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The Impact of Implementing Digital Technology Through the Quizziz and Kahoot Applications on Student Learning Outcomes

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ABSTRACT

This article aims to analyze the use of the quizziz application and the kahoot application with a focus on how these applications can be used to improve student learning outcomes in the digital era.This research uses a qualitative descriptive approach, with the observation method as the research framework. Data was collected from several classes that have successfully integrated the Quizziz and Kahoot applications into the learning process. This study explores various aspects of technology implementation, Including the types of applications used, the training provided to teachers, and its impact on student independence and learning outcomes. Data was collected through in-depth interviews with teachers and students as well as participatory observation in classes that have implemented the Quizziz and Kahoot applications in classroom learning can improve student learning outcomes.

Keywords: Application Of Technology, Improving Learning Outcomes, Digital Era, Qualitative Descriptive Methods, Quantitative, Observation Methods.

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INTRODUCTION

The development of information technology is accelerating rapidly, even surpassing the speed at which humans can learn it. A new application may appear today, and tomorrow there will already be a better or alternative application (Mardiana, 2021). Ideally, technology makes human work easier, more interesting, and certainly more enjoyable. If we use a technology and encounter difficulties, there are two possibilities: either it is due to human factors or choosing the wrong technology (Habibullah, 2022). The education sector is one of the sectors greatly helped by the development of application technology. Indeed, even before COVID-19, information technology had developed massively (Hammerstein et al., 2021). However, the COVID-19 event opened our eyes that the educational process, especially teaching and learning, can be greatly assisted by this application technology, especially in the digital era. For example, applications like Quizizz and Kahoot are game-based learning media. “Game-based learning is an alternative that can increase student participation in the learning process. The Quizizz and Kahoot applications are learning platforms that combine learning evaluation with interactive games.”

According to Suhartatik (2020, p. 6), Quizizz is an interactive quiz used in classroom learning that can be utilized for daily assessments, mid-semester assessments, and final semester assessments. This is reinforced by Purba in Marunung & Nurhairani (2020, p. 298), stating that Quizizz is an educational application to make class exercises active and fun.

Kahoot is a web-based game platform that can be used as a means of interaction using technology (Septiani, 2019). Muhtadi (2019) stated that it can improve the quality and effectiveness of education.

For learning to run well at the elementary school level, skilled teachers are needed to design and organize learning. One effort that can be made by teachers in the learning process is to make

students more active, innovative, and creative in learning, especially in class V at SD Negeri 1 Pangkalan Satu. Implementing digital technology like Quizizz and Kahoot makes learning active, keeps students focused on the learning material, and can improve their learning outcomes.
As a teacher, I am greatly helped by these applications in implementing the Merdeka Curriculum and achieving curriculum goals more effectively and efficiently. Based on this, the aim of this research is to understand the use of digital technology through Quizizz and Kahoot applications in improving the learning outcomes of class V students at SD Negeri 1 Pangkalan Satu.

METHOD

his study used qualitative and quantitative methods. Data collection techniques included observation and interviews. Technology in education is a system used to support learning to achieve the desired outcomes. The implementation of technology in education in Indonesia means that technology can be utilized for learning, as an administrative tool, and as a learning resource. Observations were carried out by documenting or collecting data on the process of changes in student learning outcomes during the teaching and learning process. Data was also obtained through interviews with several informants: the principal, teachers, and English teachers who also conducted learning in class V. The interview method was chosen to confirm and explore information from several sources with questions tailored to the use and application of digital technology in the school learning process (Creswell & Creswell, 2018).
This research was conducted in class V at SD Negeri 1 Pangkalan Satu, semester I of the 2024/2025 academic year, involving 22 students. The data analyzed in this study included:

1. Qualitative data on teacher and student activities during learning activities, obtained from observations and interviews.
2. Quantitative data on student learning outcomes through tests/evaluations at the end of the activities.

The success indicators in this research were that student activities in IPAS, Pancasila Education, Indonesian Language, and English learning should reach a class mastery average ≥ 75%, measured from class V students' learning outcomes through tests using Quizizz and Kahoot.

FINDINGS AND DISCUSSION

1. Integration of Digital Technology Education in the School Curriculum (KOSP)

The curriculum is fundamental in designing activities, programs, and teaching processes in schools, including elementary schools. The application of digital technology or digital learning in schools certainly cannot be separated from its incorporation into the curriculum, known in the Merdeka Curriculum as the school operational curriculum (KOSP). In the Merdeka Curriculum, digital technology is indeed widely used. Our school even received 15 chromebooks from the government to support the application of digital technology in learning. According to the principal, teachers are encouraged to teach using digital technology-based learning media to get accustomed to it and provide interesting and enjoyable learning for students. At SD Negeri 1 Pangkalan Satu, digital technology is integrated into the KOSP, although it is not applied to all grade levels due to infrastructure limitations at each school. However, all have introduced digital technology in class V, where the Computer-Based National Assessment is conducted.

2. The Influence of School Regulations on the Use of Digital Technology in Learning

Digital technology certainly has positive and negative sides. It can harm or disturb students if there are no regulations governing their use of digital devices for learning (Ardhyantama & Wardani, 2022).

Some schools establish such regulations in cooperation with parents. However,

other schools do not establish any rules on the use of technology, leaving matters at home entirely to parents.

Out of six teachers interviewed, two worked with parents to implement rules on using digital technology in learning. The principal does not set strict rules for using digital technology at home, nor does the school prohibit students from using their own devices because the school provides technological devices. This school also received 15 chromebooks from the government.

This clearly shows that school digitalization is indeed a government program in line with the challenges and developments of the times. The regulations implemented by schools aim purely to limit or reduce the negative impacts of digital technology. The principal stated:

"There are no strict regulations on the use of technology in learning. We just provide a strong foundation and cooperate with parents to supervise children at home. I am very happy when teachers want to develop themselves in using technology in learning, whether for delivering material or for summative and formative assessments."

We do not specifically procure ICT equipment, although all teachers must be able to understand and use it. Teaching ICT is only supportive, and they are expected to collaborate in finding relevant learning resources using available facilities like library books. Our computer lab is actually held in the classroom by bringing in chromebooks, so there is no special room for ICT learning, even though the library has computers connected to a network for students to independently access digital learning resources.

Facilities are one of the supporting elements because without infrastructure, digital technology cannot run. At minimum, there should be a projector that teachers can use in class.

Teacher Activities

Based on data analysis, the quality of teacher activities during cycle I and II can be seen in Table 1 below:

Tabel I. Recapitulation of Teacher Activities in Cycle I and Cycle II

Teacher Activities		
Cycle	**Percentage**	**Qualifications**
I	76,68%	Good
II	87,95%	Very Good

Table I shows that teacher activities in teaching and learning improved, with cycle I at 76.68% (good) and cycle II at 87.95% (very good). The quality and contribution of teacher activities had a very positive impact, as teachers conducted apperception combined with ice breaking appropriately according to the material, asked questions about images observed by students while adding various learning media with the Quizizz platform.

Teachers praised students whenever they answered correctly first and ended the lesson with a prayer. Essentially, this is a series of student and teacher activities aimed at achieving learning objectives. Brophy & Wentzel (2014, p. 250) stated that strategies to stimulate student motivation when learning apply not only to performance but also to tasks like tests, encouraging students to use information processing strategies and to build processes and skills when learning.

Thus, by cycle II it was considered successful and able to improve teacher and student activities in using Quizizz and Kahoot applications.

Student Learning Outcomes

Student learning outcomes in cycles I and II are shown in the following table:

Tabel 2. Recapitulation of Average and Completeness of Student Learning Outcomes in Cycle I and Cycle II

Student Learning Outcomes Subject Completion	Student Learning Outcomes	
	Subject Completion	Subject Completion
Pancasila and civic education	74,30 %	84,50 %
English	73,65 %	85,95 %
Indonesian	73,45 %	83,75%
IPAS	72,55%	86,95 %

Based on Table 2, in cycle I, students had not yet achieved the expected learning outcomes, as they still struggled with the material and some lacked enthusiasm during learning and written post-tests. Thus, student learning outcomes were not optimal. The teacher reflected on this by motivating themselves to learn applications that could improve student outcomes. The teacher also provided understanding and guidance to students who did not yet grasp the lessons and maximized their own potential in using Quizizz and Kahoot. In the first meeting, students achieved an average percentage in the sufficient category, which later increased to very good in subsequent meetings. A person's learning outcomes depend on their understanding of concepts, goals, and motivation affecting their interaction with learning materials.

According to Hamalik (Arsyad, 2013, p. 15), the use of learning media in the learning process can stimulate new desires and interests, increase motivation and learning activities, and have psychological impacts on students. The use and application of Quizizz and Kahoot as learning media aligns with Sudjana (2009, p. 70), who stated that they help stimulate student interest in learning and improve class V students' learning outcomes at SD Negeri 1 Pangkalan Satu.

CONCLUSION

Based on the research results on applying Quizizz and Kahoot in class V at SD Negeri 1 Pangkalan Satu, it can be concluded that:

1. Teacher activities using Quizizz and Kahoot in class V at SD Negeri 1 Pangkalan Satu were carried out very well, as seen in cycle II with a very good percentage, and teachers were greatly helped by these applications.
2. Student learning outcomes in implementing Quizizz and Kahoot in class V at SD Negeri 1 Pangkalan Satu improved, as seen in cycle II achieving mastery in the very good category.

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