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# Educational Game-Based Learning Media *Quizizz* on Speed Materials toImprove Student Learning Outcomes

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## Article Info

**Abstract**
Learning approaches and methods have a very important role in the learning process. The use of appropriate learning methods will create an interesting and fun learning atmosphere. The selection of learning methods needs to be done to improve student learning outcomes. The era of revolution 4.0 is an era of advances in information and communication technology. There are many digital learning applications that can be used effectively and efficiently as a media to support learning, one of which is the *Quizziz*. This study aims to determine improving student learning outcomes on speed material using the *Quizizz* on 6th grade at SD 069/XI Kampung Tengah. This type of research is Classroom Action Research (CAR). The data was collected using the test and observation method in February-March 2022. The results showed that there was an increase in student learning outcomes with an average score in the first cycle of 63.25 and 84.25 in the second cycle.

## Introduction

The 21st century is a century where the world is growing, where humans do everything digitally. This also affects the dynamics of education in both developed and developing countries. Everything that is all digital turns out to provide easy access, namely if previously learning was all conventional, now it is possible to learn using more modern methods using digital technology. Modernization currently allows teachers to provide experiences to students by utilizing technology (Handayani & Wulandari, 2021) [3]. This is because the millennial generation prefers things that smell of technology that are easy, fast, and fun. This then becomes a new challenge for the world of education, so that in the process it is necessary to design learning according to the needs, preferences, and digital orientation to obtain the desired learning outcomes (Prensky, 2001).

Creating an interesting and fun Mathematics learning design is the most important task of a teacher. The approach and learning method chosen by the teacher in the learning process has a very important role in the learning process. The use of appropriate learning methods will create an interesting and fun learning atmosphere. The selection of learning methods needs to be done to improve student learning outcomes. The era of revolution 4.0 is an era of advances in information and communication technology. There are many digital learning applications that can be used effectively and efficiently as a media to support learning, one of which is the *Quizziz*. *Quizizz* is a game-based educational application, which brings multiplayer activities to the classroom, so that interactive and fun exercises occur in the classroom (Purba, 2019) [7]. This game-shaped application is interesting and in demand by students because the game as a learning medium that is integrated with evaluation materials or questions is expected to make lessons more interesting and fun (Mulyati & Evendi, 2020) [6], this agrees with Henry who stated the positive impact of using Games are fun and entertaining, games also provide practice for problem solving and logic (Henry, 2010) [4].

A previous study, research by Handayani (2021) [3] stated that *Quizizz* is a modern *assessment* in welcoming 21st century learning. *Quizizz* contains 21st century skills including: (1) *critical thinking*; (2) *creative and innovative skills*, (3) *communication skills*, and (4) *collaborative skills*.

This finding is reinforced by research by Mulyati & Evendi (2020) [6] which explains that learning Mathematics through *Quizizz* can improve learning outcomes (Setiawan & Sulistyaningsih, 2019) [8]; (Tiana, Krissandi & Sarwi, 2021) [9]; (Lestari, Zifa & Fatimah, 2022) [10]. Research (Dityaningsih et al, 2020) [2] states that there is a positive influence using Game *Quizizz* on student learning outcomes because *Quizizz* can make students challenged and compete with other students, this is because students can see their rankings so they can motivate students in learning and will improve learning outcomes. Based on the above background, the research problem is focused on how the use of based Game *Quizizz* on speed material can improve learning outcomes, so that learning objectives can be achieved optimally, students can learn anywhere, anytime, and in any way without being blocked by walls and obstacles classroom walls.

### Research Method
This research is a Classroom Action Research (CAR) which was conducted to determine student learning outcomes using the *Quizizz Game media*. The Kemmis & Mac Tanggar model (Kemmis, 1992) [5] was used in this study, using four stages including: (1) planning; (2) implementation of actions; (3) observation/action; and (4) reflection. This research was conducted at SD 069/XI Kampung Tengah in the second semester of the 2021/2022 academic year from February-March 2022. The subjects of this study were 20 grade VI students, consisting of 12 female students and 8 male students. This research was designed in 2 cycles according to the stages of Kemmis & Mac Tanggar, where each cycle was carried out in accordance with the changes to be achieved as designed. Data collection techniques used: (1) Tests and (2) Observation. Test data is taken in each cycle, so that in each cycle post-test data is obtained regarding the acceleration material. Observation is used to acquire students' process skills in the learning process using the *Quizizz Game media*.

### Results and Discussion
At the pre-cycle stage the researcher made observations beforehand on the learning process that had been going on so far. The results of the observations can then be concluded that because the speed material is taught through online learning, the explanation of the material is not optimal and student learning outcomes are low. Then from the document review, the level of student assignment of subject matter is usually stated with a value, the value is obtained from the results of the evaluation given in the first semester of 2019, which explains that 8 students out of a total of 20 students (40%) achieved or mastered the material. So, it can be concluded that 60% do not really master the material, especially the speed material. In fact, classical learning outcomes should reach 85% of the total number of students. This can be influenced by factors (1) students who have low learning motivation, and (2) teachers do not use appropriate learning media in the teaching and learning process.
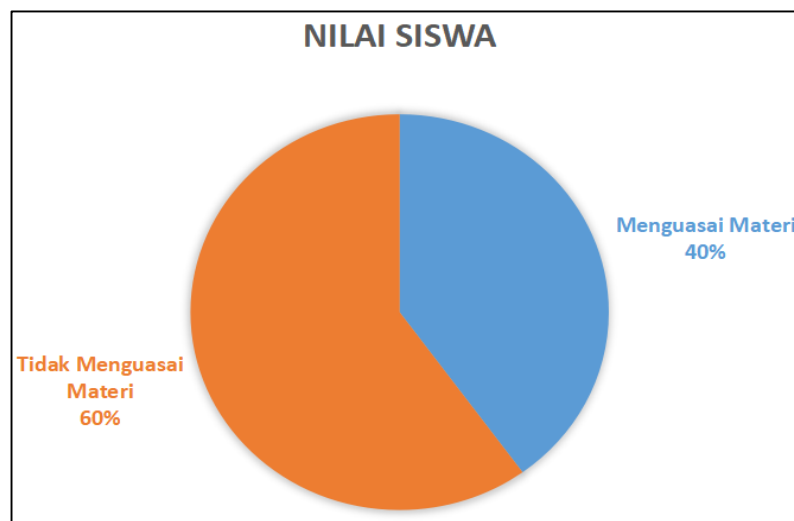


**Fig 1:** Results of Observation of Students' Completeness on Material Speed

In the research conducted as many as 2 (two) cycles, satisfactory results were obtained, namely there was a significant increase, especially in the aspect of the level of student understanding of the subject matter and student interest in learning. -based learning media Game *Quizizz* and student assignments on subject matter is known based on evaluation tests conducted at the end of each learning process. The results of this test can be seen in the table of students' assignment levels of learning materials.

The effectiveness of learning can be seen from the learning outcomes obtained by students. The results of observations and observations can be concluded that the use of learning media based on the Quizizz more *Game is* effective. The results obtained by students have shown changes in each cycle. Improvements were made to aspects of (1) low student attention to the subject matter being taught; (2) the low ability of students to answer the teacher's questions; and (3) the low interest of students in learning. These three aspects also showed very satisfactory progress. The following are the results of observations of students who master the learning materials that are evaluated at the end of the learning process.

**Effectiveness is measured by the level of student attention**
. In the first cycle of 20 students, only 2 students got an A, 3 got a B, 7 got a C, and 8 got a D. In the second cycle there was an increase in students' attention. 8 people got a very good score (A), 10 people got a B value and only 2 people got a C score.

**Table 1:** The effectiveness of learning is measured by the level of student attention

| Criteria | Cycle I | Cycle II |
|---|---|---|
| A | 2 people | 8 people |
| B | 3 people | 10 people |
| C | 7 people | 2 people |
| D | 8 people | - |

**Effectiveness is measured by the level of assignment of students to the subject matter**

In making improvements in each cycle, the writer finds the level of student mastery in Cycle I, students only get a score of 63.25, compared to Cycle II which gets an increase in grades to become 84.25. The increase in the average score in Cycles I and II can be seen in the figure below:
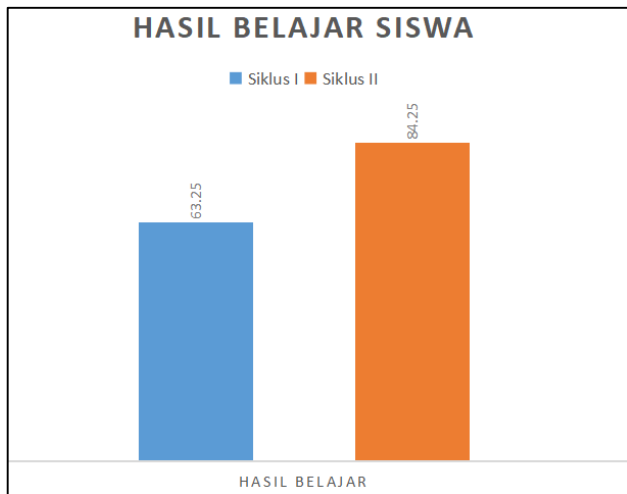


**Fig 2:** Effectiveness is measured by the level of student assignment of learning materials

. In the first cycle there are students who do not master the subject matter, which is 10%, who lack mastery of the subject matter 35 %, mastering the entire subject matter 30% and students who really master the subject matter are 25%. In the second cycle, the use of Game *Quizizz* optimized, the pictures used were added, this effort got very satisfying results, namely 15% of students who did not master the subject matter and 85% of students who mastered the subject matter very well.

**Table 2:** The effectiveness of learning is measured by the ability of students to master the material speed

| Criteria | Cycle I | Cycle II |
|---|---|---|
| Strongly mastered | 25% | 85% |
| Mastered the material | 30% | |
| Less mastered the material | 35% | 15% |
| Not mastered the material | 10% | |

**The effectiveness of learning is measured by the ability of students to answer the teacher's questions**

In the cycle of the first of 20 students, 6 people answered incorrectly, only 5 people answered the teacher's question correctly and 9 others answered almost correctly. In the second cycle the improvement was very good, namely 18 people answered correctly and 2 people answered almost correctly. For more details, it can be seen in the following table:

**Table 3:** Learning effectiveness is measured from the students' ability to answer the teacher's questions

| Criteria | Cycle I | Cycle II |
|---|---|---|
| True | 6 | 18 |
| Almost True | 5 | 2 |
| False | 9 | - |

**Conclusion**

Media *Quizizz* can be used by Mathematics Subject Teachers in particular to see student learning outcomes in speed material. One of the advantages of the *Quizizz* is that it allows teachers to make HOTS (*Higher Order Thinking Skills*) questions, to encourage students to think critically and deeply (Handayani & Wulandari, 2021) [3], so that by using the *Quizizz* students are expected to be able to solve a problem presented and think more complexly (Dinni, 2018). In addition, using *Quizizz* and very fast results in the assessment process make this application feasible to use (Mulyati & Evendi, 2020) [6]. An attractive appearance and students when working on questions have the same feeling as when playing games, creating a different, interesting, and fun learning sensation. The results showed that there was an increase in student learning outcomes with an average score in the first cycle of 63.25 and 84.25 in the second cycle. This proves that the Game *Quizizz is very* effective for use in learning Mathematics to improve learning outcomes. However, the use -based Mathematics learning media Game *Quizizz* has its own obstacles, such as: (1) it is very dependent on the internet network; and (2) equipment limitations, so that teachers are required to be mature in each stage of the cycle so that obstacles can be overcome.

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