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Efforts to Increase Student Concentration in Mathematics Learning Difficulties Using Wordwall Application Media for Class IV Elementary School Students

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Abstract

This research aimed to improve the concentration and engagement of fourth-grade students in mathematics learning by utilizing the Wordwall application as an interactive learning medium at SDN 064/VII Sukasari II Sarolangun. The study employed a Classroom Action Research (CAR) approach, conducted in two cycles, from October to December 2024. The results from Cycle 1 showed an increase in student enthusiasm and engagement, but learning mastery did not meet the success criteria. In Cycle 2, after adjustments to teaching strategies, significant improvements were observed. The percentage of students who achieved the Minimum Mastery Criteria (KKM) increased from 78.26% to 86.95%, and 90% of students actively participated in the learning process. The findings suggest that Wordwall effectively enhances student concentration, increases motivation, and creates a more interactive and enjoyable learning environment. It is recommended that teachers use Wordwall to improve student focus and engagement, particularly in mathematics education.

Keywords: Learning media, Wordwall, learning concentration, mathematics

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INTRODUCTION

Study concentration is a term that comes from two words, namely concentration and study. According to the KBBI, concentration is focusing attention or thoughts on something, while learning according to the KBBI is trying to gain intelligence or knowledge. Concentration is one of the aspects that supports students to achieve good achievements and if this concentration is reduced then attending lessons in class and studying personally will be disrupted (Khairinal et al., 2021). Humans learn throughout their lives, anytime and anywhere and time is not determined in advance (Purba, 2019). According to (Sati & Sunarti, 2021) Learning concentration is a form of a person's ability to focus their thoughts and attention in learning activities, this concentration will be focused on the content and teaching materials or the stages of obtaining them. The focus of attention is intended to be on the content of the learning material and the learning process.

Learning requires focusing attention (concentration). A person's inability to concentrate in learning is caused by distracted attention to an object. Basically, concentration is a conscious behavior that cannot be done accidentally. Concentrating is a behavior that must be consciously attempted, it does not come by itself, but is a self-choice, namely focusing attention on something that we choose and determine. Students who are able to concentrate during the teaching and learning process are students who are in a state of paying attention (Yarissumi, 2017). Student learning concentration is needed when learning takes place with the aim of students being able to understand the material

presented. Student learning focus is influenced by the ability of each student's brain to focus on what is being studied.

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Mathematics subjects need to be given to all participants starting from elementary school, to equip students with the ability to be logical, critical, analytical and systematic as well as the ability to collaborate but still interpreting this is influenced by learning difficulties. According to Mul Abdurahman (2012:1) "Learning difficulties is a translation of the English term learning disability. The translation is actually lacking because learning means learning and disability means inability, so the correct translation is learning disability." There are many factors that influence children's mathematics learning difficulties, which generally include factors within the child and factors outside the child. According to Syaiful Bahri (2018:235) the factors that influence difficulties in learning mathematics are: 1) Student factors; 2) School factors; 3) Family Factors; The problem of learning difficulties is a common problem that can occur in learning activities. Learning difficulties in this case can be interpreted as students' difficulty in receiving or absorbing lessons at school. Many students consider mathematics to be a difficult subject. This view makes students easily give up even before they learn the mathematical concepts given by their teacher without wanting to understand the meaning and content.

If left untreated, mathematics learning difficulties experienced by students will have bad consequences for students. Students will become less interested in studying mathematics. Mathematics will continue to be the most avoided subject for students. Students also get bored more easily and become bored easily in learning mathematics. Therefore, learning difficulties faced by students should be detected early. Difficulty learning mathematics will begin to appear when children are in elementary school. So immediate understanding and response is needed for students who have difficulty learning mathematics. There are many factors that influence difficulties in learning mathematics, such as lack of interest and motivation in studying mathematics, and lack of support from parents and the surrounding environment in mathematics lessons for students due to a lack of understanding of mathematics by parents and the environment. So students who have difficulty learning mathematics should be given good support and motivation so that they are able to participate in mathematics learning and enjoy mathematics.

Increasing students' interest in learning can make learning activities more interesting and productive by utilizing learning media. Students' interest in learning can be triggered by the use of media during learning. The function of learning media is to clarify and increase the visibility of abstract or challenging ideas by providing illustrations. Teachers can utilize learning media as a technique to provide instructive content for students which will increase their interest in learning (Zulfah, 2023).

Learning media is one of the most important factors in the world of education. According to Tobamba, et al (2019) media are tools used by a teacher for their learning activities. Researchers use a website-based game called Wordwall, which can be accessed via a quiz type as an interactive learning medium to overcome the problem of low student

interest in learning. Research by Sari Afriani, Johandri Taufan (2023) on fourth grade students at SDN 18 Koto Luar Padang with the title research on learning concentration of children with difficulties learning Mathematics through the Wordwall Application, stated that they experienced an increase in Mathematics learning through the Wordwall Application, children were more focused, interested in learning and more concentrated in Study. Based on this relevant research, researchers used learning media in the form of Wordwall to help students develop an interest in learning.

METHODS

This study was conducted in Grade IV at SD N 064/VII Sukasari II Sarolangun over three months, from October to December 2024, during the first semester of the 2024/2025 academic year. The subjects of the study were all 23 students of Grade IV. The study aimed to improve students' mathematics learning outcomes using the Wordwall application as an interactive learning medium through a Classroom Action Research (CAR) approach involving two cycles.

In Cycle I, the procedure began with the planning stage, which included preparing the Lesson Plan (RPP), creating observation and evaluation sheets, and providing the Wordwall application as a teaching aid. The implementation of actions involved delivering lessons based on the RPP, observing the activities of both teachers and students, and conducting assessments. During the observation stage, the learning process was monitored using observation sheets, and the results were documented in terms of teacher activities, student activities, and learning outcomes. This stage concluded with reflection, where the observation results were analyzed to identify necessary improvements or follow-up actions for the next cycle.

In Cycle II, planning activities were focused on improving the RPP based on the reflections from Cycle I, creating updated observation and evaluation instruments, and optimizing the use of the Wordwall application. The implementation of actions in Cycle II also involved direct observation using observation sheets, and the collected data were analyzed to assess the effectiveness of the teaching strategies. During the reflection stage, the data collected were used to evaluate the success of the implemented strategies. Success was defined as the students achieving the Minimum Mastery Criterion (KKM). If the success criteria were not met, the research would proceed to the next cycle.

RESULTS & DISCUSSION

Research Results

Based on the initial observations, fourth-grade students at SD N 064/VII Sukasari II Sarolangun were found to be less interested and less active during mathematics lessons. The learning process was dominated by conventional teaching methods, where the teacher primarily used lectures, and students were passive, mostly taking notes and remaining silent. This lack of interaction between the teacher and students made the learning process monotonous and unappealing, which negatively affected students' motivation and learning outcomes.

Results in Cycle I

In Cycle I, the planning phase involved creating a Lesson Plan (RPP) that incorporated Wordwall as an interactive learning medium. The teacher prepared the Wordwall media for creating quizzes, observation sheets, evaluation forms, and reflection tools. The learning plan was designed with a structured scenario to help students better understand multiplication and engage actively in the learning process.

The learning activity was conducted on October 24, 2024, over one session (2x35 minutes) involving 23 students (12 boys and 11 girls). The teacher began the lesson with an aperitif and asked questions to gauge students' prior understanding of multiplication.

Then, the teacher accessed Wordwall using a laptop connected to the internet, created an interactive quiz, and displayed it via a projector. Students worked individually on the quiz, and their scores were displayed on the Wordwall leaderboard. This approach provided an interactive and enjoyable learning experience for the students. To show the completeness of students' mathematics learning abilities after using the wordwall application media in Class IV SD N 064/VII Sukasari II Sarolangun Cycle I, it is presented in the following table:

Table 1. Percentage of learning completeness for Class IV SD N 064/VII Sukasari II Sarolangun

Mark	Category	Total	Percentage
70-100	Completed	18 people	78,26%
0-69	Not completed	5 people	21,73%
Amount		23 people	100%

The observations showed an increase in student engagement. A total of 86% of students showed enthusiasm for using Wordwall, 95% enjoyed the learning process, and 80% were able to answer the Wordwall questions correctly. However, 33% of students were still distracted by other activities during the lesson. The average student score after the lesson was 69, with the highest score being 100 and the lowest score being 50. Learning mastery reached 78.26%, but it did not yet meet the success criteria. The reflection from Cycle I indicated that the Wordwall media effectively increased student enthusiasm and learning outcomes, though there was still room for improvement. Some students remained passive, and there were gaps in understanding multiplication material. Therefore, adjustments and improvements in teaching strategies were planned for Cycle II to ensure all students achieved the Minimum Mastery Criteria (KKM).

Results in Cycle II

In Cycle II, the Lesson Plan (RPP) was refined based on the reflections from Cycle I. Adjustments were made to the teaching strategies and materials to improve interaction and student comprehension. Wordwall media was optimized by incorporating more varied and engaging quizzes. The learning process in Cycle II took place in November 2024 over two sessions (2x35 minutes each) and one evaluation session. The teacher started the lesson with greetings, a short aperitif, and an explanation of the use of Wordwall. Students were guided to complete interactive quizzes using Wordwall, and the teacher provided more intensive assistance to those who needed help. Discussions were encouraged after the quizzes to deepen understanding. To show the completeness of students' mathematics learning abilities after using the wordwall application media in Class IV SD N 064/VII Sukasari II Sarolangun Cycle II, it is presented in the following table:

Table 1. Percentage of learning completeness for Class IV SD N 064/VII Sukasari II Sarolangun

Mark	Category	Total	Percentage
70-100	Completed	20 people	86,95%
0-69	Not completed	3 people	13,04%
Amount		23 people	100%

Observations in Cycle II showed significant improvements compared to Cycle I. A total of 96% of students were present, 90% showed enthusiasm for using Wordwall, and 95% enjoyed the learning process. The average student score increased to 80, with the highest score being 100 and the lowest score being 65. Learning mastery reached 86.95%, indicating the success of the implemented strategies. The reflection from Cycle II revealed that the use of Wordwall effectively enhanced student engagement, comprehension, and learning outcomes. With these results, the research was concluded as

the success criteria had been achieved. The implemented strategies successfully improved student motivation and created a more interactive learning environment.

DISCUSSION

The Classroom Action Research (CAR) conducted at SDN 064/VII Sukasari II Sarolangun in October-November 2024 aimed to enhance students' concentration in mathematics learning through the use of the Wordwall application. This research followed the Kemmis model, which involves four stages: planning, acting, observing, and reflecting. During the first cycle, challenges were identified, including a lack of student attention and insufficient understanding of the mathematics material being taught. These issues highlighted the need for adjustments in the teaching approach. Consequently, the research team made strategic plans to address these concerns in the subsequent cycle by incorporating more engaging activities and utilizing interactive media.

In the second cycle, despite facing similar challenges, the implementation of improved classroom management strategies showed positive outcomes. The teacher began each session by clearly stating the learning objectives, which helped students understand the purpose of the lesson. Additionally, the use of Wordwall as an interactive tool played a significant role in increasing student participation and engagement. By incorporating this media, students were encouraged to focus more on the lesson, making the learning process both fun and educational. The interactive nature of Wordwall helped create a more dynamic and student-centered classroom environment, fostering better concentration during the mathematics lessons.

Suparwoto (2019) asserts that Classroom Action Research is a reflective process for teachers and students, aimed at improving teaching practices and creating a better learning environment. This study's main goal was to improve teaching practices, develop the teacher's professionalism, and enhance the overall classroom situation. The findings from both cycles indicated that Wordwall was an effective tool for increasing student concentration in mathematics. It not only made the lessons more enjoyable but also improved students' attention and comprehension of the material. These results demonstrate the potential of technology-based tools like Wordwall to positively impact primary school education by making learning more engaging and effective.

CONCLUSION

Based on the discussion and data analysis from Cycle 1 and Cycle 2, it can be concluded that the use of the Wordwall application in mathematics lessons has successfully increased student interest in learning among the fourth-grade students of SDN 064/VII Sukasari II Sarolangun. In Cycle 2, 90% of students actively participated and answered questions using Wordwall, 95% enjoyed the learning process, and only 16% engaged in off-task activities. Therefore, it is recommended that other teachers implement Wordwall as a learning tool to enhance classroom engagement, foster student interest and motivation, and improve focus and confidence, particularly in mathematics learning.

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