

# Application of the *Student Teams Achievement Division (STAD)* Learning Model Assisted by *Word Wall* to Improve the Learning Outcomes of Grade IV Students of SDN 010 Rambah

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## A B S T R A C T

Social studies learning in elementary schools still faces the problem of low learning outcomes and student involvement due to the dominance of teacher-centered learning. This study aims to determine the effectiveness of the application of the Student Teams Achievement Division (STAD) learning model assisted by Word Wall in improving the learning outcomes of fourth grade students of SD Negeri 010 Rambah. This study uses the Classroom Action Research approach which is carried out in two cycles with stages of planning, implementation, observation, and reflection. The research subjects amounted to 24 students. Data collection techniques include learning outcome tests, observations, and documentation, while data analysis is carried out descriptively, quantitatively, and qualitatively. The results of the study showed that the application of the Word Wall-assisted STAD model was able to improve student learning outcomes, which was characterized by an increase in average scores and classical completeness from cycle I to cycle II. In addition, student activities and the implementation of learning by teachers have also increased. The STAD model encourages individual cooperation and responsibility, while the Word Wall helps reinforce the understanding of concepts through visual media. Thus, the application of the Word Wall-assisted STAD model is effective in improving learning outcomes and creating more active and collaborative learning.

**Keywords:** *STAD, Word Wall, Learning Outcomes, Natural and Social Sciences, Cooperative Learning.*

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## INTRODUCTION

Trianto (2019) emphasizing that basic education is a fundamental stage in shaping students' initial abilities which include cognitive, affective, and psychomotor aspects in an integrated manner. At this stage, students are not only required to master basic knowledge, but also develop critical thinking skills, learning independence, and social skills as provisions in facing the next level of education. In line with these demands, the implementation of the Independent Curriculum emphasizes the importance of student-centered, active, contextual, and oriented learning to strengthen essential competencies. Through this approach, students are encouraged to build knowledge independently through meaningful learning experiences that are relevant to daily life (Education, 2024).

In the context of the Independent Curriculum, the subject of Natural and Social Sciences has a strategic role in developing students' scientific and social thinking skills. Natural and Social Sciences is designed as an integrated subject that integrates scientific and social concepts to help students understand natural phenomena and people's lives holistically. The Natural and Social Sciences learning process requires the active involvement of students in observing, questioning, reasoning, and communicating the results of their thoughts. However, learning practices in the field still show a tendency to use conventional methods

centered on teachers, so that student involvement in the learning process is not optimal (Mutia et al., 2025).

This problem was strengthened by the results of initial observations carried out at SD Negeri 010 Rambah. Based on the findings in grade IV, the social studies learning process is still dominated by lecture methods without any variation of learning models that actively involve students. As a result, students tend to be passive, participate less in discussions, and have difficulty understanding abstract concepts. This condition has a direct impact on the low student learning outcomes shown through the following daily evaluation data.

Table 1. Observation Results of Social Science Scores of Grade IV Students of SD Negeri 010 Rambah

The KKTP set by the school	Number of all students	Accomplished students	Percentage of students who complete	Students who have not completed	Percentage of students who have not completed
75	24	7	29%	17	71%

Based on this data, it can be seen that only a small percentage of students have achieved the Learning Goal Achievement Criteria (KKTP), while most others have not completed it. This low level of completeness indicates that there are fundamental problems in the learning process, especially in terms of student involvement, learning interactions, and the use of media that support concept understanding. This low learning outcome can also be caused by a lack of variety of learning strategies that are able to accommodate students' learning needs optimally (Mas'ad & Aliyyah, 2025).

To overcome these problems, it is necessary to implement a learning model that is able to increase student activity and interaction. One of the relevant models is the *Student Teams Achievement Division* (STAD) type cooperative learning model. The STAD model emphasizes cooperation in heterogeneous groups, individual responsibility, and group reward as a form of learning motivation. In its application, students are encouraged to help each other in understanding the material, so as to create positive interactions and improve understanding of concepts together (Amrulloh et al., 2025).

Theoretically, the STAD model has the advantage of improving learning outcomes because it integrates cognitive and social aspects in learning. Interaction between group members allows for the exchange of ideas, clarification of concepts, and strengthening understanding through discussion. In addition, the presence of individual responsibility in the group encourages each student to contribute actively. Thus, the STAD model focuses not only on academic learning outcomes, but also on the development of students' social skills (Sembiring, 2023).

On the other hand, the use of appropriate learning media is also an important factor in increasing the effectiveness of learning. *Word Wall* is one of the visual media that can be used to help students understand important concepts and terms in learning. This media displays keywords systematically and is easily accessible to students, so that they can be used as a reference in the learning process. The use of *Word Walls* has been proven to improve students' understanding of concepts and literacy skills because it helps the process of remembering and strengthening information visually (Fadhila & Dafit, 2025).

Furthermore, the integration between learning models and learning media is believed to have a more significant impact on student learning outcomes. The use of *Word Walls* in cooperative learning can strengthen the group discussion process, as students have visual references that can be used to understand the material more deeply. Thus, the combination of the STAD model and *Word Wall* media has the potential to create more interactive, engaging, and meaningful learning (Arianti et al., 2025).

A number of previous studies have proven the effectiveness of the STAD model in improving student learning outcomes, such as studies showing an increase in activeness and learning outcomes after the application of STAD in learning. Other research has also shown that the use of (Angeliani Permata Liu et al., 2025) *Word Walls* is able to significantly improve

students' conceptual comprehension and literacy skills. However, most of the research is still conducted separately between the learning model and the media used (Hartati et al., 2024).

Based on this study, it can be identified that there is a research gap, namely there is still limited research that specifically examines the integration of the STAD learning model with *Word Wall media* in science learning in elementary schools. In fact, the combination of the two has the potential to make a more optimal contribution in improving student learning outcomes. Therefore, this research is important to be conducted to examine the effectiveness of the application of the Word Wall-assisted STAD model in the context of Natural and Social Sciences learning.

Based on the description of the background, the formulation of the problem in this study is: "How is the application of the *Student Teams Achievement Division* (STAD) learning model assisted by *Word Wall* in improving the learning outcomes of IIS students in grade IV of SD Negeri 010 Rambah?" The purpose of this study is to determine the effectiveness of the application of the Word Wall-assisted STAD model in increasing student activity, cooperation, concept understanding, and learning outcomes.

This research is expected to make a practical and theoretical contribution. Practically, this research can be an alternative learning strategy for teachers in creating more innovative and interactive learning. For students, this research is expected to be able to improve learning outcomes and social skills. Meanwhile, theoretically, this study can enrich the study of the application of a cooperative learning model assisted by visual media in learning science in elementary schools.

The framework of thought in this study emphasizes that the application of the STAD model supported by *Word Wall media* can improve the quality of the learning process and outcomes. The STAD model encourages social interaction and cooperation between students, while *the Word Wall* reinforces the understanding of concepts through visual representations. Thus, the combination of the two is expected to be able to create a more conducive learning environment, increase student involvement, and have an impact on significantly improving social studies learning outcomes.

## METHODS

This research uses the Classroom Action Research (CAR) approach which aims to improve the quality of the learning process and student learning outcomes in a sustainable manner through real actions in the classroom. This approach was chosen because it provides an opportunity for researchers to make learning improvements directly based on problems found in the classroom. CAR is carried out through a systematic and repetitive cycle, namely the stages of planning, implementing actions, observation, and reflection. Each cycle is designed to improve the weaknesses of the previous cycle so that there is a gradual improvement in the quality of learning. In this study, the action provided is in the form of the application of a cooperative learning model of *the Student Teams Achievement Division* (STAD) type combined with the use of *Word Wall media* in class IV science subjects, so that the learning process becomes more active, interactive, and meaningful and has an impact on improving student learning outcomes (Sanjaya, 2021).

The subjects of this study are all grade IV students of SD Negeri 010 Rambah in the even semester of the 2025/2026 Academic Year which totals 24 people, consisting of 14 male students and 10 female students. Students in this class have heterogeneous characteristics, both in terms of academic ability, learning motivation, and level of participation in learning. Based on the results of initial observations, most of the students showed that the learning outcomes of Natural and Social Sciences were still low and had not reached the Minimum Completeness Criteria (KTTP), and tended to be passive in learning activities. Therefore, grade IV was chosen as the research subject because it is considered to require improvements in the learning process so that student learning outcomes can increase optimally. This research was carried out at SD Negeri 010 Rambah which is located at Jl. Syekh Ibrahim No. 129, Tulang

Gajah, Rambah District, Rokan Hulu Regency, Riau Province. The time for the research took place from February to April 2026 by adjusting the school's academic calendar so as not to interfere with ongoing learning activities (Arikunto, 2020).

The research design used refers to the CAR model developed by Kurt Lewin which consists of four main stages, namely planning, acting, observing, and reflecting. The four stages are carried out sequentially and interrelated in a cycle. This research is designed in two cycles, where each cycle consists of two learning meetings and one evaluation. The results of the reflection in the first cycle are used as a basis for making improvements in the second cycle so that there is a continuous improvement in the quality of learning. In addition, the design of this study also refers to the Kemmis and McTaggart model which emphasizes that reflection is an important part of the process of continuous learning. In each cycle, learning is carried out by applying the STAD model assisted by *Word Wall media* consistently in accordance with the syntax that has been designed.

The research instruments used in this study consist of teaching modules, observation sheets, learning outcome tests, and documentation. The teaching module is prepared as a guideline in the implementation of learning that contains learning identity, learning outcomes, learning objectives, teaching materials, learning steps based on the STAD model, and the form of assessment used. Observation sheets are used to observe the activities of students and teachers during the learning process. The observed student activities included activeness in group discussions, the ability to work together, participation in presentations, and involvement in answering individual quizzes. Meanwhile, observations of teachers were focused on the implementation of the STAD model syntax assisted by *Word Wall*, starting from the stage of presenting material to awarding group awards. The learning outcome test is arranged in the form of multiple choice which refers to the Natural and Social Sciences learning achievement indicators and is given in each cycle to measure the improvement of student learning outcomes quantitatively. In addition, documentation is used to complete research data in the form of photos of learning activities, student grade lists, and important notes during the research process.

The data collection technique in this study was carried out through tests, observations, and documentation. The test is used to measure the level of achievement of student learning outcomes after participating in learning in each cycle. Observation is carried out directly during the learning process to obtain data on student and teacher activities, so that the level of student involvement and the implementation of the applied learning model can be known. Documentation is used as supporting data that provides a real picture of the learning process and the results obtained during the research (Ummah, 2019).

The research procedure is carried out through stages in the CAR cycle which include planning, implementation of actions, observation, and reflection. In the planning stage, the researcher compiled learning tools in the form of STAD-based teaching modules assisted by *Word Walls*, prepared observation sheets, compiled learning outcome test instruments, and prepared the necessary learning media. At the stage of implementing actions, learning activities are carried out in accordance with the syntax of the STAD model which includes the delivery of material by teachers, the formation of heterogeneous learning groups, the implementation of group discussions to solve problems, the provision of individual quizzes to measure student understanding, and the giving of group awards as a form of learning motivation. *Word Wall media* is used as a visual aid that displays important terms and concepts so as to help students understand Natural and Social Sciences material more concretely. The observation stage is carried out simultaneously with the implementation of actions to record the activities of students and teachers during the learning process. Furthermore, the reflection stage is carried out by analyzing all the data obtained to determine the advantages and disadvantages of implementing the action, which is then used as a basis for designing improvements in the next cycle (Ummah, 2019).

Data analysis in this study was carried out quantitatively and qualitatively to provide a comprehensive picture of the learning process and outcomes. Student activity data is analyzed using a percentage formula, namely:

$$NS = X 100\% \frac{R}{SM}$$

Description:

NS = Student activity score,

R = acquisition score,

SM = maximum score.

Teacher activities are analyzed with the formula:

$$NG = X 100\% \frac{R}{SM}$$

Description:

NG = Teacher activity value,

R = acquisition score,

SM = maximum score.

Table 1. Observation Criteria for Students and Teachers

Percentage	Category
80- 100	Excellent
66 - 79	Good
56 - 65	Enough
40 - 55	Less
< 40	Very Less

Student learning outcomes were analyzed using individual scores:

$$\text{Score} = X 100\% \frac{B}{N}$$

Description:

B = the number of correct answers,

N = number of questions.

The average class is calculated:

$$X = x 100\% \frac{\sum xi}{n}$$

Description:

$\sum xi$  = total student score,

n = number of students. (Ummah, 2019)

Table 2. Observation Criteria for Students and Teachers

Total Score	Percentage Value	Category
85-100	$\geq 85\%$	Excellent
70-84	70-84%	Good
50-69	51-69%	Pretty Good
0-49	0-50%	Not Good

This research is declared successful if it meets the success indicators that have been set, namely students individually achieve a minimum score of  $\geq 75$  in accordance with SUMMIT that apply, and classically at least 80% of the number of students achieve learning completion. In addition, the activities of students and teachers in the learning process are in the minimum category of "Good" with a percentage of  $\geq 70\%$ , thus showing that the application of the STAD model is helpful *Word Wall* able to significantly improve the quality of the process and learning outcomes.

## FINDINGS AND DISCUSSIONS

This section presents the results of the research obtained during the implementation of the class action as well as a more in-depth discussion of the findings produced. The analysis was carried out by integrating quantitative data in the form of student learning outcomes and qualitative data in the form of teacher and student activities during the learning process. The

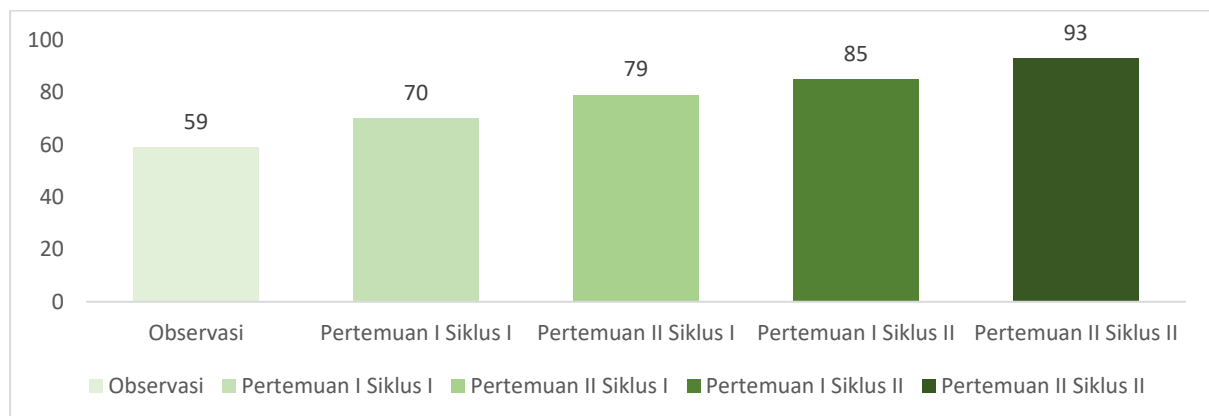
discussion not only explained the results of the research, but also related it to the foundation of learning theory and the results of previous research to strengthen the interpretation and validity of the findings obtained.

The implementation of the research is carried out through two cycles, each consisting of the stages of planning, implementation of actions, observation, and reflection. Each cycle is designed as an effort to improve from the previous cycle, so that there is a continuous improvement in both the process and learning outcomes. This approach allows researchers to identify learning weaknesses directly and systematically correct them in subsequent cycles. The application of the Word Wall-assisted STAD learning model in this study showed significant changes in student engagement and the achievement of social studies learning outcomes. To obtain a more comprehensive picture of the impact of the implementation of the learning model, the next analysis is focused on student learning outcomes as the main indicator of learning success.

### Student Learning Outcomes Analysis

Student learning outcomes are the main indicator in assessing the success of the implementation of a learning model. Based on the results of the research, it can be seen that there is an increase in the value of student learning outcomes from the observation stage to the implementation of actions in each cycle. In the initial stage (observation), the average score of students is still relatively low and has not reached the KTTP. After the implementation of the learning model in cycle I, students' grades began to increase, and a more significant increase occurred in cycle II until most students had reached learning completion.

To provide a clearer and more systematic picture of the development of student learning outcomes at each learning stage, the data is presented in the following graph.



Graph 1. Student Learning Outcomes

Based on the graph, it can be seen that the average score of student learning outcomes has gradually increased. At the observation stage, the average score of students was 59, then increased to 70 at the first meeting of the first cycle and 79 at the second meeting of the first cycle. This data shows that there is a consistent increase from the beginning to the end of the action, so it can be concluded that the implementation of the learning model has a positive impact on student learning outcomes.

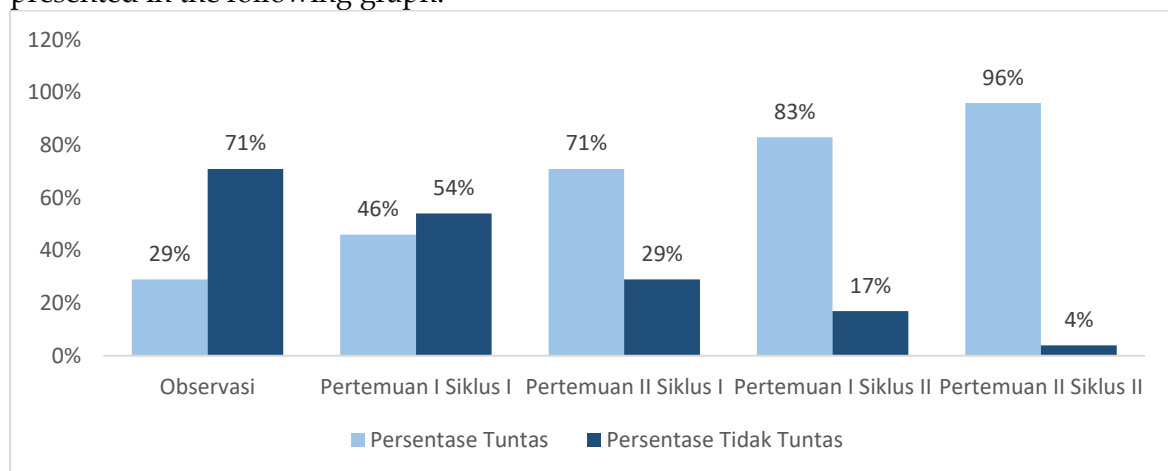
This improvement in learning outcomes is inseparable from the characteristics of the STAD model which emphasizes social interaction in the learning group as well as individual responsibility. In STAD learning, students learn in heterogeneous groups that allow for peer tutoring, active discussions, and exchange of ideas. This process helps students understand the material more deeply because they not only receive information from the teacher, but also construct knowledge through interaction with their peers. states that the effectiveness of STAD lies in the combination of group cooperation and individual accountability, so that each student is encouraged to contribute to the maximum in learning (Slavin, 2019).

In addition, the improvement of learning outcomes is also supported by the use of *Word Wall* media which acts as a visual aid in understanding concepts. *Word Wall* helps

students recognize and remember important terms in learning Natural and Social Sciences, making it easier for them to relate the concepts they learn. This medium is very effective, especially in abstract material because it provides a concrete representation through visually displayed keywords. With *the Word Wall*, students are easier to understand the material and more active in group discussions (Fadhila & Dafit, 2025).

The results of this study are in line with research that shows that the STAD model is able to improve student learning outcomes through structured group cooperation. In addition, research also proves that the use of (Arianti et al., 2025; Hartati et al., 2024) *Word Walls* can improve students' understanding of concepts through visual reinforcement. Thus, the combination of STAD and *Word Wall* has been proven to have a more optimal impact on improving student learning outcomes.

In addition to the average grade of the class, the improvement in learning outcomes can also be seen from the percentage of student learning completeness in classiness. To clarify the change in the level of student learning completeness at each learning stage, the data is presented in the following graph.



Graph 2. Percentage of Student Completeness

Based on the graph, it can be seen that the percentage of student learning completeness has increased significantly. At the observation stage, only 29% of students were completed, while 71% were not completed. In the first cycle, the completeness increased to 46% at the first meeting and 71% at the second meeting. Furthermore, in the second cycle the increase was more visible, namely 83% in the first meeting and reached 96% in the second meeting, while the percentage of students who did not complete decreased to 4%. This shows that most students have reached the KTTP at the end of cycle II.

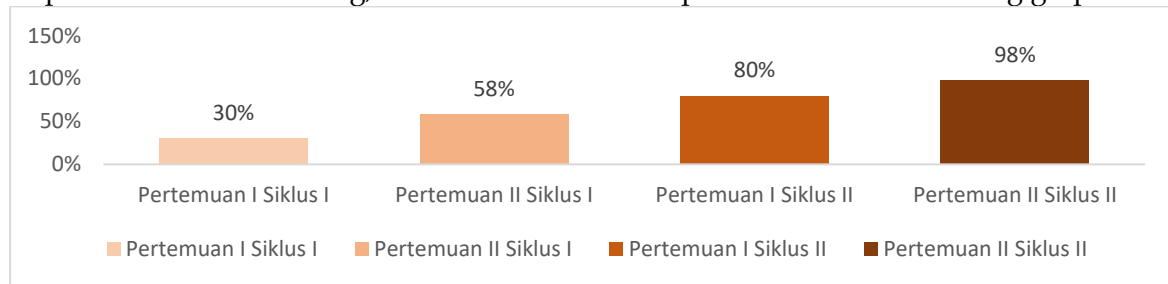
This increase in completeness shows that the application of the Word Wall-assisted STAD model not only improves general learning outcomes, but is also able to help students who have not previously completed to achieve the expected standards. This is due to the cooperation in groups that allow students to help each other, as well as the support of *Word Wall* media that makes it easier to understand concepts. Thus, learning becomes more even and is not only dominated by students with high abilities.

### Analysis of Teacher Activity Observation Results

Teacher activities during the learning process are one of the important factors in determining the success of the implementation of the learning model in the classroom. Based on the results of observations made during the research, it can be seen that teacher activity has increased from cycle I to cycle II. In the first cycle, teachers are still in the adjustment stage in implementing the Word Wall-assisted STAD learning model, so that some learning steps have not been implemented optimally, especially in time management, discussion guidance, and

reinforcement to students. However, after reflection and improvement in cycle II, teachers' activities showed better and more directed improvement.

To provide a clearer picture of the development of teachers' activities during the implementation of learning, the observation data is presented in the following graph.



Graph 3. Percentage of Teacher Activity

Based on the graph, it can be seen that the percentage of teacher activity has increased gradually. In the first meeting of the first cycle, teacher activity was at 30%, then increased to 58% in the second meeting of the first cycle. This data shows that teachers' ability to carry out learning is increasing from the low category to the very good category. This improvement shows that teachers are increasingly able to implement the STAD model syntax systematically, starting from the delivery of learning objectives, the formation of heterogeneous groups, the facilitation of discussions, to the awarding of group awards. In addition, the use of *Word Wall* media has also begun to be used optimally by teachers as a tool to explain concepts and guide students during the learning process.

Theoretically, the success of cooperative learning is greatly influenced by the role of teachers as facilitators who are able to manage group interactions and direct the learning process of students. In the STAD model, the teacher not only functions as a material presenter, but also as a classroom manager who ensures that each student is actively involved in learning activities. Slavin (2019) stated that the effectiveness of cooperative learning is highly dependent on the teacher's ability to organize groups and facilitate productive interactions between students.

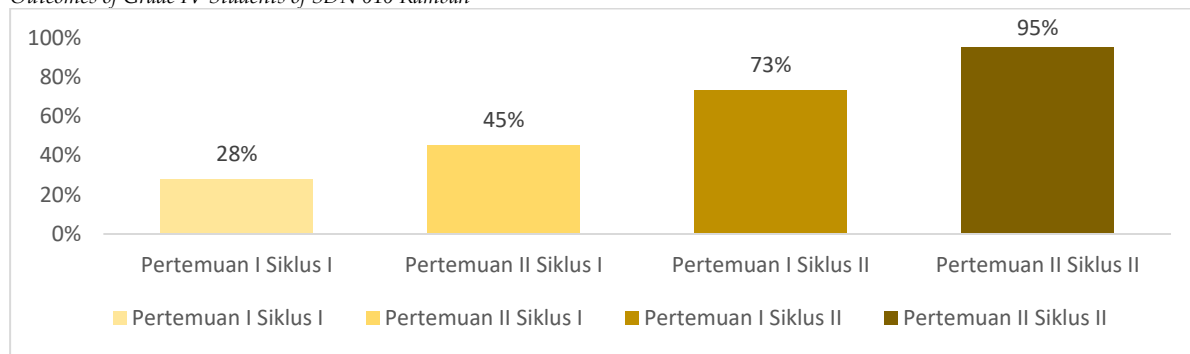
The findings of this study are also supported by the statement that improving teachers' skills in implementing cooperative learning will have a direct impact on improving the quality of the learning process. Thus, the increase in teacher activity in this study is one of the important factors that support the successful implementation of the *Word Wall*-assisted STAD model (Sembiring, 2023) in improving student learning outcomes.

### Analysis of Student Activity Observation Results

Student activities during the learning process are important indicators in assessing the level of student involvement in learning activities. Based on the results of observations made during the study, it can be seen that student activities have increased from cycle I to cycle II. In the first cycle, some students still showed low participation and were not used to cooperative learning. However, after improvements were made in cycle II, students began to show more active involvement in group discussions, dare to express opinions, and were more responsible for the tasks given.

To provide a clearer picture of the development of student activities during the implementation of learning, the observation data is presented in the following graph.

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Graph 4. Percentage of Student Activity

Based on the graph, it can be seen that the percentage of student activity increases gradually at each meeting. In the first meeting of the first cycle, student activity was at 28%, then increased to 45% in the second meeting of the first cycle. Furthermore, in the second cycle there was a more significant increase, namely 73% in the first meeting and reaching 95% in the second meeting. This data shows that student activity is developing from the low category to the very good category, so it can be concluded that students are increasingly active and involved in the learning process.

This increase in student activities is inseparable from the application of the STAD learning model which provides opportunities for students to learn actively through group cooperation. In the STAD model, students are encouraged to interact, discuss, and help each other in understanding the learning material. This process allows students to build knowledge together, so that their involvement in learning becomes higher. This is in line with the opinion of Slavin (2019) who states that cooperative learning can increase student activity through intense social interaction in the study group.

In addition, the use of *Word Wall* media also contributes to increasing student activities. *Word Wall* serves as a visual medium that assists students in understanding and remembering important terms in learning. With *the Word Wall*, students have references that can be used during group discussions, so they are more confident in expressing their opinions and answering questions. This media also helps students in relating the concepts learned more systematically (Arianti et al., 2025).

The findings of this study are in line with the opinion that cooperative learning can increase student activity because it provides opportunities to interact and work together in solving problems. Thus, the combination of the STAD model and Liu et al., (2025) *Word Wall* media not only improves student learning outcomes, but is also able to significantly increase student activity and participation.

With the increase in student activities during the learning process, the learning atmosphere becomes more interactive and collaborative. This condition shows that students no longer play the role of passive recipients of information, but have become active subjects in the learning process. Overall, the increase in student activities, teacher activities, and learning outcomes shows that the application of the Word Wall-assisted STAD learning model is effective in improving the quality of science learning in grade IV of SD Negeri 010 Rambah.

## CONCLUSIONS

Based on the results of the research, it can be concluded that the application of the *Student Teams Achievement Division* (STAD) learning model assisted by *Word Wall* is effective in improving the quality of the learning process and results of science students in grade IV of SD Negeri 010 Rambah. This is shown by the increase in the average score of learning outcomes and the percentage of student completeness from cycle I to cycle II, as well as the increase in teacher and student activity during the learning process. These findings show that the STAD model is able to encourage social interaction, group cooperation, and individual responsibility, while *Word Walls* play a role in strengthening concept understanding through

visual support that makes it easier for students to recognize and remember important terms. Practically, the results of this study imply that teachers can utilize the Word Wall-assisted STAD model as an alternative effective learning strategy to create an active, collaborative, and meaningful learning atmosphere, as well as be able to accommodate students' differences in abilities in the classroom. However, this study is still limited to one class with a relatively small number of subjects, so it is recommended for future research to test the application of this model in a broader context, both at different levels of education and in other subjects, as well as examine its influence on other aspects of abilities such as critical thinking, creativity, and social skills of students.

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