficient in using computers, judging from the percentage of teacher answers, 75% say they are not proficient in using technology-based media, whereas using computers is one of the activities that support computer-based media. Many of the reasons behind the lack of intelligence are the age and high prices of computers and laptops, even though the high prices are expected to produce good results, this is supported by the

opinion of Kokasih and Angkowo (2007) "costs incurred in obtaining and using media should be truly balanced with the results achieved ". Even though computers and laptops are one of the tools that must be a must-have in this day and age.

Another obstacle faced by teachers is not having an advanced educational background in the use of ICT media, judging from the answers of a percentage of teachers as much as 50% said they did not have advanced educational backgrounds in ICT media use, because when school teachers in their era are not items must be owned and there is no learning that requires that learning even though the background is able to use a computer is one of the reasons that being able to use computers is supported by Nasution's statement (2010) which says teachers are reluctant to use because they feel they have no technical skills to control it. Therefore we need training and management of good educators as proposed by Kristiawan (2017) that educator management is an activity of planning, managing, and organizing, communicating educational resources (educators) in order to be able to run or carry out their duties and responsibilities effectively and efficiently with the purpose of achieving learning objectives or educational goals as expected.

Another obstacle in terms of facilities, at the 24 Elementary School in Pulau Rimau there is no electricity network. This can be seen from the absence of the PLN electricity network in Karang Manunggal village which the average population still uses oil, diesel, generator, and solar power for daily lighting. From the teacher's answer, there are limited facilities owned by the school besides the absence of PLN availability of computer facilities and laptop at Rimau Island 24 Public Elementary School. Even though the availability of school facilities is very supportive in the use of technology-based media, this is in line with the opinion of Kokasih and Angkowo (2007) "although a media is considered very appropriate for achieving learning goals, the media cannot be used if it is not available".

The teaching and learning process will run smoothly if it is supported by complete facilities and infrastructure, therefore, the problem of facilities is an essential problem in education, so in education renewal we must also have time to renew from the building to the most dominant problem, namely tools that used in the teaching and learning process (Dalyono, 2005).

According to Kristiawan (2017), the means are everything that can be used as a tool in achieving meaning and purpose. So facilities are all facilities needed in the teaching and learning process, both moving and immovable so that the achievement of educational goals can run smoothly, regularly, effectively and efficiently. Thus the planning of school facilities and infrastructure can be defined as a thorough overall process of the design of the purchase, procurement, rehabilitation, distribution or manufacture of equipment and equipment that fits the needs of the school (Kristiawan, 2017). Thus, Kristiawan (2017) stated that in planning activities it is necessary to include various elements or related parties. In this case, the elements that need to be involved are the Principal, Deputy Principal, Teacher, Head of Administration and Treasurer, and BP3 or School Committee.

4. Conclusions

From the results of research on teacher barriers to utilizing Information Technology (ICT) at 24 Island Rimau Public Elementary School, two obstacles were encountered, namely inadequate teacher capacity and Information and Communication Technology (ICT) Infrastructure. The obstacle of the teacher's ability to master ICT is that the teacher is not proficient in using computers, judging from the percentage of teacher answers, 75% say they are not proficient in using technology-based media, whereas using computers is one of the activities that support computer-based media.

In addition, teachers do not have an advanced educational background in the use of ICT media. Another obstacle in terms of facilities, in the 24 Elementary School of Pulau Rimau there is no electricity network (PLN). In addition to the absence of PLN also the unavailability of computer facilities and laptops in Rimau Island 24 Elementary School. Though the teaching and learning process will run smoothly if it is supported by complete facilities and infrastructure, therefore, the problem of facilities is an essential problem in education, so in education renewal, we must also have time to renew from the building to the most dominant problem namely tools used in the teaching and learning procesa.

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