

# Leveraging the ASSURE Model for Optimized Information Technology-Based Learning Media

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## ARTICLE INFO

### Keywords:

Learning Media;  
Information Technology;  
ASSURE

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### Article history:

Received 2024-07-06  
Revised 2024-09-04  
Accepted 2024-09-18

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## ABSTRACT

Assessing technology-based learning media is essential in contemporary education to verify its effectiveness in enhancing student learning outcomes and addressing diverse challenges. This research uses the ASSURE model to assess the impact of information technology-based learning media in Class VI at SD Negeri 07 Angkasa. A case study method was used, involving one teacher and ten sixth-grade students. Data were gathered through interviews, observations, and document analysis. The analysis followed the stages of data reduction, data display, and conclusion drawing. The findings revealed that the teacher used PowerPoint, Word Wall, and Quizizz Paper Mode, resulting in a 50% increase in student engagement and a 21.43% improvement in student performance. Key factors supporting the use of technology-based learning media included school facilities such as modems, wifi cards, projectors, laptops, and speakers, as well as teachers' personal smartphones. However, challenges included limited internet access and unstable electricity. Solutions such as using offline technology, portable hotspots, backup power sources, and devices with sufficient battery life were suggested. The integration of information technology-based learning media showed positive effects on student engagement and performance. However, infrastructure limitations, curriculum alignment, and time management issues need to be addressed to optimize its use. This study concludes that the application of information technology-based learning media using the ASSURE model positively impacts student learning processes and outcomes. Overcoming infrastructural and logistical challenges is necessary to enhance its effectiveness in classrooms.

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## 1. INTRODUCTION

The evaluation of technology-based learning media in modern education is essential to ensure that the tools employed are effective in enhancing student learning processes and outcomes, as well as in addressing the various challenges encountered. The ASSURE model, which includes steps such as Analyze Learners, State Objectives, Select Media and Materials, Utilize Media and Materials, Require Learner Participation, and Evaluate and Revise, offers educators a comprehensive framework. Through this model, the impact of integrating technology-based learning media on student comprehension and achievement can be assessed, along with the challenges teachers face in applying the ASSURE model in their classrooms.

Various aspects of life, including the world of education, are influenced by very rapid technological developments. Technological developments in learning provide new opportunities to improve the learning experience (Salsabila & Agustian, 2021; Yani, 2023). With the advent of technology, learning methods have become more interactive and interesting, allowing students to learn in a way that better suits their needs. Technology also facilitates access to a wider and more diverse range of educational resources, as well as enabling more effective collaboration and communication between students and teachers. This opens up opportunities to optimize the use of information technology-based learning media and ensure that the teaching and learning process can run more effectively.

The Center for Educational and Cultural Information and Communication Technology (Pustekkom), as a key entity within the ministry responsible for information and communication technology in the education and cultural sectors, has conducted several policy analyses. These analyses cover various aspects, including the use of Information and Communication Technology (ICT) in both learning and administration, the development and provision of quality ICT infrastructure for educational units and institutions, and the establishment of ICT-based learning resource centers. Additionally, Pustekkom has focused on creating digital learning content, promoting open and distance education through ICT, and facilitating the integration of ICT in educational practices. This highlights the need for education systems to be responsive to technological advancements in order to maximize the potential benefits of technology (Susanto, 2019).

In response to this policy, there is a growing emphasis on finding more effective and relevant learning approaches that align with the complexity of educational content and the need for 21st-century skills. One commonly used approach today involves leveraging various digital media and the latest technologies (Peña-Ayala, 2021). Support from schools is crucial in facilitating teachers' use of technology-based learning media, as schools can provide innovative learning tools that reflect current advancements. To enhance learning activities, educational institutions must offer appropriate facilities and infrastructure, such as laptops, computers, Liquid Crystal Displays (LCD), and internet access (Widianto, 2021).

Despite the increasing use of information technology-based learning media, several challenges persist. These challenges include inadequate facilities and infrastructure (Winda & Dafit, 2021; Zatriska & Rochintaniawati, 2023; Rahma et al., 2023; Priyanti & Haryanto, 2023), limited teacher creativity in designing technology-based media (Oktasyavira & Nurlizawati, 2022; Latifah & Ramadhan, 2023), insufficient teacher skills in utilizing digital learning tools (Ramadhina & Rohman, 2022), and unreliable internet networks (Jamaludin, 2021; Nurmaya et al., 2023). Initial observations and interviews revealed that while teachers in Class VI of SD Negeri 07 Angkasa use technology, such as laptops, projectors, and learning videos, these tools are not being fully optimized due to limited school resources, unstable internet access, and unreliable electricity.

A key gap in the existing research is the limited exploration of how technology-based learning media can be systematically optimized in elementary education, particularly through models like ASSURE. While prior studies have focused on the general use of digital technology in schools, including mixed opinions from teachers on its effectiveness (Sarbaini et al., 2022; Putra et al., 2023), few have specifically examined how a structured model like ASSURE can overcome challenges and enhance learning outcomes in primary education settings. This study seeks to fill that gap by employing the ASSURE model to provide a structured approach to integrating technology-based learning tools in a way that maximizes their potential and addresses existing limitations.

Therefore, the objective of this research is to evaluate the effectiveness of technology-based learning media in Class VI of SD Negeri 07 Angkasa using the ASSURE model. The study aims to answer two primary research questions: (1) How does the integration of technology-based learning media influence students' understanding and learning outcomes? (2) What challenges do teachers face when implementing the ASSURE model in their classrooms? Through this research, insights will be

gained into how technology can be better utilized in elementary education, along with practical recommendations for addressing barriers to its effective implementation.

## 2. METHODS

This study employs a qualitative research approach, utilizing a case study method. A case study involves a thorough examination of a specific situation, individual, location, or event to gain a detailed understanding of its characteristics, the underlying dynamics, and the potential implications (Bogdan and Biklen, 1982). The research focuses on analyzing the use of technology-based learning media in grade VI at SDN 07 Angkasa Sanggau Ledo, located in Bengkayang Regency, West Kalimantan. Specifically, it examines the planning process undertaken by grade VI teachers in using PowerPoint as a medium to teach the "Entrepreneurship" topic in the Arts, Culture, and Skills subject, how this is implemented in the classroom, the factors that either support or hinder the learning process, the learning outcomes achieved by students, and the follow-up actions taken after the lessons.

The study was conducted between September and February 2023, with the research subjects comprising grade VI teachers and 10 grade VI students. Data sources included the school principal, the teachers, and the students of grade VI. Data collection was conducted through interviews, observations, and document analysis. The combination of these three techniques enabled the researchers to obtain a comprehensive and in-depth understanding of the phenomenon under investigation.

Interviews were conducted once with the school and class VI teachers, each lasting 30 minutes. The interviews in this study were designed to gain comprehensive insight from two different perspectives: the principal and the sixth-grade teacher. The interview aims to identify supporting and inhibiting factors in implementing information technology-based learning media in class VI. Interviews with class VI teachers were also aimed at gaining an understanding of the technology and information media used as learning media, as well as the planning, evaluation and revision processes carried out on learning components. Example of an interview question: What facilities does the school provide to support the use of information technology-based learning media? What is the technical quality of the supporting factors for the use of information technology-based learning media? What technology-based learning media are most often used?

Some criteria or frameworks that can be used in observations are as follows. Observed learning aspects include: (1) Implementation of the ASSURE Model: Observing how teachers or instructors implement the steps in the ASSURE Model (Analyze, State Objectives, Select Strategies, Utilize Media and Materials, Require Learner Participation, Evaluate); (2) Teacher-Student Interaction: Observing interactions between teachers and students in the context of using technology-based learning media integrated with the ASSURE Model; (3) Use of Technology: Examining the extent to which technology is used in learning, the type of media used, and how the media supports learning objectives; and (4) Student Participation: Observing the level of student participation in using technology-based media, whether students are actively involved in learning activities supported by the technology. Observations are carried out every week with a duration of 3 x 35 minutes.

Document review is carried out by reviewing learning plans, student assignments and assessment results. The criteria for selecting learning plans are those related to the use of technology-based media and include steps from the ASSURE model (Analyze, State Objectives, Select Strategies, Utilize Media and Materials, Require Learner Participation, Evaluate). The criteria for selecting student assignments are selecting assignments that use technology-based media as an integral part of instruction and demonstrating the application of the ASSURE model steps in its development and implementation. Criteria for selecting assessment results that reflect the impact of using technology-based media in achieving the learning objectives set in the learning plan.

The main instrument for collecting data is the researcher himself. Data collected by researchers was carried out through interviews, observations, and documentation studies. Assistance instruments for researchers include interview guides, observation sheets, and documentation guides.

The validity of the data in this research was carried out by triangulating sources and techniques. The data analysis technique is carried out simultaneously and consists of three paths, namely: data reduction, data presentation, and drawing conclusions (Miles & Huberman, 1992).

Activities in data reduction are as follows. First, organize the data: After collecting data through interviews, observations, or reviewing documents, the first step is to organize the data so that it is easy to manage and analyze. This includes transcription of interviews and systematization of collected documents. Second, coding: Coding involves the process of assigning labels or codes to the data that are relevant to certain themes or categories that emerge from the data. These codes are patterns that repeatedly appear in the data, such as the type of technological media used. Third, filtering and selection: After coding, the researcher filters the data to identify the information that is most relevant to the research focus and ignores information that is not relevant.

Data presentation is carried out in the form of diagrams and tables. This helps to highlight key findings visually and makes understanding easier. The diagram visualizes the percentage of technology-based learning media used. Meanwhile, the table presents data from interviews and the percentage increase in student engagement and performance.

The conclusion connects the findings back to the research context and initial research objectives, carried out during the research process as a temporary conclusion. If the data is complete, a conclusion can be obtained.

### 3. FINDINGS AND DISCUSSION

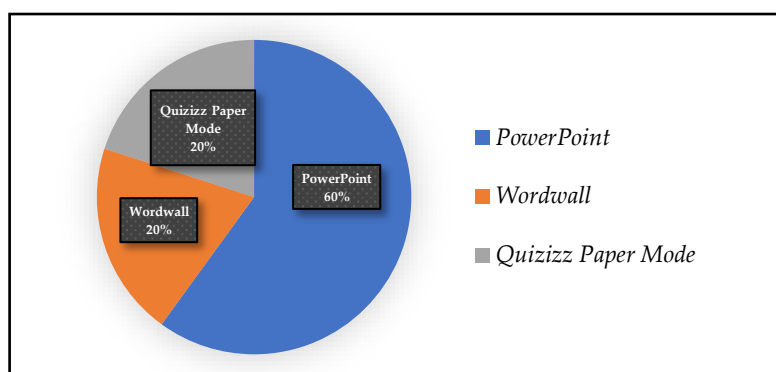
#### 3.1 *School Profile and Technological Integration in Learning*

07 Angkasa State Elementary School is situated within the Air Force complex in Sanggau Ledo District, Bengkayang Regency, West Kalimantan Province. Originally established as a school for the Indonesian Air Force, it transitioned into a state school in 1974. The school is located approximately 2 kilometers from the main road, serving 55 students aged 6 to 12, from grades I to VI. Most of the students come from middle-class families of Indonesian Air Force personnel. With a commitment to integrating technology into education, the school is equipped with modern learning tools, enhancing the overall learning experience and preparing students for a digitally connected future.

The school employs eight teaching staff, all holding Bachelor's degrees. Of these, four have more than ten years of teaching experience, while the remaining four have less than ten years. The school implements two curricula: the Independent Curriculum for grades I, II, IV, and V, and the 2013 Curriculum for grades III and VI. In terms of infrastructure, the school is equipped with essential hardware, including wifi, projectors, laptops, and speakers, which support the integration of technology-based media in the learning process. These facilities enable teachers to plan and execute lessons using information technology, a crucial step toward enhancing the quality of education, preparing students for a digitally connected future, and reducing disparities in access to technology among schools.

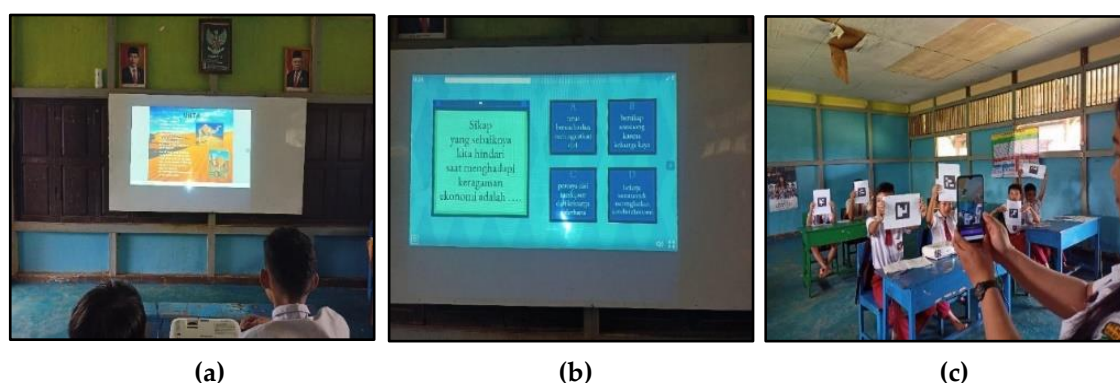
Based on the analysis of the Learning Implementation Plan, the teacher used PowerPoint, Word Wall, and Quizizz Paper Mode to learn. Observation results show that PowerPoint is the most frequently used learning media, especially in science subjects. In science subjects, the use of PowerPoint to display experiments, simulations, or video demonstrations can be very helpful in explaining scientific phenomena that are difficult to present directly in class. Many concepts in science require visual emphasis and scientific processes that can be well illustrated through PowerPoint slides, such as the water cycle and the process of photosynthesis.

The use of PowerPoint in the overall learning process reaches 60%. Meanwhile, Word Wall and Quizizz Paper Mode each account for around 20% of the total.



**Figure 1.** Diagram of levels of use of PowerPoint, Word Wall, and Quizizz Paper Mode as a learning medium

Observation results show that class VI teachers use PowerPoint in various subjects. This shows that teachers see the added value of this tool in improving student understanding of various material, maintaining student engagement, and providing a clear and organized structure in the delivery of material. This combination makes PowerPoint a very effective tool in technology-integrated learning environments. The following is an example of the use of PowerPoint, Word Wall, and Quizizz Paper Mode media in class VI of the 07 Angkasa State Elementary School.



**Figure 2.** (a) Use of PowerPoint media, (b) use of Word Wall, and (c) use of Quizizz Paper Mode in learning

Interviews were conducted with the Principal and class VI teachers regarding supporting and inhibiting factors in the use of information technology as a learning medium. The results of the interview can be seen in the following table.

**Table 1.** Interview Results Regarding Supporting and Inhibiting Factors in Using Information Technology-Based Learning Media

No.	Indicator	Question	Findings
1.	Identifying supporting factors for the use of information technology-based information technology media.	What facilities are provided by schools to support the use of information technology-based learning media?	Class VI teacher: The school provides hardware, such as wifi, a projector, a laptop, and speakers. Principal: The school provides hardware, such as wifi, a projector, a laptop, and speakers.
No.	Indicator	Question	Findings

2.	Checking the technical quality of resources.	What is the technical quality of the supporting factors for the use of information technology-based learning media?	Class VI teacher: The modem, wifi card, projector, laptop, and speakers provided at school are functioning properly. Principal: The modem, wifi card, projector, laptop, and speakers provided at the school are working properly.
3.	Identifying factors inhibiting the use of information technology media based on information technology.	What obstacles are faced when utilizing information technology-based learning media?	Class VI teacher: The obstacles faced when utilizing information technology-based learning media are related to the lack of internet access, limited laptop devices, instability of the electricity network, and the teacher's smartphone which sometimes has errors. Principal: The obstacles faced when utilizing information technology-based learning media are mainly related to the lack of internet access, limited laptop devices, and instability of the electricity network.

An interview was conducted with a class VI teacher regarding the use of information technology as a learning medium. The results of the interview can be seen in the following table.

**Table 2.** Interview Results on the Use of Information Technology

No.	Indicator	Question	Findings
1.	Use of information technology as a learning medium.	What information technology is used as a learning medium in class VI?	The information technology used is PowerPoint, Word Wall, and Quizizz Paper Mode.
		What technology-based learning media are most often used?	The most frequently used media is PowerPoint.
2.	Reasons for using technology-based learning media.	Why do you often use technology-based learning media?	The reason is that the delivery of learning material will be more effective and can be reused for different times and situations.
3.	Analyzing students.	Before choosing information technology-based learning media, did you analyze the characteristics of the students?	The teacher analyzes the characteristics of the students.
		What do you analyze regarding student characteristics?	Teachers analyze students' learning styles and abilities.
		How do you analyze student characteristics?	Teachers analyze student characteristics through questionnaires, observations, and pretests.

The percentage increase in student engagement and performance was carried out by comparing the average active participation and average student scores before and after implementing the use of technology-based media. This data can be seen in the following table.

**Table 3.** Percentage of Increase in Student Engagement and Performance

	Engagement Aspects	Performance Aspects
	Active Participation	Average Value
Before Implementation	50%	70
After Implementation	70%	85
Percentage Increase	50%	21.43%

### 3.2 Analyze Learners' Characteristics

Several ways can be used to obtain information about student characteristics, namely: (1) observation; (2) interview; (3) questionnaire; and (4) pretest (Priyadi, 2011). The sixth-grade teacher at State Elementary School 07 Angkasa analyzed the students' character through questionnaires, observations and pretests. A questionnaire instrument is used to identify the learning style of each student. Based on the results of the questionnaire, it is known that the learning styles of class VI students are visual, auditory, or kinesthetic. Observations of students' learning behavior were carried out to see their learning preference patterns. The pretest was carried out to collect data on students' learning abilities. With this approach, teachers can understand students' individual needs better and design learning experiences more effectively.

The results of the interview showed that the sixth-grade teacher at State Elementary School 07 Angkasa analyzed the students' character before choosing information technology-based learning media. Teachers analyze students' learning styles and abilities through questionnaires, observations and pretests. This finding is important because it shows the importance of a targeted and data-based approach in selecting learning media. This not only improves the quality and effectiveness of teaching, but also helps in meeting students' individual learning needs, ultimately having a positive impact on student's learning outcomes and overall development.

### 3.3 State Standards and Objectives

Learner behavior at the end of the learning process can be measured using operational verbs (Dick & Carey, 2015). To achieve concrete learning goals in the classroom, teachers can take lessons from previous learning experiences as a basis for considering more effective strategies for future learning (Budiastuti et al., 2021).

Based on examining the documentation, the class VI teacher at State Elementary School 07 Angkasa determined competencies and learning objectives. The competencies that students need to have are formulated in the learning objectives to be achieved using the ABCD (Audience, Behavior, Condition, Degree) approach. By using the ABCD approach, teachers can ensure that the learning objectives set are clear, measurable, and relevant to the competencies to be achieved, thereby improving the quality and effectiveness of the learning process.

### 3.4 Select Methods Media and Materials

The use of interactive learning methods can provide adequate feedback so that students' understanding can be significantly improved (Marzano, 2017). The learning methods chosen by class VI teachers are very diverse. The use of discussion methods, questions and answers, assignments, and so on is by the learning objectives to be achieved.

Based on examining the documentation, the class VI teacher at State Elementary School 07 Angkasa determines teaching materials or learning materials according to the competencies to be achieved. However, sometimes it is not always appropriate to choose media and teaching materials according to learning objectives. In some cases, teachers use less suitable learning media. There is material that requires performance from students, but it is not implemented. For example, in science

subjects, students are supposed to experiment with simple electrical circuits in series and parallel, but teachers use Word Wall media to assess students' competence without doing any practice.

The approach taken by the sixth-grade teacher at Negeri 07 Angkasa Elementary School reflects awareness of the importance of using a variety of learning methods and selecting teaching materials that are appropriate to the learning objectives. However, there are still inaccuracies in integrating media and teaching materials. These findings are important because they provide insight into areas where learning can be improved through more appropriate selection and integration of media and instructional materials. This not only supports the achievement of learning objectives, but also improves the quality of education and the overall student learning experience.

### **3.5 Utilize Media and Materials**

The use of PowerPoint by class VI teachers is not limited to one subject, but is used in various subjects. The use of PowerPoint has a positive impact on students by increasing their understanding of the material.

Several studies have found that the use of PowerPoint as a learning medium has a significant impact in the learning context. Research by Nurhayati et al. (2020) has similarities with research findings where the use of PowerPoint can improve students' understanding of mathematics learning by providing clearer visualization of concepts. Wulandari et al.'s research (2022), shows that PowerPoint improves students' understanding in science learning by providing visualizations of scientific experiments and concepts. Research findings show a similar positive impact, with PowerPoint helping to explain natural phenomena and scientific processes visually.

The difference between this sixth-grade research and the existing literature is that the sixth-grade research shows extensive and consistent use of PowerPoint in various subjects, which is not always emphasized in the existing literature. Existing literature, although supporting the use of PowerPoint, focuses on specific subjects or contexts only.

The similarities and differences between class VI research and existing literature are caused by several things. First, the availability and accessibility of technology. The availability of hardware such as projectors, laptops, and Wi-Fi makes it possible to use PowerPoint effectively in a variety of subjects. Technological literacy and the infrastructure available in different schools may lead to variations in the use and impact of PowerPoint. Second, teacher training and competency. Class VI teachers at SDN 07 Angkasa have good training and skills in using PowerPoint so as to increase the effectiveness of this media in learning. Differences in teacher training and skills may influence the results of research on PowerPoint use. Third, learning context and curriculum. A curriculum that supports the use of technology in learning can encourage wider and more effective use of PowerPoint.

Class VI teachers at State Elementary School 07 Angkasa actively use the Word Wall platform to provide practice questions, such as quizzes, groupings and word pairs in various teaching materials or learning materials. The use of Word Wall has a positive impact on students by increasing their understanding of the material.

Several studies have found that the use of Word Wall as a learning medium has a significant impact in the learning context. Hidayati et al.'s research (2023) found that Word Wall can improve understanding of science concepts about temperature and heat in fifth grade elementary school. Wafiqni and Putri's research (2021) shows that Word Wall is effective in online mathematics learning on the topic of integers in grade 1.

This research in class VI has similarities with existing literature, namely that Word Walls are effectively used in science and mathematics learning. While the difference lies in the scope of subjects. The finding at the 07 Angkasa State Elementary School is that the Word Wall is used actively in various subjects, not just limited to science and mathematics. Some of the existing literature focuses on the use of word walls in specific subjects such as science or mathematics. Findings at State Elementary School 07 Angkasa: Use of Word Wall includes practice questions, quizzes, groupings, and word pairs which reflect more varied learning methods.

The similarities and differences between class VI research and existing literature are caused by several things. First, flexible implementation. Word Wall offers a variety of activities that can be tailored to the needs of various subjects. This explains why the Word Wall can be used effectively in various subjects at the 07 Angkasa State Elementary School. Some studies focus on the use of Word Walls in specific contexts or subjects to dig deeper into their effectiveness in those contexts. Second, the context and conditions of learning. Wafiqni and Putri's research (2021) focuses on the effectiveness of the Word Wall in online learning, while the findings at the 07 Angkasa State Elementary School include the use of the platform in offline learning. The success of implementing a Word Wall can also be influenced by the availability of technological infrastructure and teacher skills in utilizing this platform. Third, grade level and material. The effectiveness of a Word Wall may vary depending on grade level and complexity of the material.

Using Quizizz Paper Mode allows teachers to efficiently manage and record quiz results on a variety of subjects. Abadi et al.'s research (2023) shows that the Quizizz Paper Mode media is practical as a learning evaluation medium for Class V Pancasila Education at SD Negeri Lemahireng 05. Meanwhile, research by Nurhusni et al. (2024) shows that the Quizizz Paper Mode media can be an alternative for evaluating Al-Qur'an and Hadith learning in Madrasah Tsanawiyah.

This research in class VI has similarities with existing literature, namely the use of Quizizz Paper Mode as an alternative learning evaluation. While the difference lies in the scope of subjects. Findings at SDN 07 Angkasa show that Quizizz Paper Mode is used in various subjects which shows its adaptability and flexibility.

The similarities and differences between research in class VI and existing literature are caused by several things. First, platform flexibility and adaptability. Quizizz Paper Mode offers various features that can be adapted to various evaluation needs, from learning Pancasila Education to the Al-Qur'an and Hadith, making it easier for teachers to use it in various subjects. Some studies focus on specific subjects or contexts to explore more deeply the effectiveness or practicality of platforms in those contexts. Second, the availability of technology and infrastructure. Findings at State Elementary School 07 Angkasa show that adequate technological infrastructure allows the effective use of Quizizz Paper Mode in various subjects. The availability of different technological infrastructures in the schools studied in the literature may influence how and to what extent Quizizz Paper Mode is used. Third, teacher training and competency. Teachers at Negeri 07 Angkasa Elementary School have good training in using Quizizz Paper Mode, which allows them to make optimal use of this platform. Differences in the level of teacher training and competency can influence the results and focus of research regarding the use of Quizizz Paper Mode.

Media selection must be adjusted to existing facilities (Susilana & Riyana, 2009). The facilities available at the 07 Angkasa State Elementary School include a modem, wifi card, projector, laptop and speakers, as supporting facilities for the use of technology-based media that are still functioning well. Schools periodically allocate a budget to purchase wifi cards and maintain hardware. However, additional hardware is rarely done due to budget constraints and other priorities. Apart from using school facilities, class VI teachers also use their smartphones to support the use of information technology-based learning media, especially in implementing Quizizz Paper Mode.

The use of laptops, projectors and speakers is carried out alternately between class VI teachers and other class teachers due to limited numbers. Meanwhile, the management of usage time and the need to use the device do not always coincide. The lack of internet connection at the school location has been overcome by using a modem. However, using one modem for one school has an impact on internet network instability, especially in class VI areas, which are quite far from the modem placement area. This situation makes it difficult for teachers to access information directly from the Internet. Electricity in the local area, which often goes out, disrupts the smooth running of ongoing learning. This is an obstacle for class VI teachers in using information technology-based learning media.

Based on the explanation above, it can be understood that the class VI teacher at State Elementary School 07 Angkasa shows awareness of the importance of technology in improving the quality of

learning. This is done by facing and adapting to the limitations of existing infrastructure. This finding is important because it highlights the efforts and innovations made by teachers in facing the challenges of limited infrastructure, as well as the positive impact that can result from the use of technology in learning. It also emphasizes the need for further support in the development of educational infrastructure to support effective and relevant teaching practices.

### **3.6 Require Learner Participation**

Students' active involvement in the material being studied can be done by providing exercises (Perbadi, 2011). The sixth-grade teacher at SD Negeri 07 Angkasa involved students in completing practice questions displayed on the Word Wall. In answering practice questions via Word Wall, students are required to think analytically about the information in question, including the instructions given. Using the Quizizz Paper Mode media to answer questions can increase students' motivation to achieve learning achievements (Perbadi, 2011; Prensky, 2013) as well as foster students' interest and focus on learning (Winarsih & Nisa, 2023).

Based on the results of observations, there was an increase in student involvement by 50%. Before implementing the use of technology-based learning media, active student participation was only 50%. However, after implementation, active student participation became 75%. Student achievement increased by 21.43%. Before implementing the use of technology-based learning media, the average student score was 70. However, after it was implemented, the average student score became 85.

The use of information technology-based learning media by class VI teachers at State Elementary School 07 Angkasa can facilitate learning. Apart from that, it can encourage active participation and involvement of students in the learning process and student performance. This finding is important because it shows that the use of technology-based learning media can have a significant positive impact on learning processes and outcomes. This provides a strong basis for continuing to develop and implement technology in education to improve the quality and effectiveness of learning.

### **3.7 Evaluate and Revise**

The sixth-grade teacher at State Elementary School 07 Angkasa conducted an evaluation of one of the learning components, namely learning objectives. To obtain a complete picture of the quality of a learning program, it is necessary to carry out an evaluation process for all learning components (Perbadi, 2011). This means that evaluating the learning objectives alone, as carried out by the sixth-grade teacher at State Elementary School 07 Angkasa, is not enough to obtain a complete picture of the quality of learning.

Revisions need to be made if the evaluation results of the learning program show unsatisfactory results (Pribadi, 2011). State Elementary School 07 Angkasa teachers did not revise other learning components, such as the methods or media used, even though it was known that the evaluation results of the learning objective components were unsatisfactory.

Based on the results of the interview, it can be understood that the class VI teacher at State Elementary School 07 Angkasa carried out an evaluation of the learning objectives by analyzing the students' learning outcomes. Meanwhile, revisions to learning components such as methods and media were not carried out, even though evaluation of learning objectives showed unsatisfactory results. This finding is important because it emphasizes the need for a more holistic and sustainable approach to learning evaluation and revision. This shows that to achieve real improvements in learning outcomes, teachers need to not only evaluate the results but also adjust learning methods and media based on the results of these evaluations.

Evaluation that covers all learning components: objectives, materials, methods, media, and assessments provides a comprehensive picture of how the learning process takes place. This allows educators to understand the strengths and weaknesses in the entire process, not just the end result a student achieves. By evaluating all components, educators can identify weaknesses that may not be visible if they only focus on learning objectives. Based on the evaluation results, recommendations for revisions can be made to one or several components.

This study has several limitations. It was conducted in a specific setting, namely 07 Angkasa State Elementary School, which has limited technological infrastructure. As a result, the findings may not be generalizable to schools with more advanced infrastructure. Additionally, the research involved only one teacher and 10 students from a single school, which may not adequately represent the experiences of students in schools with different demographics or resources.

Based on this research, several suggestions can be made. For teachers, the ASSURE learning model can serve as a useful guide in designing technology-based learning media, helping to create more effective, efficient, and engaging lessons. Teachers should also continuously evaluate and revise all aspects of their teaching to gain a comprehensive understanding of the quality of learning. Schools, on the other hand, should gradually enhance their technological resources by adding modems, computers, laptops, projectors, and speakers to improve the quality of instruction. Future researchers could explore the impact of emerging technologies such as Augmented Reality (AR) and Virtual Reality (VR) in education, particularly in subjects like science or history, and examine the effects of these technologies across different educational levels, from primary to higher education, to understand their varied impact.

#### 4. CONCLUSION

In conclusion, this study demonstrates that the integration of information technology-based learning media, guided by the ASSURE model, has a positive impact on the learning process and outcomes for grade VI students at SD Negeri 07 Angkasa. However, challenges such as limited technological infrastructure, the need for curriculum adjustments, and time management issues remain obstacles to fully optimizing this approach. Future research should address these limitations and explore how improvements in infrastructure and curriculum alignment can further enhance the effectiveness of technology-integrated learning across diverse educational settings.

**Acknowledgments:** Praise be to the presence of God Almighty for all His mercy and grace so that the author can complete the article assignment with the title Analysis of the Use of Information Technology-Based Learning Media Using the Assure Learning Model Design. The author humbly expresses his thanks to Unik Ambar Wati S.Pd., M.Pd., Ph.D as lecturer in the Scientific Writing course and Dr. Sisca Rahmadona, S.Pd., M.Pd as lecturer in the Information Technology Based Learning course who has provided a lot of valuable input. The author realizes that this article is still far from perfect. Therefore, the author always expects constructive criticism and suggestions. Hopefully, this article can add insight and provide benefits for writers and readers.

**Conflicts of Interest:** The authors have no conflicts of interest. This research evaluates the effectiveness of using technology-based learning media in class VI of the 07 Angkasa State Elementary School in terms of the learning model design Analyze Learners Characteristics, State Objectives, Select Methods, Media And Materials, Utilize Methods, Media and Materials, Requires Learner Participation, Evaluation and Revision (ASSURE).

#### REFERENCES

- Abadi, I., Afrizal, A.F., & Wahyuni, N. I. (2023). Kepraktisan Penggunaan Aplikasi Quizizz Paper Mode sebagai Media dalam Evaluasi Pembelajaran Pendidikan Pancasila Kelas V di SD Negeri Lemahireng 05. Madani: *Jurnal Ilmiah Multidisiplin*, 1(10), 493-499. <https://doi.org/10.5281/zenodo.10231628>
- Bogdan, R. C., & Biklen, K. S. (1982). *Qualitative Research for Education: An Introduction to Theory and Methods*. Boston dan London: Allyn and Bacon, Inc.
- Dick, W. L., & Carey, J. O. (2015). *The Systematic Design of Instructional (8th ed)*. The United States of America: Pearson.
- Hidayati, N. N. S., Gembong, S., & Juwari, A. (2023). Peningkatan Pemahaman Konsep Peserta Didik Kelas V pada Pembelajaran IPA Materi Suhu dan Kalor dengan Menggunakan Media Pembelajaran Word Wall di SDN Bibis Kabupaten Magetan. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 8(1), 1514-1528. <https://doi.org/10.23969/jp.v8i1.7692>

- Jamaludin. (2021). Pembelajaran Daring dengan Keterbatasan Akses Internet di Pelosok Desa Era Covid-19 (Studi Kasus SMK Telkom Medan). *PaKMas: (Jurnal Pengabdian Kepada Masyarakat)*, 1(2), 49-55. <https://doi.org/10.54259/pakmas.v1i2.57>
- Latifah, H., & Ramadan, Z. H. (2023). Problematika Guru dalam Pemanfaatan Internet sebagai Media Pembelajaran. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 7(5), 5823-5836. <https://doi.org/10.31004/obsesi.v7i5.5330>
- Marzano, R. J. (2017). *The New Art and Science of Teaching*. Bloomington, IN: Solution Tree Press.
- Miles & Huberman. (1992). *Analisis Data Kualitatif*. Jakarta: Universitas Indonesia Press.
- Nurhayati, Arafat, Y., & Fitriani, Y. (2020). Penggunaan Media Powerpoint dalam Pembelajaran Matematika dan Pengaruhnya terhadap Prestasi Belajar Siswa. *Jurnal Ilmiah Bina Edukasi*, 13(1), 75-87. <https://doi.org/10.33557/jedukasi.v13i1.1036>
- Nurhusni, F. A., Tarsosno Tarsono, & Nugraha, M. S. (2024). Penggunaan Aplikasi Quizizz Paper Mode sebagai Media Alternatif Evaluasi Pembelajaran Al-Qur'an dan Hadis di Madrasah Tsanawiyah. *Islamika: Jurnal Keislaman dan Ilmu Pendidikan*, 6(1), 191-203. <https://doi.org/10.36088/islamika.v6i1.4218>
- Oktasyavira, M., & Nurlizawati, N. (2021). Kesulitan Guru dalam Merancang Media Inovatif Digital untuk Pembelajaran Sosiologi. *Naradidik: Journal of Education & Pedagogy*, 1(4), 437-445. <https://doi.org/10.24036/nara.v1i4.87>
- Peña-Ayala, A. (2021). A learning design cooperative framework to instill 21<sup>st</sup>-century education. *Telematics and Informatics*, 62, 101632. <http://doi:10.1016/j.tele.2021.101632>
- Premsky, M. (2013). *From Digital Natives to Digital Wisdom: Hopeful Essays for 21st Century Learning*. Thousand Oaks, CA: Corwin.
- Pribadi, B. A. (2011). *Model ASSURE untuk Mendesain Pembelajaran Sukses*. Jakarta: PT. Dian Rakyat.
- Putra, L. D. et al. (2023). Analisis Media Pembelajaran Berbasis Teknologi Informasi di SD Negeri Grogol. *Jurnal Kajian Ilmu Pendidikan*, 4(1), 131-137. <https://doi.org/10.55583/jkip.v4i1.598>
- Rahma, F. A, Harjono, H. S., & Sulisty, S. (2023). Problematika Pemanfaatan Media Pembelajaran Berbasis Digital. *Jurnal Basicedu*, 7(1), 603-611. <http://dx.doi.org/10.31004/basicedu.v7i1.4653>
- Ramadhina, D., & Rohman, I. (2022). Problematika Guru dalam Penggunaan Video Youtube sebagai Media Pembelajaran di Sekolah Dasar. *Jurnal Mimbar Ilmu*, 27(1), 117-123. <https://doi.org/10.23887/mi.v27i1.45598>
- Salsabila, U. H., & Agustian, N. (2021). Peran Teknologi Pendidikan dalam Pembelajaran. *Islamika: Jurnal Keislaman dan Ilmu Pendidikan*, 3(1), 123-133 <https://ejournal.stitpn.ac.id/index.php/islamika>
- Sarbaini, W, Bukit, S., & Khasanah, S. N. (2022). Analisis Penggunaan Media Pembelajaran Berbasis Teknologi Digital di SDN 101835 Bingkawan Kecamatan Sibolangit. *Prosiding Pendidikan Dasar*, 1(1), 1-11. <https://doi.org/10.34007/ppd.v1i1.164>
- Smaldino, Sharon E, Debora L. Lowther, dan Clif Mims. (2019). *Instructional Technology and Media for Learning, (12th Ed)*. Pearson Education, Inc. All Rights Reserved. Printed in the United States of America.
- Susanto, R. (2019). Modul 2. *Kebijakan Pemerintah dalam ICT dan Pendidikan*. Universitas Esa Unggul.
- Susilana, R., & Riyana, C. (2009). *Media Pembelajaran: Hakikat, Pengembangan, Pemanfaatan dan Penilaian (1<sup>st</sup> ed)*. Bandung: CV. Wacana Prima.
- Wafiqni, N., & Putri, F. M. (2021). Efektivitas Penggunaan Aplikasi Wordwall dalam Pembelajaran Daring (Online) Matematika pada Materi Bilangan Cacah Kelas 1 di MIN 2 Kota Tangerang Selatan. *Elementar (Elementary of Tarbiyah): Jurnal Pendidikan Dasar*, 1(1), 68-83. <https://doi.org/10.15408/elementar.v1i1.20375>
- Widianto, E. (2021). Pemanfaatan Media Pembelajaran Berbasis Teknologi Informasi. *Journal of Education and Teaching*, 2(2), 213-224. <http://dx.doi.org/10.24014/jete.v2i2.11707>
- Winarsih & Nisa, A. F. (2023). Paper Mode Quizizz sebagai Media Penilaian Pembelajaran Ilmu Pengetahuan Alam Siswa SD. *Prosiding Seminar Nasional Pendidikan Dasar*, Universitas Sarjanawiyata Tamansiswa Yogyakarta, 112-123.

- Winda, R., & Dafit, F. (2021). Analisis Kesulitan Guru dalam Penggunaan Media Pembelajaran Online di Sekolah Dasar. *Jurnal Pedagogi dan Pembelajaran*, 4(2), 211-221. <https://ejournal.undiksha.ac.id/index.php/JP2/index>
- Wulandari, E., Ratnaningsih, A., & Pangestika, R. R. (2022). Pengaruh Model Learning Cycle 5E Berbantuan Powerpoint Interaktif Terhadap Hasil Belajar IPA. *Jurnal Educatio*, 8(1), 34-39. <https://doi.org/10.31949/educatio.v8i1.1485>
- Yani, A. (2023). Transformasi Teknologi dalam Pembelajaran di Era Revolusi Industri 4.0. *Jurnal Penkomi: Kajian Pendidikan & Ekonomi*, 6(2), 68-75, <https://doi.org/10.33627/pk.62.1235>