



Implementation of quizizz digital media in science learning for grade 5 at gmim iv elementary school, Tomohon

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Abstract

This study aims to describe the digital media Quizizz, the obstacles faced and solutions to the obstacles faced in implementing the digital media Quizizz in science learning in grade 5 of SD GMIM IV Tomohon. The method used is descriptive qualitative research with a phenomenological approach. Data were collected through observation, interviews, and documentation involving two grade 5 teachers and students. Data analysis techniques are data reduction, data presentation and drawing conclusions. Testing the validity of the data by means of data triangulation. The results of the study indicate that the use of Quizizz can increase students' interest and motivation to learn, and make learning more interactive and enjoyable. However, there are obstacles such as unstable internet networks, limited devices, and reading difficulties for some students. The proposed solutions include the use of alternative networks, paper mode for evaluation, and collaboration between students. The use of Quizizz has proven effective in increasing students' interest and motivation to learn, but there are obstacles that arise in the implementation of the digital media Quizizz including unstable internet networks, limited devices such as mobile phones among students, and technical problems. Solutions implemented to overcome these obstacles include setting up alternative networks, using paper mode for evaluation, collaborating between students, and utilizing the differentiation feature in Quizizz.

Keywords: Digital media, quizizz, science

Introduction

One of the main pillars in national development is education. The progress of a country is highly dependent on the quality of human resources produced through the education system. Law number 20 article 1 paragraph 1 of 2003 concerning the National Education System 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 spiritual strength, self-control, personality, intelligence, morals, and skills needed by themselves, society, nation, and state. In the current era of globalization and digitalization, the development of information and communication technology has had a significant impact on various aspects of life, including in the field of education. An effective and interesting learning process is one of the main challenges faced by educators. For this reason, learning in schools has an important role as an initial foundation for shaping the character and academic abilities of students. One of the subjects that is the main focus is Natural and Social Sciences (IPAS) which has the function of developing students' knowledge, skills and scientific attitudes. IPAS learning has a very important role in shaping students' understanding of the environment, natural phenomena, and social interactions.

However, the teaching methods used are often conventional, which tend to be monotonous and less interesting for students. Facts prove that there are still many learning processes that occur in schools that tend to be conventional. This means that the learning process is more teacher-oriented, meaning that teachers are more dominant than students in learning. This method is not creative, resulting in low learning motivation and student involvement in the learning process, and inhibiting their understanding of the material being taught. Science learning in elementary

schools does not only focus on theoretical knowledge, but it is hoped that there will be the development of scientific attitudes, critical thinking skills, and a deep understanding of the interaction between humans, nature, and the environment.

The facts in the field are found in science learning, teachers have used digital media in the form of YouTube, but some students feel that it is not very effective because the explanation is too fast and still not interactive enough, while what is expected is that there is student interaction in learning. During the assessment, students looked tense and some did not answer all the questions because of limited time. The results of the 26 students who attended, only 13 were declared successful. Related to this, the researcher found that there were students who were not familiar with the digital media Quizizz and hoped that by using Quizizz learning would be more enjoyable. The assessment will be more interesting than using conventional media. Educators must innovate in learning because it is an urgent need to face the challenges of the times as well as to meet the needs of students who are increasingly exposed to digital technology. Information and communication technology has become an inseparable part of everyday life, including in the world of education. Various media and learning methods are used by educators to attract students' interest in learning, so the use of digital media is increasingly important to increase effectiveness and attract students' interest. According to Bella, M.C, Sumilat J & Tarusu, D (2023) ^[2] learning media that is interesting for students can be a stimulus for students in the learning process. This is in line with the opinion of Tandayu M.P, Rorimpandey W.H.F & Mongdong R.M (2024) ^[24] because students not only hear, experience but also see events that occur by observing directly students will get the opportunity to compare between theory and reality. Learning in the digital era requires the integration of

technology in the teaching and learning process to increase student interest and motivation. By using digital media, it will attract the attention of students to be actively involved in learning. Erisa Dwi Safitri (2024) [17] stated that the use of digital learning media can increase students' interest in learning. One of the popular digital media used in learning is Quizizz. Quizizz as a digital-based media is one of the innovative tools in the world of education that combines digital technology, interactivity, and fun evaluation. This is in line with the development of 21st century educational needs that demand the integration of technology in the learning process. Quizizz is a game-based application that can increase active student participation.

As technology advances, Quizizz has also improved its features, namely the presence of presentation media that can be used in learning and the use of Artificial Intelligence (AI) to make it easier for teachers to create quizzes or presentations. Quizizz presentations prioritize student involvement through direct participation in answering questions in real-time. In addition, it can be used for active learning. Quizizz presentations are very interactive because students can participate with the devices they have. Each slide can be accompanied by a quiz, survey or question that provides direct feedback. Previous research conducted by Wintha & Setiawan (2020) stated that the use of games in learning is very effective and efficient if implemented properly and correctly. Thus, the author wants to discuss the Quizizz application and the use of Quizizz as a digital media in 5th grade science learning at SD GMIM IV Tomohon. In this case, the researcher took the title "Implementation of Quizizz Digital Media in 5th Grade Science Learning at SD GMIM IV Tomohon".

Method

The method used by researchers to conduct research is qualitative descriptive with a phenomenological approach to complete this research. The data collected are in the form of observations, interview scripts, personal documents and other supporting official documents. The author's purpose in using a qualitative approach is to be able to describe the reality that occurs in learning in elementary schools. Researchers will explore in depth the process of implementing digital media quizizz in 5th grade science learning. In this case, researchers collaborate with 5th grade teachers of SD GMIM IV Tomohon to implement digital media-based learning quizizz in 5th grade science learning at SD GMIM IV Tomohon.

Data collection techniques are methods or ways used by researchers to collect information needed in research. In qualitative research, data collection techniques focus on an in-depth understanding of the phenomena being studied. The methods used are observation, interviews, and documentation. In this qualitative research, researchers use data triangulation to check the validity of the data. Triangulation is a method used to ensure the validity of data by comparing information from various sources or approaches. The triangulation used is source triangulation, technique triangulation, time triangulation. Data analysis begins by reviewing all available data from various sources, namely observation, interviews and documentation. After being reviewed, the next step is to conduct data reduction which is done by summarizing the core and properly searching for valid data. Data analysis is carried out using the steps of the Miles and Huberman model (Sugiyono,

2018:337) [21], namely data reduction, data presentation, and drawing conclusions.

Results and Discussion

a. Results

1. Implementation of Quizizz Digital Media in Class 5 of GMIM IV Tomohon Elementary School

In implementing learning by implementing Quizizz digital media, teachers prepare learning by preparing the equipment that will be used. The teacher begins by greeting and providing motivation before learning begins. The teacher begins explaining the learning using presentation media in the Quizizz feature. In presenting the material, a modified learning video is presented so that in between the videos there are questions that must be answered by students. At the end of the learning, the teacher conducts an evaluation using Quizizz. After completion, the highest scores 1, 2 and 3 will appear. The teacher immediately reflects together the results of the answers that still need to be improved. In implementing learning using Quizizz digital media, students are very enthusiastic and excited.

The researcher conducted interviews to collect data related to the implementation of Quizizz digital media in class 5 of GMIM IV Tomohon Elementary School. The researcher conducted interviews with teachers of classes 5A and 5B and one student. The results of the interview showed that in selecting Quizizz digital media in learning, it must be adjusted to the current conditions according to the needs of students. In planning and integrating Quizizz digital media in learning, researchers found that the material must be appropriate. The results of interviews with several informants regarding experiences when using Quizizz digital media and the most utilized features, found that teachers and students were interested in using Quizizz because learning became fun.

To assess the effectiveness of using Quizizz digital media, it was found that the results had increased. The results of interviews with students about Quizizz helped students' understanding of the material. The results of interviews with informants found that students were actively involved and highly motivated in learning. The results of interviews with students about learning using Quizizz because it was creative and not monotonous, felt easier and more exciting than without using Quizizz. The results of interviews with class teachers found that students felt happy and enjoyable when using Quizizz digital media so that the evaluation results of learning outcomes increased. Based on interviews with informants, the results of the study on suggestions to other teachers who want to use Quizizz digital media in learning are for teachers who will use quizizz, it is better to be properly prepared so that they can overcome problems that will occur.

2. Obstacles Faced in the Implementation of Quizizz Digital Media in Science Learning in Grade 5 of GMIM IV Elementary School, Tomohon

In the implementation of Quizizz digital media in science learning in grade 5 of GMIM IV Elementary School, Tomohon certainly encountered obstacles. The research data were obtained from interviews with class 5A teachers, class 5B teachers and one student. In implementing learning using Quizizz digital media, it was found that there were obstacles faced such as the facilities and infrastructure used such as cellphones that were not owned by all students, participants

who had cellphones but did not have data or quotas so they could not access Quizizz, lack of teacher understanding about the use of Quizizz so that some features that were not mastered ultimately hampered learning because a lot of time was cut and technical problems, and network constraints made it difficult to enter Quizizz.

b. Solutions Used to Overcome Obstacles in the Implementation of Quizizz Digital Media in Science Learning in Grade 5 of GMIM IV Elementary School, Tomohon

In the implementation of Quizizz digital media in science learning in grade 5 of GMIM IV Elementary School, Tomohon, there are certainly obstacles, but there are solutions used to overcome these obstacles. The research data was obtained from interviews with class 5A teachers, class 5B teachers and one student. The solutions used to overcome obstacles in the implementation of Quizizz digital media. For network problems, teachers must prepare another network. In our school there is wifi, but if it cannot be used then it will use internet quota or another network. So if there is a problem with one network, it can be moved to another network. But to deal with the problem of difficulty in entering the Quizizz application and it takes a long time, we can divert it by providing a direct explanation to students while waiting. For obstacles for students who do not have a cellphone, they can be helped by borrowing from friends in other classes or teachers. Groups can also be formed, for those who do not have a cellphone, they can join with friends who have a cellphone. Evaluation activities can use paper mode. For students who are not yet fluent in reading, the differentiation feature can be used, so that they can also take quizzes according to their abilities and be accompanied by teachers.

The results of interviews conducted with class 5B teachers regarding solutions to obstacles faced in implementing Quizizz digital media in science learning in class 5 of SD GMIM IV Tomohon: For facilities and infrastructure such as cellphones, teachers can divide students into several groups, while for evaluation activities teachers can borrow cellphones from other students or teachers. However, the day before the implementation of learning using Quizizz, the teacher has informed in advance so that it can be known which students do not have cellphones or do not have internet quota. Likewise, if students do not have internet quota, they can ask for help from friends who have internet quota. For teachers who do not yet understand technology and the use of Quizizz, they can collaborate or work together with other fellow teachers who understand the use of technology and Quizizz.

c. Discussion

1. Implementation of Quizizz Digital Media in Science Learning in Grade 5 of GMIM IV Elementary School, Tomohon

The implementation of Quizizz digital media in science learning in grade 5 of GMIM IV Elementary School, Tomohon was studied using observation, interview, and documentation data collection tools. Before implementing learning using Quizizz digital media, teachers had made preparations by matching the material according to learning objectives, creating learning media through Quizizz digital media, looking for interactive videos that match the material and creating appropriate quiz questions. In line with the

opinion of Rosyid Z, *et al.* that learning media is arranged in such a way as to make it easier for students to learn and understand what has been conveyed by the teacher. In the learning process, the science material taught is Utilization of Natural Resources and Diversity of Flora and Fauna in Indonesia. The stages of using Quizizz digital media in science learning in grade 5 of GMIM IV Elementary School, Tomohon, are as follows:

a. Preparation stage

In the preparation stage, the class teacher prepares suitable material, prepares quiz questions according to learning objectives. This is in accordance with Winatha & Setiawan (2020) ^[27] who stated that the use of games in learning is very effective and efficient if implemented properly and correctly. After that, the teacher starts by preparing the class to be ready to learn, the teacher directs students to turn on their cellphones and open Google to enter the Quizizz media. The teacher directs students to scan the barcode on the television. For those who cannot scan, the teacher directs them to enter the code into the Quizizz application. In addition, the teacher also prepares a laptop connected to the television to support learning with the Quizizz media. Students prepare before using Quizizz by turning on their cellphones and turning on their internet quota.

b. Implementation stage

In the implementation of the use of digital media Quizizz, it was carried out in two classes 5, namely 5A and 5B. The teacher explained the procedures for using Quizizz in learning. Students were directed to enter Quizizz using a barcode or entering a code. After everyone entered Quizizz, the teacher will start by clicking the start button. The teacher explains the material based on presentation media via Quizizz and shows interactive videos. By utilizing audiovisual media, students will understand the material better. This is in line with the opinion of Asari A (2023) ^[1] that the learning process presented with audiovisuals can increase students' creativity and activeness in understanding the concepts being studied.

In the interactive video display, at certain intervals determined by the teacher, the video will stop and questions will appear to be answered by students. This is in line with the theory of Salsabila *et al.* (2020) ^[18] that Quizizz is used as a tool to help deliver material, Quizizz is also used as a tool to help assess learning in an exciting and fun way. In the interactive video display, each question is given time by the teacher. For multiple choice, 60 seconds are given while 3 minutes are given to categorize. This is also in accordance with the theory of Purba O.N, *et al.* (2022) ^[13] that this is useful for training students to manage their time and can train their seriousness in achieving their desires. After being answered, the correct answer and the number of students who answered correctly, answered incorrectly and did not answer will appear. Students are serious and very enthusiastic in working on the questions in the quiz to get the correct answers because they are motivated to learn using Quizizz so that the classroom atmosphere becomes very enjoyable. This is in accordance with the theory of Citra *et al.*, that Quizizz is a game application that provides multiplayer class activities so that learning in the classroom is more fun and interactive (Desi Nursyifa Ramdhani, *et al.*, 2024) ^[14].

At the evaluation stage, the class 5A teacher used paper mode. Before starting, the teacher distributed barcode paper

to each student who had been given a number according to the attendance list number. This was done so that the student's number matches the data on the teacher's Quizizz media. The implementation of the Quizizz digital media using paper mode begins with a mutual agreement between students. The teacher will start by clicking start on his laptop and a question will appear. After reading the question, students are directed to lift the paper according to the correct choice. The teacher will scan it using the Quizizz application on the teacher's cellphone. After the scan is complete, the correct answer and name of the student will appear on the television screen. The teacher immediately provides feedback to students.

The class 5B teacher also did the same thing, but in implementing the evaluation using the Quizizz digital media, the teacher used a cellphone. The teacher asks students to scan the barcode or enter the Quizizz code on each student's cellphone. After finishing, the teacher starts clicking start, then the questions will appear on the student's personal cellphone. The questions given are in the form of multiple choices and categorized by the specified time.

The evaluation is complete, rankings 1, 2, 3 will appear and the results can be downloaded in pdf or excel format in the Quizizz results feature. Teachers can see which questions have less than satisfactory results. In line with Salsabila *et al.* (2020) ^[18] that Quizizz is used as a tool to assist in delivering material, Quizizz is also used as a tool to assist in assessing fun and exciting learning. So that it makes it easier for teachers to assess student outcomes.

c. Closing stage

The evaluation is complete, rankings 1, 2, 3 will appear and the results can be downloaded in pdf or excel format in the Quizizz results feature. Teachers can see which questions have less than satisfactory results. From the results obtained by students in learning digital media Quizizz for class 5A, it was obtained from 27 students, 23 students got a score of 80-100, while there were 4 people who had not achieved a good score or 89% of students who answered correctly and correctly. For class 5B, there were 80% of 22 students who were declared successful by answering correctly. In line with the opinion of Yuli Santika (2023) ^[19] that the use of Quizizz in learning includes increasing student participation, increasing learning motivation and increasing understanding of the material.

2. Obstacles Faced in the Implementation of Quizizz Digital Media in Science Learning in Grade 5 of GMIM IV Elementary School, Tomohon

The results of the discussion regarding the obstacles faced in the implementation of Quizizz digital media in science learning in grade 5 of GMIM IV Elementary School, Tomohon, were carried out by interviewing teachers of grades 5A and 5B and students. The obstacles faced include network constraints. Both teachers and students said that access to Quizizz is sometimes late due to an unstable internet connection. This results in students having to wait and spend time that should be used for learning. In the context of learning, time is a crucial factor and delays in accessing materials can disrupt the overall learning process. In line with Forsyth's opinion that time management is a way to make time controllable so as to create effectiveness, efficiency, and productivity (Kurniati R.A, *et al.*, 2023) ^[9]

Another obstacle faced is the problem of devices, where not all students have personal cellphones. This creates inequality in access to digital learning media. It was also conveyed by the class 5B teacher that some students who have mobile phones do not have internet quota, so they cannot access Quizizz. This shows that although technology can improve learning, there are still gaps in education. This is in line with the theory of Purba P.B, *et al.* (2025) ^[12] that this inequality creates a digital divide that worsens the education gap. From the student side, there are also difficulties, especially in reading and understanding questions. One student was left behind due to limitations in reading and limited time to answer questions. This shows that although Quizizz offers an interactive way to learn, not all students can adapt well, especially those with learning difficulties. Technical problems such as advertisements that appear when implementing the Quizizz digital media in this study, especially when answering questions, are also obstacles that interfere with student concentration. This shows that although the Quizizz digital media is a useful platform, the user experience can be influenced by external factors that cannot be controlled by teachers or students.

3. Solutions Used to Overcome Obstacles in the Implementation of Quizizz Digital Media in Science Learning for Grade 5 of GMIM IV Elementary School, Tomohon

In the implementation of Quizizz digital media in science learning for grade 5 of GMIM IV Elementary School, Tomohon, several obstacles have been identified, especially related to network problems and device accessibility. The results of interviews with teachers of grades 5A and 5B showed that these obstacles can affect the learning and evaluation process. The solution implemented by teachers of grades 5A and 5B to overcome the obstacles faced was the use of alternative networks, teachers of grade 5A mentioned the importance of preparing alternative networks. The school does provide wifi, but if it cannot be used, teachers can use personal internet quotas or other networks. This shows flexibility in dealing with technical problems that can interfere with learning. In line with the opinion of Purba P.B, *et al.* that it is necessary to strengthen the school's internet network before switching to external internet. To overcome difficulties in accessing the Quizizz application, teachers can provide direct explanations to students while waiting for stable access. This is one effective approach to ensuring that learning time remains productive despite technical obstacles. By collaborating between students, the problem of not having a cellphone can be overcome. In this way, students can help each other, so that all students remain involved in learning.

In terms of evaluation, the class 5A teacher uses the paper method or paper mode to ensure that all students can participate despite the limitations of cellphones and networks. For students who are not yet fluent in reading, the use of differentiated features in Quizizz allows them to take quizzes according to their abilities, with teacher assistance. This shows attention to the individual needs of students and efforts to create an inclusive learning environment. So in accordance with the opinion of Purba P.B, *et al.* that technology such as Quizizz can help create an inclusive learning environment, where students with different backgrounds and needs can participate equally. The class 5B teacher emphasized the importance of preparation before

implementing learning using Quizizz. By informing students the day before about the need for devices and internet quota. This is a proactive step that can reduce potential problems during learning. The importance of collaboration between teachers who are more experienced in technology is also one solution for teachers who are not yet experienced in technology. The collaboration can improve teachers' understanding and skills in using Quizizz, so that it can provide a better learning experience for students. In line with the opinion of Purba P.B, *et al.* that technology allows students and teachers to collaborate and communicate globally.

Conclusion

1. The process of learning science in grade 5 of GMIM IV Elementary School Tomohon using the digital media Quizizz is carried out in three steps. First, the preparation stage where the teacher prepares the material in the form of presentation media, learning videos, and creates questions relevant to the learning objectives. Second, the implementation stage using the digital media Quizizz. The teacher provides material through the Quizizz presentation media and plays interactive learning videos followed by questions that must be answered by students. Third, at the closing stage, the evaluation results can be downloaded directly by the teacher. The use of digital media Quizizz has proven effective in increasing students' interest and motivation to learn, making classes fun and improving their understanding of the material being taught.
2. The obstacles faced include unstable internet networks, limited devices such as cellphones among students, difficulty reading for one of the students, other technical problems such as advertisements that appear during the quiz so that they interfere with students' concentration.
3. The solution used is that the teacher overcomes the obstacles by preparing an alternative network and using paper mode for evaluation. Collaboration between students and the use of differentiation features in Quizizz to help students who are having difficulties. Thorough preparation before implementing learning is also an important step to minimize problems. Collaboration between fellow teachers to improve understanding of the use of Quizizz in learning so that it is more optimal.

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