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TRANSFORMING MATHEMATICS LEARNING: THE IMPACT OF QUIZIZZ ON GRADE VII STUDENTS' ACHIEVEMENT

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Abstract.

Enhancing students' learning outcomes requires engaging instructional approaches that can sustain participation and provide immediate feedback. However, the use of interactive digital assessment media in teaching mathematical comparison concepts remains insufficiently documented at the junior secondary level. This classroom action research investigated the implementation of Quizizz to improve Grade VII students' learning outcomes on comparison material at SMP 01 Islam Jember. The study involved 25 students and was conducted in two cycles, each consisting of two meetings and four stages: planning, implementation, observation, and reflection. The findings revealed a substantial improvement in students' learning outcomes, with the proportion of students achieving the expected learning mastery increasing from 76% in Cycle I to 100% in Cycle II. These results indicate that Quizizz can effectively support learning improvement through interactive and technology-enhanced assessment. The study contributes practical evidence for integrating digital formative assessment into mathematics instruction to promote improved student achievement.

Keywords: *Quizizz; Student Learning Outcomes; Digital Formative Assessment; Mathematics Instruction; Classroom Action Research.*

I. INTRODUCTION

Education is one of the foundations used to produce a generation of the nation that can compete in the era of globalization. Education involves processing inputs to produce outputs that meet expectations. The learning process encompasses cognitive, affective, and psychomotor aspects. Education plays a crucial role in developing human capabilities, thus producing a higher-quality future generation.(Tiana Asna, et al. 2021)Mathematics is knowledge that is related to other subjects and is certain, and can lead to the emergence of discipline in the mind. Therefore, if mathematics is taught well and correctly, it can certainly motivate and develop reasoning. Students must have a strong and high desire to learn mathematics.(Ardiansyah, 2022)Mathematics education is an academic discipline that studies many branches of mathematics, such as arithmetic, algebra, discrete mathematics, and others, as well as teaching educational psychology with the goal of earning a degree as an educator. Mathematics education is a field of study that focuses on the learning, teaching, and development of mathematical concepts. Its presence is fundamental in almost all areas of life, including science, technology, economics, and more. Therefore, mathematics is taught at every level and type of education, tailored to the needs and understanding of students at each stage of their development. By understanding and mastering mathematics, individuals can gain invaluable skills and knowledge to face future challenges in various fields.(Kamarullah, 2017)This encompasses the process of learning and teaching mathematics from elementary to advanced levels. The primary goal of teaching mathematics is to help students understand mathematical concepts, develop numeracy skills, and teach the application of mathematics in various situations. Therefore, every educational setting requires learning media.

Learning media is a tool that can help the teaching and learning process so that the meaning of the message conveyed becomes clearer and the educational or learning objectives can be achieved effectively and efficiently. Learning media is anything that can convey messages through various channels, can stimulate the thoughts, feelings, and desires of students so that it can encourage the creation of a learning process to add new information to students so that learning objectives can be achieved well.(Hasan et al., 2021)Learning media is anything that can be used to convey a message from the sender to the recipient, thereby stimulating the thoughts, feelings, attention, and interest of students in learning. Therefore, the author can conclude that learning media is anything that can be used to encourage students to acquire new information and can help in achieving learning objectives.(Tiana, et al. 2021)Good learning outcomes provide long-term benefits by helping you achieve personal and professional goals and improving your ability to adapt to life's changes and challenges. The learning process is a continuous endeavor, and learning

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outcomes are the foundation for personal growth and development.(Hamzah B, 2019).

Learning media are various types of components in a student's environment that can stimulate the learning process. Meanwhile, according to Briggs, learning media are tangible objects used to present information and encourage students in the learning process, such as videos, books, animations, and film frames.(Nurrita, 2018)Learning media is any form or tool that helps make the learning process and understanding of material more effective and efficient. Learning media is an object that functions as a conveyor of information from the sender to the recipient so that it stimulates the feelings, attention, thoughts, and desires of students, thus creating a learning process.(Citra & Rosy, 2020). The use of media in learning can indirectly motivate students to improve their learning outcomes. The Quizziz app is equipped with themed characters, avatars, and music that can serve as entertainment for students during the learning process and during practice questions. Quizziz can also encourage competition among students because the app automatically ranks students as they complete quizzes and practice questions.(Muliya, 2022). According to(Solikah, 2020), Quizizz is an online quiz platform that can be realized in the form of a game and used as a learning tool

Learning outcomes are the results or insights a person gains after completing a learning process. This success can take the form of increased knowledge, skills, understanding, and attitudes. Learning outcomes can be measured in various ways, including tests, projects, presentations, and other assessments. Learning outcomes are specific abilities or skills acquired by students after completing the teaching and learning process and include cognitive skills, emotional skills, and psychomotor skills.(Melinda, 2018)Learning outcomes reflect the true abilities of students who have undergone a process of knowledge transfer from those considered more mature or less knowledgeable. Therefore, learning outcomes can indicate how well a student is able to understand and master a particular topic.

Based on observations of general learning outcomes problems encountered in students of SMP 01 Islam Jember, namely students are less enthusiastic in learning, lack of student response during the learning process, students are less active in learning activities, students do not have supporting books (textbooks) as learning resources, so that students' learning opportunities from books result in mastery of the material and ultimately have a low impact on learning outcomes, low concentration has an impact on low learning outcomes, low activity and results. From the problems that exist in SMP 01 Islam Jember, researchers feel it is necessary to use quizizz media as a solution to these problems, to improve student learning outcomes. There is some support from previous researchers.

Supported by several previous studies that have shown that the implementation of Quizizz media has been successful in improving student learning outcomes, one example is teachers who teach using learning media such as Quizizz. Therefore, the problem of low learning outcomes is felt to be addressable through the implementation of Quizizz media. According to (Mulyati & Evendi, 2020) In his research, the results of this research were that there was an increase in learning outcomes with an average in cycle I of 63% and cycle II of 78%.(Somayana, 2020) (Somayana, 2020)In his research, after using Quizizz media in online learning, there was a significant increase.

This research is supported by research that has been conducted by(Lamsari Purba, 2019)that the use of Quizizz learning evaluation media can improve student learning concentration. Furthermore, Wihartanti et al. (2019) also stated that there was a significant difference between classes using the online Quizizz application and classes using conventional learning models, where all students took quizzes during the lesson, which were conducted in the computer lab. Learning using the Quizizz application also fostered critical thinking skills.(Utomo, 2020)revealed that the use of media in the form of online games in teaching and learning activities can encourage students' motivation to be more enthusiastic in learning.

Supported by several previous studies that have shown that the use of Quizizz media has successfully improved student learning outcomes, teachers can monitor the process and download the results after the quiz is completed to evaluate student performance. The Quizizz game can help improve learning outcomes in situations where paper-based exams are currently used.(Online, 2020)Therefore, the researcher was

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interested in implementing Quizizz to improve student learning outcomes. The school the researcher was studying had low learning outcomes, so implementing Quizizz needed to improve student learning outcomes.

II. RESEARCH METHODS

The type of research used in this study is classroom action research (CAR). Classroom action research (CAR) is research conducted by teachers or educational practitioners in the classroom with the aim of understanding and improving teaching and learning practices.The purpose of the research plan was developed to provide direction and focus for the research to be conducted. This objective provides an overview of the expected results and the reasons for conducting the research. The implementation of the action in the research was carried out through a learning process divided into two cycles, where each cycle consisted of two meetings. Cycle I was carried out by applying the Quizizz media to the comparison material. In the first meeting, the teacher presented the Quizizz material to the teacher so that students could better understand it. Then, after explaining the material, students were asked to take a quiz that the teacher had prepared on the Quizizz link that was distributed to students. Meanwhile, in the second meeting, the material discussed was a continuation of the previous meeting where the teacher explained the material and continued with a quiz that was done by the students. Cycle II continued using the Quizizz media, then at the end of the cycle, a final test was conducted for cycles I and II. The research was conducted at SMP 01 Islam Jember, located on Jl. Kh. Shiddiq 43/200 Jember, this research started on March 18th to April 18th, 2024. The subject of this classroom action research is the learning outcomes of class VII students of SMP 01 Islam Jember, totaling 25 students consisting of 11 male students and 14 female students. The data collection methods used in this research are observation, tests and documentation. The indicator of success in this research is determined by the application of quizizz media which is said to increase if student learning outcomes increase with KKM 75.

III. RESULTS AND DISCUSSION

The results of this study include a description of the learning implementation process which includes a description of pre-cycle actions, a description of the learning process for each cycle, and the implementation of the final test on the application of Quizizz media to improve the learning outcomes of grade VII students in the comparison material. The lack of student enthusiasm in learning means that the media used must be able to attract student enthusiasm in improving their learning outcomes and become a tool in classroom learning. One way to address this problem is by implementing Quizizz media so that students of SMP 01 Islam Jember are more effective and optimal in learning. According to(Lamsari Purba, 2019)Quizizz is a game-based website or app that emphasizes multi-game activities and provides students with the opportunity to practice in a fun and interactive way in the classroom. Pre-Cycle ActionsThis activity is the initial step taken by researchers to detect problems that exist in the teaching and learning process in the classroom. Based on the data from the previous subject results, there were 10 students who did not complete the class VII B from a total of 25 students with a KKM of 75. Based on the data above, it can be seen that students' academic achievement is still low, because only 15 students completed their studies, namely 60%, while students who have not completed 10 students, or 40%. With an average of 73, students need to improve their learning so that their grades increase. Where the KKM is determined by the teacher, namely 75, means that students' learning completeness is still lower than it should be. The low mathematics learning outcomes of students at SMP 01 Islam Jember need to be improved. Through the media quizizz as a solution that can be done to improve student learning outcomes. Then hResearch results of cycle I. In the first meeting of cycle I, the teacher prepares the necessary infrastructure. Then, it continues with preliminary, core, and closing activities. Where the application of quizizz media is applied in learning activities. The teacher explains the material to students, then continues with questions and answers if there are students who do not understand the material explained by the teacher. If students have understood the material, the teacher will give LKPD questions which students must work on in the form of quizzes through quizizz media. In the second meeting, students listen to the teacher explain the material and continue working on quizizz. If cycle I is completed, it will be closed with a final test of cycle I to determine the improvement in student learning outcomes in understanding the material taught by the teacher. Based on the results of the data obtained in cycle I, it can be seen that student academic achievement is still low, because only 19 students have completed learning, namely 76%, while students who have not completed there are 6 students, or 24%. In cycle II, the material for each meeting is equated based on

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the Learning Implementation Plan that has been prepared by the researcher. In the first meeting, the material explains the material of reverse value comparison. Then in cycle II, the application is adjusted to the Learning Implementation Plan by using quizizz media. In each lesson, the teacher provides motivation/appreciation by asking something related to the material being studied next. The implementation of learning using the Quizizz media, at the beginning, the teacher will display the material that has been distributed to students and continue the teacher explains it to students. After the material is explained, students are allowed to ask if there is material that is not yet understood. After that, the teacher gives online-based LKPD to students to work on. The purpose of this learning is so that students in the class can actively participate during the learning process and will improve student learning outcomes. Furthermore, after the learning process is completed, students are given a final test to determine the extent of student mastery of the comparison material that has been taught. From the data obtained in cycle II, it can be seen that the implementation of mathematics learning in cycle 2 experienced an increase compared to the previous document, namely an average of 84.4 students achieved KKM ≥ 75. A total of 84.4 students. Completed KKM and 0% failed to complete.Based on the data obtained, students' knowledge increased in cycle 2 but was still considered unsuccessful because the classical perfection desired by the researcher was not achieved. determined, after that the researcher discussed using the data obtained from the implementation of the action and observation activities, then the results of the student learning test in cycle II have been achieved in the very high category based on the results of the cycle II test. Therefore, the action in the research ended in cycle II.

This study consisted of two cycles, each using Quizizz as the medium. The results showed an improvement in student learning outcomes in comparative learning. This data was obtained from observations and reflections on student activities and evaluation tests to measure student achievement. However, overall, the results in the first period were better than the initial results.

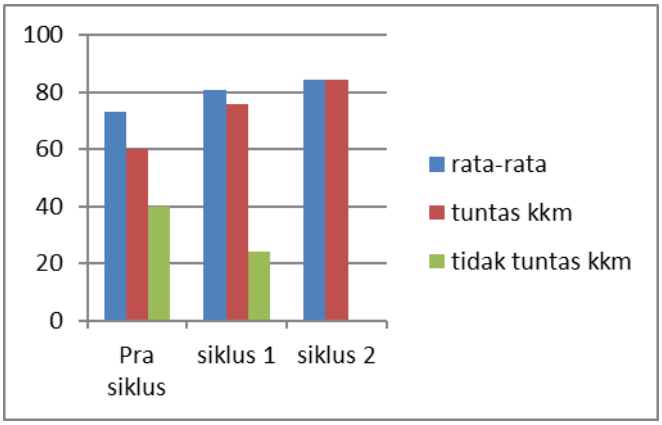

Figure 1. Cycle 2 Percentage

Based on the observation results of students learning comparative material in the pre-cycle, cycle I and cycle II, there was an increase. In the pre-cycle, the average score was 73.3, then in cycle I, the average score was 80.8, which was included in the sufficient criteria, and there was an increase in cycle II with an average score of 84.4, which was included in the good criteria. In the results of the study, student learning outcomes in learning comparative material in cycles I & II experienced an increase. In cycle I, the average student learning outcomes obtained after the study were 80.8. Of the 25 students, 19 students completed the Minimum Completion Minimum (KKM) and 6 students did not complete the KKM. The percentage of classical completeness obtained in cycle I was 60%. In cycle II, the average student learning outcomes obtained were 84.4. Of the 25 students, 25 students successfully completed the KKM. The classical percentage of student learning outcomes was 100%. Based on the increase in learning outcomes, it proves that the learning process based on the increase in learning outcomes proves that the learning process of applying the Quizizz media provides a meaningful learning experience for students..

IV. CONCLUSION

Based on the results of the classroom action research, the implementation of Quizizz effectively improved Grade VII students' learning outcomes in mathematics, particularly in comparison material. The improvement was demonstrated across the two research cycles. In Cycle I, the mean student score was 80.8, with 19 of 25 students

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(76%) achieving the minimum mastery criterion (KKM), while six students (24%) had not yet achieved mastery. Following the implementation and refinement of Quizizz-based learning in Cycle II, the mean score increased to 84.4, and all 25 students (100%) achieved the KKM. These findings indicate that Quizizz not only improved students' academic achievement but also supported more active and engaging learning. Therefore, Quizizz can be considered an effective interactive digital medium for improving students' learning outcomes in mathematics, particularly when implemented through a reflective and cyclical instructional process.

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