



The Role of Teachers in the use of Technology-Based Learning Media Information and Communication at SD Inpres Duyu

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ABSTRACT

The purpose of this study was to determine the Role of Teachers in the Utilization of Information and Communication Technology-Based Learning Media at SD Inpres Duyu. The type of data in this study is qualitative data. Qualitative data was obtained from the results of the Role of Teachers in the Utilization of ICT-Based Learning Media. Data collection techniques used were observation, interviews, and documentation. The results of this study are that the Role of Teachers in the Utilization of ICT-Based Learning Media at SD Inpres Duyu is quite good in utilizing ICT-based learning media, it's just that not all teachers are able to utilize ICT-based learning media at SD Inpres Duyu. There are still various difficulties for teachers in utilizing ICT-based learning media such as, difficulties in using learning media, no willingness to learn more about ICT-based learning media, lack of teacher readiness in using learning media. Teachers play an important role in creating creative and innovative learning through the role of teachers in utilizing learning media that is interesting for students

INTRODUCTION

Information and Communication Technology (ICT) is one of the technologies that must be developed in the world of Education. The success of the development of a nation is determined by the quality of the nation's education, and the quality of education is determined by an educator, in this case a teacher, because with the new innovations provided by a teacher in education, it can give a new color to the learning process that will foster students' passion for learning.

Government Regulation of the Republic of Indonesia Number 57 of 2021 concerning National Education Standards states that Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble morals, and skills needed by themselves, society, nation and state. To improve the quality of Indonesian education can be realized in learning activities. One of the tools that can be used to improve the quality of education is the use of media in the learning process.

The role of teachers in the learning process is in charge of educating, teaching, guiding, directing, assessing, and ending by evaluating their students, the learning process can run well by paying attention to two things, namely learning methods and learning media. The use of learning media is expected to bring the role of a teacher to be more innovative and produktif dalam menyajikan materi yang disampaikan kepada students in class. The use of ICT in learning media is expected to have a great contribution and innovation to the world of education. The existence of ICT is expected to make it easier for teachers to improve their teaching skills in the classroom. (M. G. Rohman, Purnomo Hadi Susilo, 2019).

The advantage of information and communication technology-based learning media (ICT) is that it can help learning activities. Learning activities that utilize ICT-based media can support the achievement of learning goals. This research aims to determine the role of teachers in the use of a learning media that uses ICT in elementary schools. This is related to the problem of developing teachers' competencies towards the use of ICT in learning. To obtain research data, survey research was used (Winanda Amili, 2020).

Based on initial observations made with the Principal and Teachers regarding the Role of Teachers in the Use of Information and Communication Technology-Based Learning Media at SD Inpres Duyu. In the observation process, it was obtained that the Role of Teachers in the Utilization of ICT-Based Learning Media at SD Inpres Duyu has not fully mastered the use of learning media, Teachers at SD Inpres Duyu have not all utilized ICT-Based Learning Media in the teaching and learning process.

Based on this explanation, the researcher is interested in conducting research on "The Role of Teachers in the Utilization of Information and Communication Technology-Based Learning Media at Inpres Duyu Elementary School". This is to find out to what extent the ability of teachers at SD Inpres Duyu in Memanfaatkan Media Pembelajaran yang Berbasis Teknologi Informasi dan Komunikasi di SD Inpres Duyu.

LITERATURE REVIEW

Relevant Research

Relevant research is research that aims to compare or see similarities and differences with the research we conduct and all efforts made by researchers to obtain all written information about information that is appropriate to the topic to compare or see the similarities that the researcher aims to raise (Kusumastuti & Khairon, 2019). The research is related to the research conducted by:

1. Research conducted by Amilia (2020). With data obtained in the medium category, which is 45.06%. From the survey, information was obtained that teachers have not mastered the use of Microsoft Word and Microsoft Power Point computer applications. This can affect the optimization of the use of ICT-based learning media in learning activities by teachers. Teachers are very rare and have never even participated in the workshop training on making ICT-based learning media. This condition has an impact on the use of ICT-based learning media in learning activities that are still low.
2. Research conducted by Iksari (2021). Stating that the use of animation video media is very helpful for teachers in the learning process as a supporting medium. Elementary schools (SD) in Sawahlunto City, West Sumatra Province have 66 elementary schools consisting of 55 public and 6 private. State Elementary School 13 Pasar Remaja is located in Barangin District which is one of the sub-districts in Sawahlunto City. The school already has several facilities based on Information and Communication Technology. These facilities include computers, International Network (Internet), and Wireless Fidelity (WIFI). This can support teachers in improving ICT competence so that they can take advantage of ICT-based learning media.
3. Erlin Devi Sragih (2020). This study aims to describe the ability of teachers to use Information and Communication Technology-based media in 13/1 Muara Bulian State Elementary School and 55/1 Sridadi State Elementary School in the learning process. This study uses a quantitative descriptive research design. The research data was obtained using a questionnaire given to high-grade teachers using content validation, while data analysis was carried out using descriptive statistical analysis. The results of this study show that the ability of teachers to use Information and Communication Technology-based learning media at SD Negeri 13/1 Muara Bulian from five indicators obtained an average presentation of 68.41% so that it is concluded that the ability of teachers at SD Negeri 13/1 Muara Bulian is categorized as high.

The ability of teachers to use Information and Communication Technology-based learning media at SD Negeri 55/1 Sridadi from 5 Indicators obtained an average presentation of 83.3% so that it can be concluded that the ability of teachers at SD Negeri 13/1 Muara Bulian is categorized as very high.

Based on the analysis of the problems found by some of the researchers above, it can describe the conditions of the use of an ICT-based learning media in schools. Most of the control lies with the teacher who manages the learning process. The role of teachers influences the achievement of learning goals through an effective and efficient process. The learning provided by teachers is

expected to be able to be understood by students well with the help of ICT-based learning media. So that learning can attract students' attention and be more motivated to follow the learning process. The most important thing in the use of media is to achieve uniformity of the information obtained so that the goals can be achieved properly. This condition can be expected to be realized properly for the realization of national education goals.

This is in line with the purpose of this study, which is to analyze the role of a teacher in utilizing Information and Communication Technology-based learning media in elementary schools with the first research formulation knowing the role of increasing the competence of the use of ICT-based learning media and the second role in the use of ICT-based learning media.

Based on the research conducted (Winanda Amilia 2022), data obtained from teachers at Sawahlunto City Elementary School shows that the results of this study show that 53.3% of teachers at Sawahlunto City Elementary School are aware of the importance of ICT-based learning media but have not utilized it optimally due to skills constraints in the ICT field. This is related to the situation in schools where teachers are very rare and have never even participated in training/workshops in making ICT-based learning media.

This condition has an impact on the level of utilization of ICT-based learning media in learning activities that is still low. Therefore, research conducted by Iksari (2021) states that the use of animation video media is very helpful for teachers in the learning process as a supporting media.

METHODOLOGY

1. Types and Approaches to Research

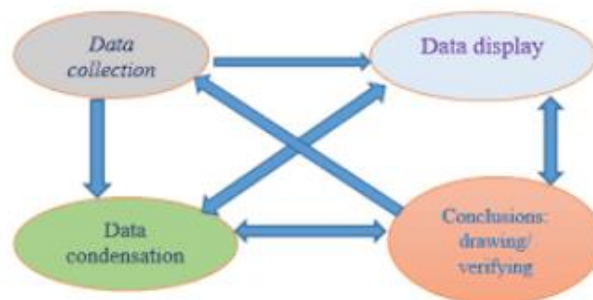
This research will be carried out through a descriptive approach method or called a qualitative approach. The qualitative approach in this case is actually a research procedure that produces descriptive data in the form of written or verbal words from people and observable behaviors. Therefore, the data collected is data in the form of words or sentences or images instead of numbers (V. Wiratna Sujarweni, 2014).

The main goal in qualitative approach research is to understand, to describe, to develop and to find a central phenomenon. The central phenomenon is specifying something that is planned for exploration purposes, identifying the research subject clearly, and clearly stating the research location (Handayani, 2020).

Data Analysis Techniques

Miles and Huberman in Sugiono (2019), stated that activities in qualitative data analysis are carried out interactively and take place continuously until complete, so that the data is saturated. Activities in data analysis, namely data reduction, data display, and conclusion drawing/verification. Each of the three is explained as follows: 1. Data Reduction In data analysis, data reduction is an important step to summarize and process raw information. This process involves selecting, focusing, abstraction, and transforming complex field data. The goal is to simplify the data, eliminate irrelevant information, and organize it to make it easier to interpret. Researchers must be careful in selecting valid and convincing data. If there is any doubt, the data is double-checked with other informants who have more in-depth knowledge on the topic (Murdiyanto, 2020). 2. Data Display (Data Presentation) In qualitative research, data presentation can be done in the form of brief descriptions, charts, relationships between categories, flowcharts, and the like. In this case, Miles and Huberman in Sugiono (2019) said that the most often used to present data in qualitative research is with narrative texts.

Conclusion Drawing The third step in qualitative data analysis according to Miles and Huberman is drawing conclusions and verification. Researchers draw initial conclusions, but they are temporary and subject to change if not supported by strong evidence. If the initial conclusion is supported by valid and consistent evidence when the researcher returns to the field, then the conclusion is considered credible.



Gambar 1. Analisis Data (Milles dan Huberman)

RESULTS AND DISCUSSION

The Role of Teachers in the Use of ICT-Based Learning Media

1. The Role of Teachers as Learning Designers

Teachers at SD Inpres Duyu showed initiatives in designing ICT-based learning media, such as the use of PowerPoint, educational videos, and application-based interactive quizzes. Most teachers have taken ICT training, albeit with varying levels of mastery. The media is designed to fit the needs of students and the subject matter.

2. The Role of Teachers as Facilitators

Teachers at SD Inpres Duyu play an active role in guiding students using ICT-based learning media, especially during the online learning process. Teachers help students understand the material through LMS such as Google Classroom and provide instructions in using the application.

3. The Role of Teachers as Evaluators

In the evaluation process, teachers at SD Inpres Duyu use ICT to prepare digital-based questions and manage student evaluation results in a systematic. This makes it easier for teachers to analyze learning outcomes and monitor students' knowledge development.

How Teachers Apply ICT-Based Learning Media

1. Type of ICT Media Used

Teachers at SD Inpres Duyu use various ICT media such as:

- a. PowerPoint for presentation of learning materials.
- b. Learning videos from Youtube
- c. Google Classroom for online learning and assignment collection.

2. Implementation Strategy

Teachers at SD Inpres Duyu apply ICT media with several strategies, including:

- a. Insert short animated videos when explaining the material to attract students' attention during the learning process in class.
- b. Conducting online question training through an interactive application.
- c. Directs students to access additional materials from the internet independently.

3. Challenges Faced

- a. Limited ICT facilities in schools, such as the number of computers or LCD Projectors.
- b. Teachers' uneven ability to operate technology.
- c. Unstable internet network availability.

4. Efforts to Overcome Challenges

- a. The school provides ICT training on a regular basis.
- b. Teachers collaborate between fellow teachers to share technological knowledge.
- c. The use of personal devices (laptops or smartphones) as an alternative aid.

Obstacles to the Implementation of ICT-Based Learning Media

1. Limited Facilities and Infrastructure

Inpres Duyu Elementary School does not have adequate ICT facilities, such as:

- a. Limited number of Croom Books/computers.
- b. Unavailability of LCDs and projectors in all classrooms.
- c. Weak internet network in the school environment.

2. Lack of Teacher Competence in ICT

- a. Lack of ICT skills, especially in teachers who are not used to using technology.
- b. Lack of training and assistance related to the integration of ICT in learning.
- b. Concerns about technical failures, such as tools suddenly crashing or applications that don't run properly.

3. Institutional Support Constraints

- a. There is no school policy that encourages the consistent use of ICT.
- b. Limited school funds for the procurement or maintenance of ICT equipment.
- b. Lack of communication between teachers and school IT personnel to help the implementation of ICT.

4. Obstacles from Students

- a. The level of understanding of technology varies among students, especially in low grades.
- b. Lack of supervision when using technology at home, which makes students distracted by non-learning content.
- c. Lack of motivation to learn if ICT media is not adjusted to their age characteristics.

Based on the findings of the Role of Teachers in the Utilization of ICT-Based Learning Media at SD Inpres Duyu, the researcher explained several reviews of the main role of teachers in the use of ICT-based learning media in elementary schools from the results of the interview, namely:

The Role of Teachers in the Utilization of ICT-Based Learning Media at SD Inpres Duyu

The role of teachers in the use of Information and Communication Technology (ICT)-based learning media is very important, especially at the elementary school level. Teachers not only act as facilitators of learning, but also as designers and managers of effective and innovative learning. The use of ICT allows teachers to present material in a more interesting, interactive, and in accordance with the characteristics of early childhood students who tend to be visual and kinesthetic. Teachers play a role in selecting appropriate media, modifying learning content to be compatible with ICT devices, and ensuring that the use of ICT supports the achievement of learning goals. In addition, teachers must also be able to guide students in the appropriate and responsible use of ICT, including in developing basic digital literacy.

The following are some of the main roles of teachers that are applied in learning at SD Inpres Duyu.

As an Educator

Teachers at SD Inpres Duyu have carried out their duties well by conveying knowledge, values and skills to students. At the elementary school level, teachers play a role in building a basic foundation in reading, writing, arithmetic, and general knowledge. Likewise, the teachers at SD Inpres Duyu are carried out so that students can be well educated.

As with the theory reinforced by the Theory of Cognitive Development – Jean Piaget stated that children experience different stages of cognitive development. At the age of elementary school (7-11 years), children are in the concrete operational stage, where they begin to think logically but still depend on real objects.

Implications for the Role of Teachers

- a. Teachers must present the material in a concrete and contextual manner
- b. Teachers should guide students through hands-on activities and simple experiments
- c. Teachers play the role of facilitators of cognitive development, not just the delivery of information.

As a Facilitator

The teachers at SD Inpres Duyu have created a conducive and fun learning environment. They provide a variety of learning resources, interesting learning methods, and media that suit the needs and level of development of students at SD Inpres Duyu.

As is the case with the Proximal Development Zone Theory (ZPD) – Lev Vygotsky states that children learn most effectively when they are in the proximal development zone, which is the range of abilities that children can achieve with the help of adults or more capable peers.

Implications for the Role of Teachers

- a. Teachers must provide guidance that is in accordance with the level of student development.
- b. The teacher plays the role of a supervisor who gradually releases help when students begin to be independent.
- c. As a Mentor

Teachers at SD Inpres Duyu guide students not only in the academic aspect, but also in the development of attitudes, character, and social skills. Teachers help students understand themselves, overcome learning difficulties, and grow emotionally.

As a Motivator

Teachers at SD Inpres Duyu always motivate students to learn by providing encouragement, praise, and challenges that arouse students' enthusiasm for learning. Teachers also play a role in fostering students' confidence and interest in learning.

Like the Humanistic Strengthened Theory – Abraham Maslow & Carl Rogers emphasized the importance of fulfilling basic needs (physical, security, love, self-esteem) before children can achieve self-actualization. Rogers

emphasized the importance of warm and empathetic teacher-student relationships.

Implications for the Role of Teachers

- a. Teachers need to create a safe, comfortable, and supportive environment.
- b. Teachers play the role of motivators and fosters positive emotional relationships.

As an Evaluator

Teachers at SD Inpres Duyu have conducted research on the process and results of student learning. As the results of my interview with the Principal of SD Inpres Duyu said that teachers at SD Inpres Duyu conduct research on the process of student learning outcomes through various forms of learning evaluation carried out at SD Inpres Duyu. This process helps teachers understand student development and adjust learning strategies more effectively.

Based on the theory strengthened by Constructivism - Jerome Bruner, Bruner states that students must build their own understanding through meaningful learning experiences.

Implications for the Role of Teachers

- a. Teachers as facilitators of active learning.
- b. Teachers encourage students to think critically, explore, and discover knowledge independently.

As an Example

Teachers must be role models for good attitudes for students, therefore teachers at SD Inpres Duyu always apply discipline attitudes to students, as well as good behavior and moral values. At elementary age, students tend to imitate what they see, so teachers must show a positive and ethical attitude.

Based on Social Theory - Albert Bandura. Bandura emphasized the importance of observation and imitation in learning. Children learn a lot by imitating the behavior of others, especially adults they look up to as role models.

Implications for the Role of Teachers

- a. Teachers must be good role models in attitude, speech, and behavior.
- b. Teachers need to create a social environment that supports learning through interaction.

How Teachers Apply ICT-Based Learning Media at SD Inpres Duyu

The application of ICT-based learning media by teachers in elementary schools is carried out through several approaches. One of them is the integration of devices such as laptops, projectors, and tablets into the learning process in the classroom. Teachers can take advantage of interactive learning applications (such as Kahoot, Wordwall, or Google Classroom), learning videos, and PowerPoint-based media equipped with animation and audio. In the process of implementation, teachers design RPPs (Learning Implementation Plans) that include the use of ICT-based media in a structured manner. For example, at the beginning of learning, short videos are used for stimulus, followed by discussions, then interactive activities with digital applications, and ended with evaluation through application-based quizzes. In addition to the classroom, the application of ICT can also be done in distance learning (PJJ), such as during the

pandemic, by utilizing platforms such as Zoom, Google Meet, or WhatsApp Group.

Teachers at SD Inpres Duyu apply learning media at SD Inpres Duyu by using makeshift and adequate facilities. Teachers di Sd Inpres Duyu using a personal laptop or a facility that is used by the school, namely a croombok that is used in the provide it in schools to facilitate the learning process in the classroom. Teachers at SD Inpres Duyu often use Powerpoint learning media to display visual images that attract students' attention. As for teachers who display learning videos from YouTube or that they make themselves to attract the attention of students in learning. Teachers at Inpres Duyu Elementary School are not all who make good use of learning media, there are teachers who are still assisted in applying learning media, and there are teachers who are not yet skilled in making Powerpoint learning media or learning videos that they still take from the internet, because they are not proficient in making their own learning media.

Obstacles Faced by Teachers in the Application of ICT-Based Learning Media at Inpres Duyu Elementary School

Although the benefits are great, the application of ICT in learning in elementary schools also faces various obstacles. The main obstacles are the limitations of facilities and infrastructure, such as the unavailability of adequate ICT devices in schools or the lack of internet connections. This is very common especially in remote areas. Another obstacle is the uneven ability of teachers to master technology. Not all teachers have sufficient background or training in the use of ICT, so they find it difficult to integrate it in learning. In addition, the characteristics of elementary school students who still need intensive guidance are also a challenge. Uncontrolled use of ICT can cause students to lack focus or use technology for things outside of learning objectives.

CONCLUSION AND RECOMMENDATION

Based on the results of research on the use of ICT-based learning media at SD Inpres Duyu, it can be concluded that:

1. The role of teachers is very important in the use of ICT-based learning media. Teachers play the role of planners, implementers, as well as evaluators in the learning process involving technology. The success of ICT utilization is highly dependent on the creativity and competence of teachers in managing the technology to suit the characteristics and needs of elementary school students
2. The way teachers apply ICT-based learning media varies, ranging from the use of simple devices such as laptops and projectors, to the use of interactive learning applications. Teachers have also begun to integrate ICT into lesson plans and learning activities systematically, both in face-to-face and distance learning.
3. The main obstacles faced by teachers in the implementation of ICT include limited facilities, lack of ICT training or competence, and challenges in guiding students who still have limitations in using technology independently. Support from schools and the government is a decisive factor in overcoming these obstacles.

Suggestion

1. **For Teachers:** It is expected to continue to improve competence in the field of ICT through training, workshops, and independent learning. Teachers also need to innovate in choosing and adapting ICT media to suit the needs and characteristics of elementary school students.
2. **For Schools:** It is necessary to provide supporting facilities and infrastructure, such as adequate ICT devices and a stable internet network. Schools can also facilitate regular trainings to improve teachers' ability to utilize technology.
3. **For Researchers:** Researchers, then this research is one of the studies on the Role of Teachers in the Utilization of ICT-Based Learning Media at SD Inpres Duyu and of course there are many more that have not been reached, so that the next research is needed that is sharper and more in-depth to become a source of input and insight for schools in advancing education in their beloved country, the Republic of Indonesia.
4. **For the Government and Policy Makers:** Policies are needed that support equitable access to ICT in all regions, including in remote elementary schools. In addition, teacher capacity building programs in ICT mastery must be an important part of the sustainable development of teacher professionalism.

FUTHER STUDY

This research still has delays, so it is necessary to conduct further research related to the topic The Role of Teachers in the use of Technology-Based Learning Media Information and Communication at SD Inpres Duyu in order to improve this research and add insight for readers.

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