

The use of Word Wall Learning Media in Science Learning to Improve The Learning Outcomes of Class 5c Students of Elementary School Kutowinangun 01 Salatiga

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ABSTRACT

Word walls are visual games that help students remember material easily, retain knowledge, and make learning fun. This research aims to improve student learning outcomes by implementing word walls in learning in class V. This research uses Classroom Action Research. The research informants consisted of 20 students of class V SD Kutowinangun 01 Salatiga, with details of 10 boys and 10 girls. Data collection techniques through observation and tests. The results of this research show an average score of 57.5% in the pre-cycle, far below the school's minimum standard of 75%. In the first cycle, student learning outcomes using the Word Wall approach showed improvement, but had not yet reached the minimum standard. The average student score increased from 61 in the 1st cycle 1 meeting test to 66.5 in the 2nd cycle 1st meeting learning outcomes. The number of students who got a score that reached the minimum standard was 60%, but the first cycle was considered not yet completed because the passing percentage had not yet reached 75%. In the second cycle, similar actions were carried out, and cycle 2 got better results. The average student score increased to 71 in the learning results of the 1st cycle 2 meeting test, but they still did not achieve success because only 60% of students passed. Finally, at the second meeting of the second cycle, the students' average score increased to 77%, meaning that the learning action using the word wall was successful and exceeded the minimum standard.

Keywords: Word Wall, Learning Outcomes, Learning



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INTRODUCTION

According to Saputri & Dewi (2022), the development of life in the 21st century requires someone to master various skills. Therefore, education is expected to prepare students to master these skills so that they are ready to face challenges in the future. According to the 21st Century Education framework developed by the World Economic Forum (WEF), there are 16 important skills that children need to prepare and have so that they can survive and succeed today. Abilities and skills in the form of performance assessments can encourage students' motivation to be more responsible and active, because students are required to complete assignments or answer questions given by teachers in the form of problems found in real life.

To actively participate in the learning process, students need an effective and interactive experience. Technology is seen as an effective tool that can make education more meaningful and interesting for teachers and students. Gatautis et al., (2016) stated that through the use of gamification principles, the teaching and learning process can change boredom into a more collaborative and enjoyable process. The purpose of applying

the concept of gamification in literature classes is to expand student involvement and motivation. The main focus of gamification is "directing user behavior in the desired direction so that satisfactory learning outcomes are achieved".

One of the gaming technology-based approaches that is gaining traction is the use of Word walls in science learning. Interactive learning media using word wall learning media can create active and effective classes. According to Noftariani (2023), the Word wall technique involves creating dynamic and visually stimulating displays of key vocabulary and concepts related to the current science curriculum. This approach is rooted in the idea that frequent exposure to scientific terms and their definitions, in a very clear and interactive format, can significantly improve students' mastery of conceptual understanding. By continuously adding new words and encouraging students to interact with the wall through activities such as matching games, quizzes, and discussions, educators can create a more immersive and participatory learning environment. This learning media not only strengthens students' memory of scientific terminology but also encourages them to learn to make connections between different

concepts. The application of the Word wall approach in elementary science education overcomes several challenges. First, it helps bridge the vocabulary gap that often hinders students' ability to understand more complex scientific ideas. Second, this system provides a platform for differentiated instruction, allowing teachers to meet the diverse learning styles and speeds in the classroom. Finally, fostering a collaborative learning atmosphere where students can contribute and learn from the collective knowledge displayed on the wall (Ratminingsih, 2021). As educational research continues to support the efficacy of visual and interactive learning tools, Word walls stand out as a practical and effective strategy to improve essential skills in science education for young learners. Word walls are also one of the learning media that can be accessed by everyone for free (Tinesia Alifa et al., 2024). This media is usually designed to enhance learning activities both in groups and individually so that it will ultimately involve students more actively during the learning process. Word wall media is expected to be a learning media that can improve students' understanding of the contents of the material without having to always rely on textbooks or even explanations given by teachers and Word walls are also expected to be used to see the development of students' abilities so that it will affect student learning outcomes. This was also stated by Sari & Yarza (2021), that Word walls are applications that can be used as a learning media, learning resources and assessment tools. Therefore, the interactive game media Word wall is a solution to improve student learning outcomes. This is also in line with the results of research conducted by Nur Aidah & Nurafni (2022), that the Word wall learning media is an interactive learning media that can improve student learning outcomes.

In the Word wall there is a ready-made game application that can be sent directly via WhatsApp, Google Classroom, or supporting web applications (Azhari, Khadijah, & Rifiyati, 2023). The Word Wall application displays a variety of games similar to crosswords, quizzes, floating cards, and so on. Another advantage is that the finished game can be printed in PDF format, making it easier for students who have network problems. That this application aims to help students learn more about various things online and is practically used to identify learning media so that student achievement can be achieved according to target. In this game, multiplayer in the classroom can do a series of interesting questions to practice a topic on a computer, smartphone, or iPad. It provides an excellent presentation of existing or new questions created by the teacher and direct feedback after completing the game (Yan mei et al., 2018).

Several previous studies have succeeded in using word wall games to improve student learning outcomes. Based on the results of the analysis and discussion of the research by Azimah, Alpusari, & Marhadi, (2023), it can be concluded that the influence of wordwall-based evaluation tools has a significant effect on improving the science learning outcomes

of grade VI elementary school students. The results of the research by Hanafi, Andayani, & Prabowo, (2024), are that the use of wordwall media can improve student learning outcomes. Then the use of wordwall media makes students active in the learning process and the use of this application is free so that it is easy to use by all groups. Daulay, & Harahap, (2024) explained that wordwall is an interactive learning media and offers various games using technology such as smartphones or laptops. This shows that the application of the Wordwall quiz has a significant positive effect on the learning outcomes of grade IV students of SD Negeri 0513 Aek Lancat.

One important thing to note is that learning media must be chosen appropriately so that it can be used to explain a material and in accordance with the characteristics of students. The selection of the right learning media can make students learn more effectively and also increase students' learning motivation so that it can directly improve students' learning outcomes.

The results of the initial interview conducted with students of class 5C of Kutowinangun I Elementary School, Salatiga, obtained an understanding that students often feel bored when teachers explain a lot with long sentences, even exactly the same as the book, so that students feel bored. Students will also be bored if the learning activities carried out are monotonous and have no variation when carrying out learning. From observations during previous learning, it was found that students were less motivated to learn. They seemed less focused, less active, tended to feel bored, and had low learning enthusiasm. From the interview, the researcher has a new understanding, namely that the learning media used can influence the interests and motivation of students in carrying out learning. From this explanation, the researcher wants to conduct classroom action research using Word wall learning media to improve the learning outcomes of students in class 5C of Kutowinangun I Elementary School, Salatiga. This study aims to improve learning outcomes using Word wall learning media in science learning for students of class 5C of Kutowinangun 01 Elementary School, Salatiga.

Digital information technology can be accessed through the internet network, where all information can be known to students as learning materials (Metasari, & Amalia, 2024). One of the tasks of teachers is to develop knowledge and utilize digital technology according to the level of teacher professionalism (Herliani & Wahyudin, 2018). Digital technology itself can create the right learning media for students. Therefore, teachers must know how to utilize and develop digital technology to become meaningful learning media (Ersila et al., 2023). Learning media is a means of delivering material effectively in order to create a conducive learning environment (Budianti & Azisabdu, 2023).

According to Nenohai et al. (2021), the Word wall application is a web-based digital application that can help teachers build their students' educational experiences and provide interesting and interactive educational resources. Some of the features in

the Word wall application include the Word wall quiz, which is one of these features. The Word wall quiz is a learning media in the form of a quiz game. It displays several interesting and varied questions, and students answer these questions collectively to facilitate interactive learning. According to Arimbawa (2021), students who take quizzes using the Word wall game not only increase their level of understanding but also develop a commitment to scientific inquiry. The advantages of the Word wall game are that it has various and very flexible features, can attract students' attention because it is in the form of a game, can be used in all subjects, makes students creative, builds character through collaboration with friends, and is easy to do. One of the advantages of using Word wall media in their learning is that teachers can use other quizzes to train students, or teachers can create their own quizzes, and students can look for other quizzes to hone their abilities (Nisa & Susanto, 2022).

Low learning outcomes are a problem in the learning process. Low learning outcomes can be caused by several factors that influence the learning process, one of which is the lack of innovation in the selection of learning media (Sukma, & Handayani, 2022). Implementing games into lessons can increase user engagement, but their implementation must be in a non-game context (Deterding et al., 2011). The application of the gamification concept can also have a positive impact on student achievement and behavior (Yildirim, 2017). In line with Menchaca, Moya, and Bastida (2019), the use of a gamified learning approach provides opportunities for students and lecturers to express their creativity and build strong impersonal bonds, so that learning becomes more effective in improving learning outcomes.

According to Pratiwi (2021), science education or Natural and Social Sciences (IPAS) is one of the subjects that in its learning summarizes learning about things, phenomena and events in nature that are related to living things, inanimate objects and even to the interactions of these elements. In addition, Natural and Social Sciences (IPAS) discusses human interactions as social beings and their relationships with other humans and their environment in everyday life. Then Savignon (2007) stated that developing communication skills to fulfill social contact between students has always been the goal of most schools throughout world history. This happens because social interaction is needed to learn from others and become rich in knowledge through this communicative competence.

METHOD

This study uses Classroom Action Research (CAR). Classroom action research is a form of scientific and methodical study or activity carried out by teachers/researchers in the classroom using actions to improve the learning process and outcomes. Action research is a series of steps (cycles) consisting of planning, action, observation and reflection that continue to flow to produce a new cycle until the classroom action research is stopped (Azizah, 2021).

The steps of Classroom Action Research used in this study follow the Kemmis and McTaggart model, as seen in the following chart.

The initial step is planning, at this stage the researcher prepares the learning design. Then the implementation is carried out according to the stages that have been prepared. Observations are carried out systematically and continuously, this includes observations during the learning process and observations of student learning outcomes. At the reflection stage, the researcher carries out the evaluation process by comparing student learning outcomes at the current and previous meetings.

This research was conducted at SDN Kutowinangun 01 Salatiga class 5C. This research was conducted in the odd semester of the 2024/2025 academic year. The research informants consisted of 20 students of class 5C, with details of 10 males and 10 females. Data collection techniques through observation and tests. While testing the validity of the data using triangulation techniques. Triangulation technique is a technique for checking data from various sources in various ways and at various times. Observation is used to observe learning activities using the Word wall application and observe students' attitudes during learning (Ni'matuzahroh, & Prasetyaningrum, 2018). While the test is carried out to determine students' abilities. The data obtained are then narrated to get an overview of the use of the Word wall application in learning to improve learning outcomes in class 5C students of SDN Kutowinangun 01 Salatiga. Classroom action research was used during this study. According to Arikunto (2012), classroom action research is an investigation of learning activities in the form of an action and is carried out to emerge and take place in the classroom environment. According to Kemmis et al. (2014), classroom action research usually consists of four parts: planning, implementation, observation, and reflection. These steps are carried out sequentially. The research was conducted at SDN Kutowinangun 01 Salatiga, with the subjects of the research being 20 students in class 5C consisting of 10 male students and 10 female students. Natural and Social Sciences (IPAS) are the subjects used. During this research, data collection methods include tests and observations. The equipment used as a data collection tool is called a data collection tool. The research consists of two cycles, each cycle consisting of 3 meetings. This facility is needed to carry out the data collection process to be analyzed according to the type of data. Quantitative data will be processed using quantitative data analysis techniques, and qualitative data will be handled using qualitative data analysis techniques. Both types of data will be processed. The indicator of success in this study is the increase in student learning outcomes in the problem-based learning model through Word wall media with good criteria in each cycle.

RESULTS AND DISCUSSION

This research was conducted in 2 cycles. Actions in cycle 1 and cycle 2 were conducted twice in each cycle and each meeting in the cycle was conducted for 3 x 35 minutes. Before the cycle

action, the researcher conducted pre-cycle activities in the form of tests aimed at measuring and knowing students' abilities. The following are the learning outcomes in the pre-cycle:

Table I. Learning Outcome Values in Pre-Cycle

| Item | Mark |
|---------------|--------------|
| Average Value | 57,5 % |
| Minimum Value | 10 |
| Maximum Value | 90 |
| Criteria | Not finished |

Based on the test results in the pre-cycle, it shows that the average score is 57.5%. This shows that the score is still far from the minimum standard of 75%. Therefore, the researcher decided to take action on the class with classroom action research consisting of two cycles. As previously mentioned, each cycle consists of planning, implementation, observation and reflection. In planning, the researcher created a learning design in the form of a teaching module and carried out teaching activities according to the teaching module that had

been created. The material of this research is about "the properties of light". The following is an explanation of the learning process in cycle 1 and cycle 2:

Cycle 1 consists of planning, implementation, observation and reflection. The material given in cycle 1 is the Properties of Light. Students must identify the properties of light and their relationship to the sense of sight in everyday life. The value of student learning outcomes can be seen in the following table:

Table II. Learning Outcome Values for Meeting 1 in Cycle 1

| Item | Mark |
|---------------|--------------|
| Average Value | 60 % |
| Minimum Value | 10 |
| Maximum Value | 90 |
| Criteria | Not finished |

Based on the data above, the researcher measured the frequency of student learning outcome scores at meeting 1 of cycle 1 which can be seen as follows:

Table III. frequency of learning outcome scores for meeting 1, cycle 1

| No. | Score | Category | Frequency | Percentage |
|--------|-------|------------|-----------|------------|
| 1 | ≥ 70 | Complete | 8 | 40% |
| 2 | < 70 | Incomplete | 12 | 60% |
| Amount | | | 20 | 100% |

Then, the percentage graph of student learning outcome scores can be seen as follows:

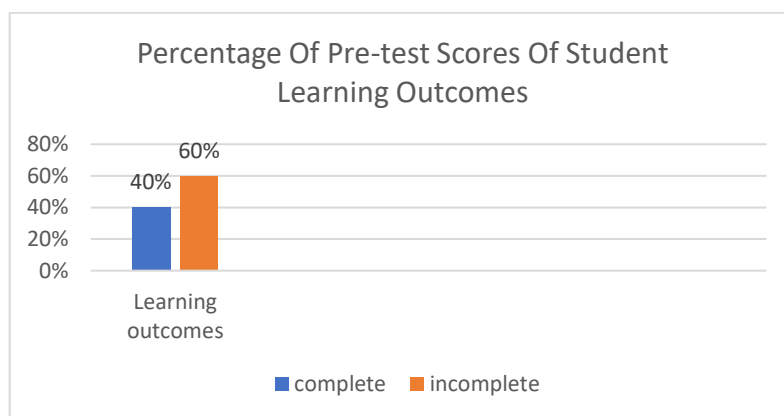


Figure 1. Graph of learning outcome scores for meeting 1

Based on these results, it can be analyzed that the level of student learning outcomes is low. The students did not meet the minimum standard of completion at SDN 1 Kutowinangun 01 Salatiga. The research subjects were 20 students, only 8 students with a percentage of 40% completed, and 12 students with a percentage of 60% had not completed. So, that is the reason why researchers use word wall games to improve student learning outcomes. The researcher began this meeting by praying, greeting, checking the student attendance list and asking about the students' conditions. First, the researcher conducted a short discussion about the learning video related to the material Seeing Because of Light, then guided students to study the material using word wall learning media. In the word wall media, students are asked to work in groups to

match the parts of the eye according to their names correctly. At the end of the meeting, the researcher and students made conclusions related to the material that had been studied, the researcher provided feedback, motivation to students and informed about activities at the next meeting. Then the researcher closed the meeting by praying together. After carrying out the treatment, the researcher gave a written test to the students. The test was carried out to find out how the students' learning outcomes were after being given treatment. The researcher gave several topics to be presented in front of the class.

The learning outcomes at meeting 2 of cycle I can be seen in the following table:

Table IV. Learning Outcome Values for Meeting 2 in Cycle I

| Item | Mark |
|---------------|--------------|
| Average Value | 66,5 % |
| Minimum Value | 30 |
| Maximum Value | 90 |
| Criteria | Not Finished |

From the table above, it can be analyzed that the average student score is 66.5. The highest score is 90 and the lowest score is 30. Based on the minimum completion criteria (KKM), there are 8 students who did not complete the learning outcomes of meeting 2 cycle I or obtained a score ≥ 70 . This

means that in cycle I, student performance can improve quite well, but has not been successful.

Table V. learning outcomes of meeting 2 in cycle I

| No. | Score | Category | Frequency | Percentage |
|--------|-----------|------------|-----------|------------|
| 1 | ≥ 70 | Complete | 12 | 60% |
| 2 | < 70 | Incomplete | 8 | 40% |
| Amount | | | 20 | 100% |

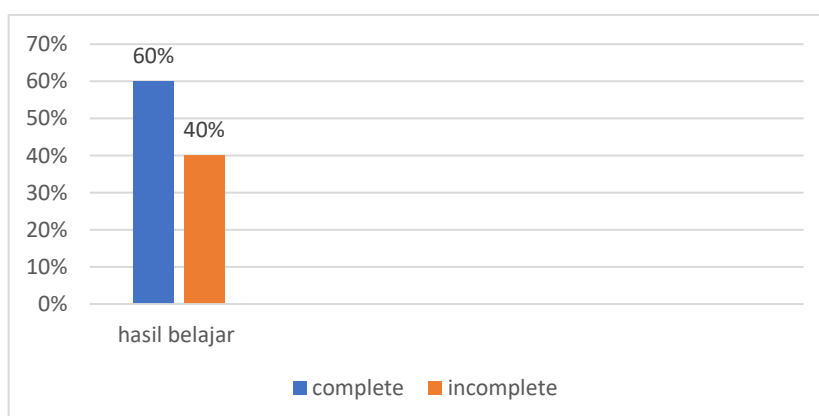


Figure 2. Graph of learning outcome scores for meeting 2, cycle I

Based on the table, the students' scores increased compared to the learning outcomes of the first meeting. There were 12 students who completed the test from previously only 8 students who completed it. However, the increase in the learning outcomes of the second meeting was not successful because the percentage of students who passed the test was only 60% of 75% which is the minimum standard percentage. In this study, practice questions or written tests at meeting 2 of cycle I were conducted individually. From the test results at meeting 2 of cycle I, it was found that there was an increase in student scores. This can be seen from the average score on learning outcomes at meeting 1 of cycle I, which was 61, an increase in learning outcomes at meeting 2 of cycle I of 66.5. Although

there was an increase, cycle 1 meeting 2 was not successful because only 12 students (60%) passed. It can be concluded that there was an increase from the pre-cycle to cycle 1, but it was still not successful because the success indicators had not been achieved. Therefore, this study will be continued in cycle two.

Table VI. Learning Outcome Values for Meeting 1 in Cycle 2

| Item | Nilai |
|---------------|--------------|
| Average Value | 71 % |
| Minimum Value | 50 |
| Maximum Value | 90 |
| Criteria | Not Finished |

Table VII. Graph of Percentage of Learning Outcome Scores for Meeting 1 Cycle 2

| No. | Score | Category | Frequency | Percentage |
|--------|-------|------------|-----------|------------|
| 1 | ≥ 70 | Complete | 14 | 70% |
| 2 | < 70 | Incomplete | 6 | 30% |
| Amount | | | 20 | 100% |

From the table above, it can be analyzed that the average student score is 71. The highest score is 90 and the lowest score is 50. Based on the minimum completion criteria, there are 6 students who did not complete the test meeting 1 or obtained a score <70. This means that in cycle 2, student

performance has improved quite well, but has not been successful. Then, the percentage graph of student learning outcome scores can be seen as follows:

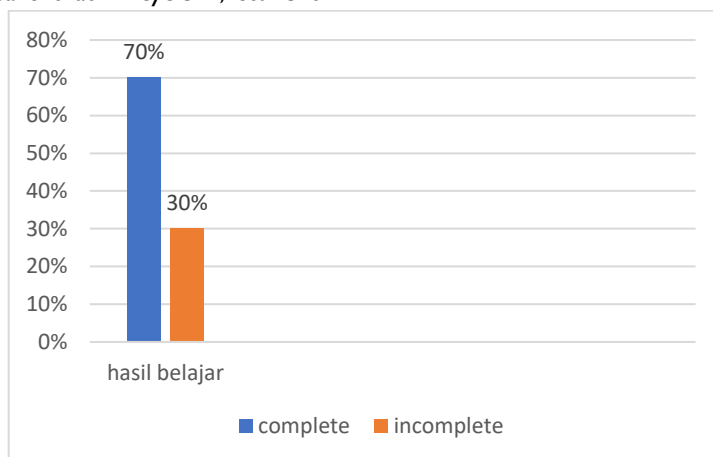


Figure 3. Graph of learning outcome scores for meeting 1, cycle 2

Based on the graph, student learning outcomes have increased compared to before. There were 14 students who completed it from previously only 12 students. However, the increase in meeting 1 was not successful because the percentage of students who completed it was only 70% of 75% which is the minimum standard percentage. Based on the results of the

meeting 1 test, the researcher continued the meeting 2 activity in cycle two. The type is the same as the first cycle but has a different level of difficulty in the quiz played on the word wall. The results of the meeting 2 test can be seen in the table below:

Table VIII. Learning Outcome Values at Meeting 2 Cycle 2

| Item | Nilai |
|---------------|-----------|
| Average Value | 77 % |
| Minimum Value | 60 |
| Maximum Value | 100 |
| Criteria | Completed |

Table XI. Graph of percentage scores at meeting 2 of Cycle 2

| No. | Score | Category | Frequency | Percentage |
|--------|-----------|------------|-----------|------------|
| 1 | ≥ 70 | Complete | 17 | 85% |
| 2 | < 70 | Incomplete | 3 | 15% |
| Amount | | | 20 | 100% |

From the table above, it can be analyzed that the average student score is 77. The highest score is 100 and the lowest score is 60. Based on the minimum completeness criteria (KKM), there are 3 students who did not complete the test in meeting 2, or obtained a score < 70 . This means that in cycle 2

meeting 2, student performance has increased quite well, and is successful. The average student learning outcomes are stated to be more than the school's minimum completeness. Then, the percentage graph of student learning outcome scores can be seen as follows:

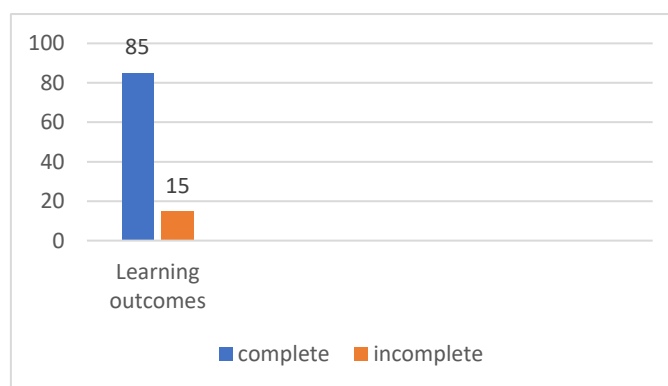


Figure 4. Graph of learning outcome scores at meeting 2 of Cycle 2

Based on the graph, student learning outcomes have increased compared to before. There are 17 students who have completed it from previously only 14 students. The increase in the 2nd meeting test has been declared successful because the percentage of students who completed it was 85% and had reached the minimum standard of completion. Based on the graph, student learning outcomes have increased compared to before. There were 17 students who completed it from previously only 14 students. The increase in the 2nd meeting test has been declared successful because the percentage of students who completed it was 85% and had reached the minimum standard of completion. After analyzing student learning outcomes in several tests in cycles 1 and 2, an increase in student learning outcomes was seen. The increase in scores can be seen in the average score. The average score in the 2nd meeting test in cycle 1 was 66.04 then increased to 71 in the 1st meeting test in cycle 2, then succeeded in the 2nd meeting test in cycle 2 with an average score of 77. Because student learning outcomes increased and indicators of success were achieved, the research conducted by the researcher was declared successful and could be stopped in cycle 2.

Discussion

Based on the results of the study in cycle 1 and cycle 2, the use of the Word Wall Game can improve student learning outcomes. There is a percentage increase in scores. In relation to the results of this study. The researcher found that there was a significant increase in the activity of students who were taught using the word wall game. The word wall game can help students improve their learning outcomes. It can also help

teachers to increase student interest in learning in class. This statement is supported by the results of the research and discussion of Rahmasari, Murdiono, & Sunarso, (2022) that the use of Word wall media in gamified learning is suitable for improving the learning outcomes of 43 students of the Chemistry Education C program who took the Pancasila Education course at Yogyakarta State University.

In the teaching and learning process, researchers found several problems such as the facilities for using the word wall which were still limited, and students' knowledge of technology which was still minimal so that they had difficulty in learning.

The results of the study showed that the word wall game can communicate directly so that it can influence the improvement of learning outcomes. This is in line with the theory of Elhefni, Adib, Ariani, & Safitri, (2023) that there is a significant difference in student learning outcomes in learning Indonesian before and after using word wall learning media. This study suggests that teachers use word walls in Indonesian language learning as an alternative to existing learning media. In applying this strategy to class 5C students of SDN Kutowinangun 01 Salatiga, researchers found that students were more active in contributing because they focused on the strategy. Researchers can say that the problem has been solved by using the word wall game. According to the research results of Lubis, & Nuriadin, (2022), the use of the Word wall application is effective in learning and is able to improve student learning outcomes in mathematics lessons, especially spatial geometry material in online learning during the pandemic. Teachers should motivate students to dare to express their ideas.

Furthermore, this proves that word wall games can improve student learning outcomes. As has been shown, there was an increase in student activity in the learning process of cycle I and cycle II through word wall games. This means that word wall games have a positive influence on improving the teaching and learning process. Previous research from Yanti, Raharjo, & Sumarni (2022), explained that student activity in using think talk write learning assisted by Word wall media makes learning more fun and interesting than conventional learning models, affecting students' writing skills and improving student learning outcomes. Hidayaty, Qurbaniah, & Setiadi, (2022) also explained that the use of word wall learning media has a positive impact on students' learning outcomes and learning interests. This is supported by the average results of learning interest and learning outcome scores obtained, as well as the results of the Effect Size test which showed a high influence of the treatment.

CONCLUSION

This research was conducted in two cycles. Each cycle consisted of planning, implementation, observation, and reflection. Before starting the cycle, a pre-cycle test was conducted to measure students' abilities. The pre-cycle results showed an average score of 57.5%, far below the school's minimum standard of 75%. In the first cycle, students' learning outcomes with the Word Wall approach showed an increase, but had not yet reached the minimum standard. The average student score increased from 61 in the test meeting 1 of cycle I to 66.5 in the learning outcomes of meeting 2 of cycle I and the percentage of completion was 60%. However, the first cycle was considered unsuccessful because the passing percentage had not reached 75%. In the second cycle, similar actions were carried out, and cycle 2 saw a better increase in learning outcomes. The average student score increased to 71 in the learning outcomes of test meeting 1 of cycle 2, but still had not achieved success because only 60% of students passed. Finally, in the second meeting of the second cycle, the average student score increased to 77 with a percentage of completion of 85%, meaning that the learning action using the word wall was successful and reached the minimum standard. Based on the research conducted, the researcher has several suggestions, namely in implementing learning using word walls, teachers should provide sufficient time for students to work on questions on the word wall in the form of new terms because students need to explore more deeply. In addition, teachers need to guide students fully because most of what is displayed on the word wall media are new terms that need to be understood by students related to the subject.

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