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ENHANCING STUDENTS' LEARNING OUTCOMES IN SCIENCE AND SOCIAL SUBJECTS THROUGH WORDWALL TOURNAMENT GAMES

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Abstract

The science learning outcomes of 4th-grade students at SDN 09 Palembang have been consistently low, largely due to ineffective teaching methods. This research addresses this issue by improving science learning outcomes by implementing a game-based learning approach using Wordwall Tournament games. This research employs a classroom action research (CAR) design conducted over two cycles, each consisting of planning, implementation, observation, and reflection. The research was conducted with 18 students from 4th grade (class A) at SDN 09 Palembang during the odd semester of the 2024/2025 academic year. Data were collected through observations and tests. The success standard for this research was set at a minimum of 75% of the student population, fulfilling the minimum passing grade (KKM) of 75. The findings indicate that using tournament-style educational games effectively enhances student learning outcomes. This improvement is shown by increased student achievement across the research cycles. Only 8 out of 18 students fulfilled the learning objectives during the pre-cycle stages, with a completion rate of 44% and an average score of 54.71. In Cycle I, 12 out of 18 students achieved the learning objectives, with a completion rate of 67% and an average score of 64.72. This progress continued in Cycle II, where 16 out of 18 students met the objectives, with a completion rate of 89% with an improved average score of 78.11. These results indicate that implementing Wordwall Tournament games has significantly improved science learning outcomes among 4th-grade students.

Keywords: Wordwall Tournament Games; Science and Social Subjects

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A. Introduction

Education requires great attention because it is vital in developing human thinking and behavior. It is also an interactive process between educators and learners, shaping individuals who are faithful and devoted to God Almighty, knowledgeable, of noble character, and capable of developing and realizing their potential. It leads to a continuous and lifelong learning experience, fostering democratic citizenship. Achieving these educational goals requires support from various stakeholders, including teachers, the government, and the community. Teachers, in particular, must be able to design and deliver learning experiences that are engaging and enjoyable for students (Mahardi et al, 2019).

Learning is a direct and indirect interaction process between educators and learners, leading to learning activities. According to Law Number 20 of 2003, Article 1 Paragraph 20 of the National Education System, "Learning is an interactive process between learners, educators, and learning resources within a learning environment" (Rusman, 2018). This learning process brings about changes in students'students' experiences and behavior.

Learning succeeds and maintains high quality when all or most students demonstrate high enthusiasm for learning, strong self-confidence, and active physical, mental, and social involvement in the learning process (Sopian, 2016). Therefore, teachers' efforts to encourage active student learning are crucial, as active student participation is a key factor in successful learning.

One way to measure the success of learning conducted by educators is by assessing the learning outcomes achieved by students. Students achieve these outcomes after participating in learning activities and receiving grades from the teacher. According to Simatupang (2018), students achieve learning outcomes due to activities in the learning process. The teacher's mastery of the material alone cannot determine student learning outcomes. It must be supported by interaction between teachers and students, creating mutual influence and determining student learning results.

However, field observations reveal that students' learning outcomes in Science and Social Subjects (IPAS) are suboptimal. This issue is evident in the

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formative evaluation data of students at SDN 09 Palembang, where most scores were below the minimum passing grade (KKM) of 75. Of 18 students, only 8 (44%) fulfilled the passing grade, while 10 (56%) did not.

One contributing factor to these low learning outcomes is the teacher's limited active communication with students during lessons. The teacher predominantly uses the lecture method, which provides minimal opportunities for students to participate actively. As a result, students tend to be passive, making the learning experience less engaging and meaningful (Adiputra & Heryadi, 2021).

This teaching approach reduces students' enthusiasm, and they often become distracted, choosing to chat or disrupt their peers. Additionally, the teacher's lack of variety in teaching methods further decreases student engagement, negatively impacting their learning outcomes. This situation aligns with Mulyadi (2022), who stated that monotonous learning processes bored students. Consequently, they often choose to play or disturb others, leading to decreased participation and lower academic performance.

The situation described above requires proactive efforts to address the issue. One practical approach is to incorporate games into the learning process. One such method is the Wordwall Tournament Games, which creates an active and enjoyable learning environment, making students more enthusiastic about participating in class activities.

According to Shoimin (in Nurhayati, 2022), the cooperative learning model of the TGT (Teams Games Tournament) type not only benefits high-achieving students but also actively involves lower-achieving students, giving them equal roles within their groups. Similarly, Setiyawan & Yunianta (2018) stated that this learning model encourages students to participate actively while the teacher acts merely as a facilitator. This approach fosters positive interactions among active and passive students, enhancing the learning experience.

This method is particularly effective in elementary education, as young learners naturally enjoy playing while learning. Therefore, implementing the Wordwall Tournament Games method can enhance learning outcomes in Science

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and Social Subjects (IPAS) by actively engaging students and optimizing their academic performance.

Based on this situation, classroom action research titled "Enhancing Students' Learning Outcomes in Science and Social Subjects through Wordwall Tournament Games of 4th-grade students at SDN 09 Palembang" is necessary.

B. Methods

This research employs Classroom Action Research (CAR). According to Agung (in Sukasih, 2018), Classroom Action Research is an applied, limited, and immediate research method to improve and refine an ongoing learning process or program. Meanwhile, Mashudi (2016) states that CAR takes place in the classroom to enhance or improve the quality of education. CAR plays a crucial role in developing effective strategies to enhance the learning process when appropriately conducted.

This classroom learning activity follows a circular format with two cycles. The research subjects are 18 4th-grade students from SD Negeri 09 Palembang. This research investigates two variables: the Wordwall Tournament game-based learning method as the independent variable and the science learning outcomes of 4th-grade students as the dependent variable.

Classroom Action Research consists of four stages: planning, implementation, observation, and reflection. The figure below illustrates Arikunto's (2012) CAR model design.

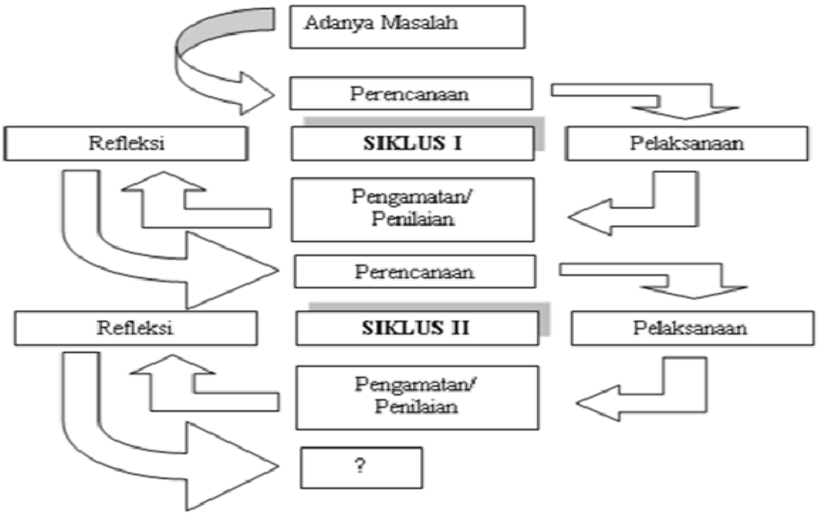

Figure 1. Classroom Action Research Cycle Design (Arikunto, 2012)

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The planning stage outlines the details of what, why, when, where, by whom, and how the action will be carried out (Arikunto, 2010). Planning in Classroom Action Research (CAR) includes all necessary steps and resources for implementing the intervention. The lesson plan includes learning materials, teaching modules, instructional media, learning models, observation sheets, and other supporting elements.

Next is the action stage. According to Arikunto (2010), this stage involves implementing the designed intervention in the classroom, specifically applying the Wordwall Tournament Games method. It is essential to adhere to the previously established plan during this phase.

The observation stage follows, during which observations are conducted simultaneously with the action implementation. As stated by Arikunto (2010), observation serves as a documentation process to record the impact of the intervention and collect information for the reflection phase.

The final stage is reflection. This stage occurs after the teacher completes the intervention and engages in a discussion with the observer to evaluate and analyze the implementation of the action plan (Arikunto, 2012).

This research employed testing as a data collection technique to evaluate student learning outcomes after implementing classroom action. The instruments used include multiple-choice evaluation questions administered at the end of each cycle, while documentation consists of tournament results and photographs taken throughout the learning process.

C. Result and Discussions

During the observation stage of learning in 4th grade at SDN 09 Palembang, the teacher used the lecture and question-and-answer methods. The observation results indicated that students' learning outcomes had not significantly improved. The table below presents the students' learning outcomes from the pre-cycle stage in the Science and Social Subjects (IPAS) for 4th grade.

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Table 1
Student Learning Outcomes in the Pre-Cycle

No.	Category	Information
1.	Percentage of students who complete	44%
2.	Percentage of students who incomplete	56%
3.	Average score	54,72

Based on the table above, students' learning outcomes are still relatively low, as they have not reached the minimum passing grade (KKM) of 75. This is evidenced by 18 students; 10 (56%) did not pass the subject, while 8 (44%) successfully passed. The average score was 54.72. Below are pictures of the student's work using the evaluation form.

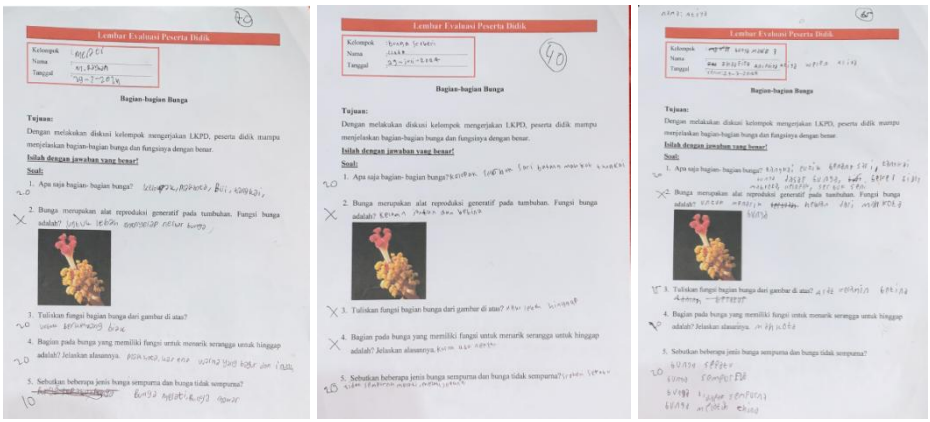

Figure 2. The Result of Student Learning Outcomes in Cycle I

The learning activities for Cycle I were conducted on Friday, August 2, 2024. The teaching module for Cycle I included: 1) Determining the learning material, Science and Social Subjects (IPAS) of 4th grade on the topic of the Pollination Process in Flowers, with a time allocation of 2x35 minutes (2 lesson periods). 2) Using the Games Wordwall Tournament as the teaching method. 3) Designing and developing the teaching module. 4) Creating Student Worksheets (LKPD) and Evaluation Sheets. 5) Organize student group distribution by implementing the Games Wordwall Tournament method. 6) Preparing tournament questions. 7) Presenting the tournament questions on the Wordwall website. 8) Preparing rewards for the tournament results.

After the teaching and learning activities in Cycle I, there was an improvement in the student's learning outcomes in Science and Social Subjects. 12

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students achieved the minimum passing grade (KKM), while 6 students did not reach the minimum passing grade. These results are illustrated in the table below.

Table 2
Student Learning Outcomes in the Cycle I

No.	Category	Information
1	Percentage of students who complete	67 %
2	Percentage of students who incomplete	33 %
3	Average score	64,72

The percentage of mastery learning outcomes in Science and Social Subjects (IPAS) for students in Cycle I was 67%. In comparison, the students who did not achieve mastery were 33%, with an average score of 64.72.

In Cycle I, the student's learning outcomes began to improve, as seen from the evaluation sheets provided by the teacher. Below is a photo of the student's work on the evaluation sheets.

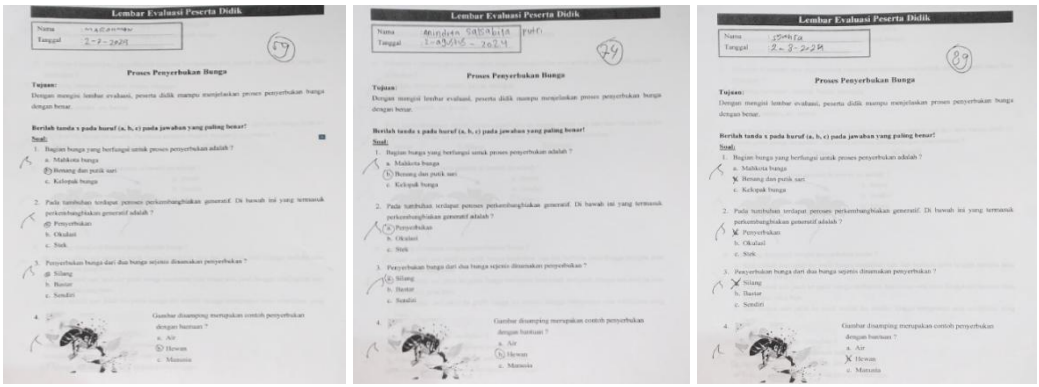

Figure 3. The Result of Student Learning Outcomes in Cycle I

The reflection was conducted after completing the actions in Cycle I. Using the Games Wordwall Tournament method in Cycle I was not optimal because some students lost concentration. At the same time, while the teacher delivered the material, leading to a lack of mastery of the subject. During group discussions, some students did not collaborate in completing the Student Worksheets (LKPD). When presenting their answers, some students lacked confidence in expressing their opinions.

Implementing the Games Wordwall Tournament method did not run smoothly because some students did not fully understand the tournament rules,

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resulting in questions and a less conducive atmosphere when answering questions in the Wordwall game, which interfered with the tournament process.

Based on this reflection, the author carried out another Cycle II Classroom Action Research (CAR) cycle. The learning activities for Cycle II were conducted on Friday, August 9, 2024. The teaching module for Cycle II included: 1) Determining the learning material, Science and Social Studies (IPAS) for 4th grade on the topic of Seed Dispersal Processes, with a time allocation of 2x35 minutes (2 lesson periods). 2) Continuing to use the Games Wordwall Tournament teaching method. 3) Designing and developing the teaching module. 4) Creating Student Worksheets (LKPD) and Evaluation Sheets. 5) Organizing student group distribution by applying the Games Wordwall Tournament method. 6) Preparing tournament questions. 7) Presenting the tournament questions on the Wordwall website. 8) Preparing rewards for the tournament results.

After conducting the teaching and learning activities in Cycle II, the students' Science and Social Subjects learning outcomes improved, with 16 students achieving the minimum passing grade (KKM) and 2 students not. The results are illustrated in the table below.

Table 3
Student Learning Outcomes in the Cycle II

No.	Category	Information
1	Percentage of students who complete	89%
2	Percentage of students who incomplete	11%
3	Average score	78,11

The results of the learning improvement for Cycle II in 4th grade at SDN 09 Palembang were very satisfying. 89% of the students who scored 75 or higher completed the course, while 11% who scored below 75 did not. The average score also increased to 78.11. In Cycle II, the percentage of learning mastery reached 89%, which indicated that the learning activities in Cycle II were sufficient. In Cycle II, students' learning outcomes showed improvement, as seen from the evaluation sheets provided by the teacher, as follows.

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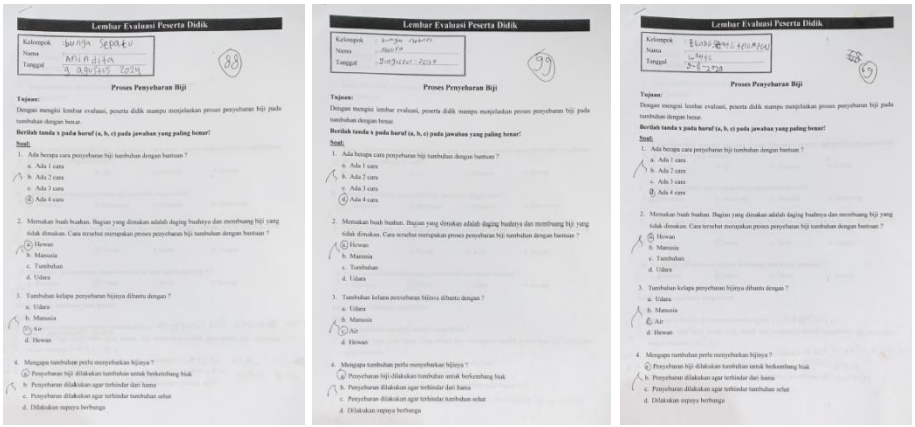

Figure 4. Students' Assignment Results in Cycle I

The reflection from the Cycle II implementation showed that students were very focused on paying attention to the teacher's explanations, whether explaining the material or the game rules. Students actively participated in the game and collaborated well within their groups while answering questions on the Wordwall website. The mastery of student learning was evident from the significant improvement in Science and Social Subjects (IPAS) learning outcomes, which increased from 67% in Cycle I to 89% in Cycle II.

Students' learning outcomes improved after conducting Classroom Action Research from the Pre-Cycle to Cycle II. This improvement occurred after introducing the Games Wordwall Tournament method in 4th grade. Implementing this teaching method from Pre-Cycle to Cycle II improved student learning outcomes and successfully attained the school's minimum passing grade.

Based on the above explanation, the level of improvement in learning outcomes can be seen in the table and graph below.

Table 4
Improvement of Mastery Learning Outcomes in Science and Social Subjects and the Average Scores of 4th-Grade Students in the Pre-Cycle, Cycle I, and Cycle II

No.	Criteria	Pre-cycle		Cycle I		Cycle II	
		Total	Percentage	Total	Percentage	Total	Percentage
1.	Complete	8	44%	12	67%	16	89%
2.	Incomplete	10	56%	6	33%	2	11%
Average		54,71		64,72		78,11	

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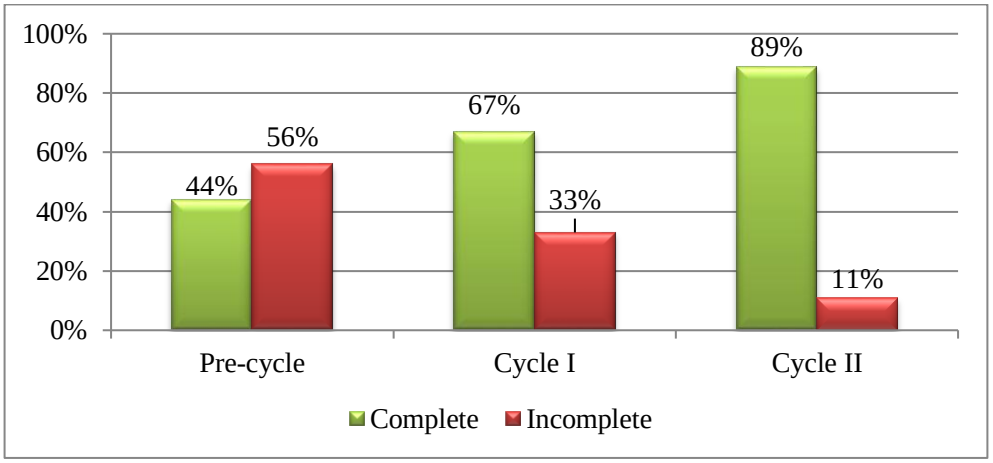

Figure 5. Diagram of Learning Outcome Improvement in Science and Social Subjects of 4th-Grade Students

According to the results of Classroom Action Research (CAR) and the improvements shown in Table 4 and Figure 5, the mastery learning outcomes of students in Science and Social Subjects (IPAS) increased in each Cycle: from 44% in the pre-cycle to 67% in Cycle I and 89% in Cycle II. The average scores also improved, from 54.71 in the pre-cycle to 64.72 in Cycle I and 78.11 in Cycle II.

Using the Games Wordwall Tournament teaching method significantly improved students' learning outcomes. This teaching model helps foster a sense of togetherness and mutual respect among group members (Armidi, 2022; Kusuma & Fadiana, 2024).

The results of this research align with previous research findings, which also stated that the Games Wordwall Tournament method positively affected improving learning outcomes and motivation among students (Lestari et al, 2018; Ni'mah & Susanti, 2024). Another research also found that implementing the Games Wordwall Tournament method could enhance student learning outcomes, as shown by the improvement in each cycle of classroom research (Moniy et al, 2024).

Further research also revealed similar findings, showing that applying the Games Wordwall Tournament method with picture-guessing media helped improve students' Social Studies learning outcomes (Suaeb & Amirudin, 2017).

Based on the results of this research, supported by previous research findings, the Games Wordwall Tournament teaching method is highly suitable to improve

student learning outcomes at various educational levels, including elementary, junior high, and high school.

D. Conclusions

Based on the research findings and discussion, implementing the Wordwall Tournament game-based learning method has effectively improved the learning outcomes of 4th-grade students at SD Negeri 09 Palembang. This improvement is evident from the increase in student performance from the pre-cycle to Cycle I and II.

Only 44% of students achieved scores ≥70 (KKM) during the pre-cycle stage, averaging 54.71. In Cycle I, after applying the Wordwall Tournament game-based learning method, the number of students who scored ≥70 (KKM) increased to 67%, with an average score of 64.72. Since Cycle I did not fulfill the success criteria, the research continued to Cycle II, where 89% of students scored ≥70 (KKM), with an average score of 78.11.

The researcher suggests this research: 1) For Teachers, creating an engaging classroom environment can help students understand the learning material better. Teachers are encouraged to be more creative in designing lessons by implementing the Wordwall Tournament game-based learning method to enhance student learning outcomes. 2) Students are encouraged to participate actively and maintain an intense curiosity while learning through the Wordwall Tournament game-based learning method to achieve better outcomes in the future. 3)For Schools, successful implementation of the Wordwall Tournament game-based learning method requires adequate facilities and infrastructure, such as supportive classroom environments and sufficient technological tools. It will ensure a comfortable learning process and further enhance student learning outcomes.

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