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Empowering Rural Education: The Role of Digital Media and Local Wisdom in Improving Learning Outcomes in Elementary Schools

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Abstract. The use of digital technology can improve student motivation and learning outcomes in addition to expanding access to education for children in remote areas. Therefore, it is very important to understand how to use digital media effectively in the context of rural education. This study uses a qualitative descriptive method. Direct observation was conducted in several elementary schools that have used digital media in the learning process. Unstructured interviews were conducted with 3 teachersand 3 students, In addition, this literature research includes references to relevant books, journals, and research reports. The results of observations and interviews show that although projectors are available in some schools, they are still rarely used because teachers do not know or are not trained to use them. Students are bored with the boring traditional learning approach. Therefore, building a training program for teachers is very important to increase their confidence in using digital media and create a more interesting learning environment. The use of multimedia technology allows teachers to deliver lessons in an interesting and easy-to-understand way for students. However, problems such as the digital gap and lack of teacher training must be addressed so that technology can be fully utilized in education. This study recommends the importance of training for teachers in using digital media as well as the development of technology infrastructure in rural schools. By providing adequate training, teachers will be more confident in integrating technology into the curriculum, thereby creating a more engaging learning experience for students.

Keywords: Digital Media, local wisdom, Learning outcomes, Elementary school, Rural Education, Student Motivation.

INTRODUCTION

Education is essential to improving the quality of life of the community. Limited access to high-quality educational resources is one of the many problems that people in rural areas often face. Digital media emerges in this context as a tool that can empower education in primary schools. Research shows that the use of digital technology can improve student motivation and learning outcomes in addition to expanding access to education for children in remote areas. Therefore, it is essential to understand how to use digital media effectively in the context of rural education. In the last ten years, many studies have investigated how digital media impacts education. Research conducted by Kasmad et al. (2022) conclude that the development of technology in the field of education brings many significant changes that help improve the progress and quality of students. In addition, Meliyani et al. (2022) Digitalization is intended for many areas to strengthen this era, including education. Because education is very important for the development and growth of a country, it is impossible for education to be better. Digitalization can improve the quality of education, providing many benefits. In line with the opinion Widianto (2021) that learning through media is more likely because students assimilate information from communicated learning more quickly. Likewise Heryani et al. (2022) stated that interesting learning tools can also help overcome monotonous learning. Based on several studies, it can be concluded that the use of digital-based media can increase

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the efficiency and effectiveness of the learning process and can improve student learning outcomes.

The reality in the field that is often found, there are still many teachers and students who are not accustomed to the use of digital learning media during the learning process. This is certainly a highlight for researchers. This lack of utilization also occurs in many schools in rural areas. Teachers and students in rural areas still do not understand technology and use it. The factors causing these obstacles vary widely. Rahma et al. (2023) concluded that the cause of the lack of use of digital media was due to teachers' habit of continuing to use conventional learning methods, lack of human resources to use digital learning media, inadequate facilities, and lack of government support. Sihombing et al. (2023) States that Limitations in using learning media, especially in using IT-based media, are still a problem for many teachers. Lack of facilities and infrastructure is also another problem related to the use of IT-based learning media. Due to lack of training and infrastructure, many students and teachers have not fully utilized digital media. Another significant factor is the high costs of technological devices and internet access, which often exceed the budgets of rural schools. Lack of support from the government and society also exacerbates this situation, as many parents and communities do not realize the importance of using digital media in education. Thus, to improve the quality of education in villages, there needs to be collaborative efforts in providing infrastructure and training for teachers so that they can utilize digital media effectively.

Furthermore, a significant barrier to the adoption of digital learning materials in rural schools is low levels of digital literacy. A large number of educators lack adequate training in the use of technology and online learning tools. They so struggle to incorporate technology into the educational process. However, pupils who are used to traditional teaching techniques also find it hard to adjust to digital media. This situation is made worse by a lack of funding for the purchase of digital facilities and a lack of support from policymakers. The government must take the initiative to give instructors continuous training and to expand and improve internet connection in rural areas. Furthermore, cooperation between educational institutions and the corporate sector might hasten the integration of technology in rural education.

These shortcomings indicate that further research is needed on creative methods to incorporate digital media into rural education. In addition to digital media, local wisdom-based learning is currently increasingly popular, which can be another solution in rural areas that have constraints on internet network quality and availability of facilities and infrastructure. With a focus on empowering communities and teachers in schools, this study examines the role of digital media and local wisdom in improving learning outcomes in elementary schools. The research questions that will be answered in this study include: How effective is the use of digital media in improving student learning outcomes in rural elementary schools? What are the

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challenges faced in implementing digital media in rural educational environments? How can the integration of local wisdom support the use of digital media in the learning process?

By comparing previous studies, this study will show its uniqueness in thoroughly analyzing current problems and prospects for using digital media in rural environments. This is important to understand the right way to help overcome existing obstacles. How to use digital media to improve student learning outcomes in rural elementary schools is a key issue that will be discussed in this study. Analysis of local needs and the creation of training programs for teachers and students will be part of the problem-solving approach that will be used in rural education. The results of this study will provide practical suggestions on how to use digital media well in rural education. Digital media can help improve the quality of education and encourage community empowerment as a whole.

METHODOLOGY

To explore the role of digital media in improving learning outcomes in rural elementary schools, this study uses a qualitative descriptive method. Sugiyono (2022) Qualitative descriptive method is research based on postpositive philosophy used to research natural objects (as opposed to experiments) where the researcher is the key instrument. This method was chosen because it provides an in-depth understanding of the phenomenon being studied and allows researchers to explore opinions and experiences from various parties, including teachers, students, and the community, regarding the use of digital media in educational contexts. With this approach, it is hoped that the challenges and opportunities faced in implementing digital media in rural areas can be revealed.

Three main methods were used to collect data: observation, unstructured interviews, and literature research. Direct observation was conducted in several elementary schools that have used digital media in the learning process. The observations and interviews conducted in three elementary schools in Hamparan Perak District showed that although one of the schools has been equipped with a projector, the use of digital media in the learning process is still very minimalUnstructured interviews were conducted with 3 teachers from SDN 1, SDN 2, and MIS AL-Washliyah, 3 students from SDN 1, SDN 2, and MIS AL-Washliyah to find out their experiences and opinions on the use of digital media in education. In addition, literature research was conducted to examine the theoretical context and best practices of the topic. This includes references to relevant books, journals, and research reports.

RESULTS AND DISCUSSION

The Role of Digital Media in Education

The result that found at SDN 1 which has a projector, teachers admitted that they found it difficult to utilize the device due to a lack of knowledge and training on how to integrate technology into the curriculum. They tend to use traditional teaching methods, such as giving

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lectures and writing assignments, which makes the classroom atmosphere monotonous. Representatives of teachers at the school also said that the use of media is very rarely used, and if it is used, it is only to watch movies or videos from YouTube. Meanwhile, at SDN 2 and MIS Al Washliyah, which do not have projectors, teachers and students feel limited in terms of resources, so they prefer to continue using conventional methods. Representatives of teachers also said that the obstacle of not having facilities and infrastructure is a major factor in the lack of use of digital media. And makes teachers lazy to foster creativity in the teaching and learning process. Interviews were not only conducted with teachers, but also with several students. Interviews with students in all three schools showed that they were bored with the existing learning methods.

- Student 1: In our class we have used a projector, but only to watch historical films or videos from YouTube, then we were told to write down the conclusions from the video.
- Student 2: Our school doesn't have a projector, during the learning process we often just work on questions, listen to the teacher's explanation and take notes on the material on the board.
- Student 3: We just sit and listen to the teacher talking. Sometimes we feel uninterested because there is nothing new to learn.

From the results of these observations and interviews, it is clear that there is a gap between the potential of available technology and the teaching practices implemented in the field. Although projectors are available in two schools, without adequate training for teachers to utilize the tool effectively, the technology cannot have a positive impact on students' learning experiences. Therefore, it is important to develop a training program for teachers so that they are more confident in using digital media, as well as creating a more interesting and interactive learning environment for students. Thus, it is hoped that the learning process can be more enjoyable and effective.

The use of digital media in education has been shown to significantly increase student motivation and engagement. In a study conducted at SDN 4 Sokong, the application of digital learning media such as Quizizz showed an increase in student learning motivation from 45% in pre-cycle conditions to 84% in cycle II. This reflects how interactive and interesting digital media can create a more dynamic learning environment, so that students feel more involved and motivated to learn (Sapitri et al., 2023). In addition, gamified learning experiences and rewards for progress also contribute to increasing student interest, making them active participants in the learning process.

Learning motivation is one of the main indicators of the success of an education system. By using digital media, teachers can make subjects that are usually monotonous become more interesting and interactive. For example,The benefits of using Kahoot in learning include increased student motivation, increased student engagement, and improved understanding of the material. Variables such as quiz design, question types, and student participation levels can influence how effective the platform is in improving the quality of

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learning (Sapitri et al., 2023). Besides that, Juniansyah & Kurniawan (2024) explains that Games like the Duolingo app can help learning in several ways. One is that they can increase student engagement and participation in class, which has an impact on student understanding of the subject matter. Additionally, because games have interactive and fun elements, they can increase student interest and increase their enthusiasm for learning. Additionally, by presenting challenges and problems to be solved, these games can help students improve their analytical, imaginative, problem-solving, and decision-making skills.In addition to increasing motivation, the use of digital media can also improve the quality of learning.The use of multimedia technology such as learning videos, animations, and multimedia presentations allows teachers to deliver lessons in a way that is interesting and easy for students to understand (Karim et al., 2018).

Previous research has shown that The use of digital-based interactive learning media has a significant positive impact on improving students' literacy and numeracy skills at Madrasah Ibtidaiyah Azzainiyah II. This study found that this media was effective in improving students' understanding of literacy and numeracy, although this increase varied depending on the initial level of students' abilities. According to this study, digital-based interactive learning methods can be an effective solution to improve the quality of basic education (Listrianti, 2023). Thus, the integration of digital media in the curriculum has great potential to improve student learning outcomes in elementary schools. However, the success of digital media implementation is highly dependent on teacher training. As stated Ningsih (2023) There are many significant benefits to using digital technology in education. Some of these include more personalized learning, wider access, increased student engagement, and improved efficiency of education management. However, the study also identified key challenges that need to be addressed.

These include the digital divide, security and privacy issues, lack of teacher training, and cost and infrastructure. Governments, educational institutions, teachers, and communities must work together to maximize the benefits of digital technology in education. Developing strict security and privacy policies, teacher training, and investing in technology infrastructure are essential. According to the study, it can be concluded that digital applications such as Kahoot and Duolingo can significantly increase students' desire to learn. Digital media also improves the quality of learning by making the material more interesting and interactive. However, to achieve the best results, there needs to be strong collaboration to address issues such as the digital divide and lack of teacher training.

The Role of Local Wisdom in Education

The results of the observation also show that some schools are still constrained by internet networks and do not have more funds to purchase the facilities and infrastructure needed to implement digital media during the learning process. The solution that can be

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considered in this case is to increase teacher knowledge and understanding of the use of local wisdom as real media that can be used during the learning process. Integration of local wisdom in learning as a way to increase the sense of local wisdom in the environment and as an effort to maintain the existence of local wisdom amidst the rapid flow of globalization (Shufa, 2018). As stated in Attachment I of the Decree of the Minister of Education, Culture, Research, and Technology Number 56/M/2022 concerning Guidelines for the Implementation of Curriculum in the Context of Learning Recovery, it is emphasized that students build curiosity and inquiry skills through exploration of the culture and local wisdom of the surrounding community or area, and its development. Students learn how and why local/regional communities develop as they do, the concepts and values behind local arts and traditions, and reflect on what values can be taken and applied in their lives. A curriculum that emphasizes the importance of integrating local wisdom as part of the curriculum content taught in schools will make the teaching and learning process more relevant, interesting, and in-depth for students (Mulyasa, 2017).

Based on the explanation, another solution that can be considered as empowerment of education in rural areas is to create various training or workshops for teachers on the utilization of local wisdom in their area, Naitilia et al., (2023) conclude thatworkshops involving the use of local wisdom in teaching and learning activities are a strategic way to improve teachers' understanding and appreciation of local wisdom. Direct practice in designing teaching and learning activities is carried out in this activity by using local wisdom that exists in the community. This activity aims to improve teachers' ability to identify, appreciate, and utilize local wisdom in the teaching and learning process. Teachers can create a learning environment that is relevant, meaningful, and inspires students' sense of pride in their local culture by encouraging local wisdom. in line with the opinion Suarningsih (2019) By using local wisdom-based education, teachers can change lessons by including other areas such as art, literature, and culture. One example is songs and stories. By combining the two, teachers can find new ways to teach.

Trained teachers are able to leverage local resources to create teaching materials that are relevant and engaging for students, thereby increasing their engagement. For example,Students can gain a better understanding of geography by using tourist attractions as a learning tool outside the classroom. According to this study, learning that involves direct experience at tourist attractions is more effective than the conventional lecture approach. This is in line with the idea that students can gain a better understanding of geographical concepts through taking pictures of tourist attractions (Nasruddin, 2017).Thus, students can more easily understand and relate the lessons to their daily lives. Teachers also need to consider the integration of local resources when developing teaching materials. Using local resources can make teaching materials more relevant and interesting to students. For example, Folktales

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help spread moral values that are important to society. They not only entertain, but also teach the younger generation about responsibility, mutual respect, and other social values that can be applied in everyday life (Wardani et al., 2020). Besides that, Handicrafts using plastic waste not only reduce waste but also become an effective tool for education.

In addition to increasing students' creativity, this activity makes science learning more interesting and related to everyday life. As a result, students are more interested in learning (Muawani et al., 2024). Based on the explanation, it shows that the utilization of local resources such as tourist attractions, folklore, and handicrafts can significantly increase student involvement in the learning process. The use of local-based media will provide better results than using media that is far from the eye and difficult to obtain for learning. The influence of interaction between learning media and learning motivation on student learning outcomes is better if using media based on local wisdom (Solihati, 2022). This proves that by utilizing learning media based on local wisdom as a message delivery in learning and making the experience more valuable.Teachers can create a more relevant and engaging learning environment by incorporating firsthand experiences and cultural context into teaching materials. Students not only gain a better understanding of moral principles and geographic concepts, but they are also more motivated to learn.

The implications of these findings are significant; theoretically, the results of the study support constructivism theory which emphasizes the importance of active learning experiences in improving student understanding. Practically, these results provide recommendations for educational policy to further support teacher training in using digital media and the development of technological infrastructure in rural areas and also utilize local wisdom in their areas. Thus, this study not only contributes to the development of educational theory, but also offers practical solutions to improve the quality of education in underserved areas.

CONCLUSION

This study confirms that the integration of digital media and local wisdom has great potential to improve student learning outcomes in elementary schools, especially in rural areas. Although some schools have projectors, the main challenge is the lack of training for teachers in utilizing the technology, resulting in boring traditional teaching methods. The results show that the use of interactive digital media, such as Quizizz, can significantly improve students' learning motivation. Therefore, training programs for teachers are essential to increase their confidence in using technology and create a more engaging learning environment. In addition, integrating local wisdom into the curriculum can enrich students' learning experiences and increase their engagement with local culture. To achieve optimal results, collaboration between the government, educational institutions, and communities is needed to overcome challenges such as the digital divide and lack of facilities.

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By providing adequate training and developing technological infrastructure in rural schools, we can create a better learning experience for students. The main message of this study is that the combination of digital media and local wisdom is not only a practical solution to improve education in rural areas but also an important step towards community empowerment. This effort is expected to improve student motivation and learning outcomes and make a positive contribution to the quality of education in underserved areas.

REFERENCES

Heryani, A., Pebriyanti, N., Rustini, T., & Wahyuningsih, Y. (2022). The Role of Technology-Based Learning Media in Improving Digital Literacy in Social Studies Learning in High School Grades. Journal of Education, 31(1), 17. https://doi.org/10.32585/jp.v31i1.1977

Juniansyah, D., & Kurniawan, F. (2024). The Effect of Duolingo Game Implementation on Students' Linguistic Ability. 06(04), 21153–21161.

Karim, A., Ahmad, N., & Samah, BA (2018). The Impact Of Teacher Readiness In Using Multimedia Technology On The Effectiveness Of Learning. International Journal Of Emerging Technologies In Learning (Ijet), 13(10), 87–98.

Kasmad, M., Iskandar, S., Ruswan, A., & Nikawanti, G. (2022). Digital Learning Model in Era 4.0 for Elementary School Teachers. Didactic Methodology, 17(2), 80–91. https://doi.org/10.17509/md.v17i2.30178

Listrianti, F. (2023). The Influence of Digital-Based Interactive Learning Media on the Literacy and Numeracy Skills of Students at Madrasah Ibtidaiyah Azzainiyah II Further research is needed to fill this knowledge gap and provide. 1(5).

Meliyani, AR, Mentari, D., Syabani, GP, & Zuhri, NZ (2022). Analysis of Digital Learning Media Needs for Teachers to Create Effective Learning Activities and Active Students. Jurnal Jendela Pendidikan, 2(02), 264–274. https://www.ejournal.jendelaedukasi.id/index.php/JJP

Muawani, RF, Adinda, DM, Ismawati, NA, Fajri, R. Al, & Chusni, MM (2024). Utilization of Plastic Waste as Handicrafts (T. Media (ed.); first). Tahta Media.

Mulyasa, E. (2017). Local wisdom-based curriculum: In building national character. PT Remaja Rosdakarya.

Naitilia, CA, Nitteb, YM, Buluc, VR, Benud, AY, & Dolloke, VVY (2023). Workshop on Empowering Local Wisdom in Teaching and Learning Activities for Elementary School Teachers in Oenamo B Cluster, TTU Regency. Journal of Leaders - Community Service, Educational Sciences, Educational Sciences, 3(2), 49–53.

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Nasruddin, M. (2017). Utilization of Kedung Ombo Reservoir tourist attraction as a learning resource. Semarang State University.

Ningsih, EP (2023). Implementation of Digital Technology in Education: Benefits and Barriers. 1–8.

Rahma, FA, Harjono, HS, & Sulistyo, U. (2023). Problems of Utilizing Digital-Based Learning Media. Basicedu Journal, 7(1), 603–611. https://doi.org/10.31004/basicedu.v7i1.4653

Sapitri, D., Muhajirin, M., & Habiburrahman, L. (2023). Increasing Class IV Students' Learning Motivation through the Implementation of Digital Learning Media (Quizizz) at SDN 4 Sokong. Current Journal of Psychology and Education (AJPP), 2(3), 355–359. http://jurnal.ardenjaya.com/index.php/ajpp

Shufa, NK . (2018). Local Wisdom-Based Learning in Elementary Schools: A Conceptual Framework. Scientific Journal of Education, 1(1), 48–53. 10.24176/jino.v1i1.2316.

Sihombing, Y., Haloho, B., & Napitu, U. (2023). Teacher Problems in Utilizing Learning Media. JUPE: Jurnal Pendidikan Mandala, 8(2), 725. https://doi.org/10.58258/jupe.v8i2.5611

Solihati, T. (2022). The Use of Local Wisdom Learning Media and Learning Motivation to Improve Learning Outcomes. Journal of Education, 1(2), 1–8.

Suarningsih, NM (2019). The Role of Local Wisdom-Based Education in Learning at Ni Made Suarningsih School. Cetta: Journal of Educational Sciences, 2(1), 23–30.

Sugiyono. (2022). Qualitative Quantitative Research Methods and R&D. Alfabeta.

Wardani, IK, Natasya, R., Dana, W., & Puspitoningrum, E. (2020). Analysis of Moral Values of the Folk Tale of the Legend of Mount Kelud and Lembu Suro Using a Mimetic Approach. WACANA: Journal of Language, Arts, and Teaching, 4(2), 70–80.

Widianto, E. (2021). Utilization of Information Technology-Based Learning Media. Journal of Education and Teaching, 2(2), 213. https://doi.org/10.24014/jete.v2i2.11707

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