

The Application of the Student Teams Achievement Division Cooperative Learning Model to the Learning Outcomes of Science in Grade IV

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ABSTRACT

Education is the basis for advancing a country, making education something that must receive serious attention. The purpose of this study is to determine the achievement of the learning outcomes of fourth-grade students of SD Negeri 1 Srikaton in the 2025/2026 academic year after the implementation of the Student Teams Achievement Division Cooperative Learning Model. The research method used in this study is a quantitative approach through the Experimental method. The data collection technique used in this study is the test technique. The data analysis technique used in this study is through the average value and standard deviation, data normality test, and hypothesis test. The results of this study indicate that the average learning outcomes of fourth-grade students of SD Negeri 1 Srikaton after the implementation of the Students Teams Achievement Division (STAD) learning model were significantly completed with a category of more than or equal to 60 (≥ 60).

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1. INTRODUCTION

Education is the foundation for advancing a nation, making it something that must receive serious attention. To improve the quality of education, professional teachers are needed who are able to educate using various methods, strategies, media, teaching techniques, learning models and are able to master and use interesting media (Dewi et al., 2024). It is clear in Law No. 20 of 2003 that national education aims to develop the potential of students to become human beings who believe in and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens (Dikri et al., 2023).

The learning process, characterized by interaction between educators and students within an educational unit, is essential for effective, efficient, and engaging learning. Continuous classroom learning often leaves students bored and unmotivated (Dlita et al., 2017). This situation is exacerbated by learning materials that tend to be abstract because they are presented in textbook form, making it

difficult for students to understand the material. Further active learning activities, such as discussions or discovery, are rare (Ella et al, 2022). Simply put, such a teaching situation can be described as sitting, listening, taking notes, and memorizing. Learning is an activity designed by educators using media and the surrounding learning environment.

The teaching and learning process is certainly inseparable from the various subject materials taught. Learning is a system, which consists of various components that are interconnected with each other. Basically, the goal of science and social studies education is to educate and provide basic skills to students to develop themselves according to their talents, interests, abilities, and environment, as well as various provisions for students to continue their education to a higher level, Natural and Social Sciences (IPAS) Learning in Elementary Schools plays an important role in formal education. Mastery of learning outcomes (Faizah et al, 2020).

At the elementary school level, science and natural sciences (IPAS) learning addresses simple or basic social issues. The limitations of elementary school IPAS learning are adjusted to the level of maturity of students at each level, because IPAS has a broad scope of study. Therefore, students at the elementary school/Islamic elementary school level are given material about life and simple social, economic, and cultural issues that occur around the community so that they can develop individuals who are able to solve problems and find good solutions to those that occur in their surroundings. The material provided is tailored to the level of intellectual ability, interests, and understanding of students.

One common problem in science learning is that science instruction in schools is not optimal in implementing and familiarizing students with democratic, social, economic, and cultural values by involving students and the school community in various classroom and school activities. Furthermore, science learning places too much emphasis on memorizing knowledge, facts, and concepts. This is a weakness that contributes to low science learning outcomes in schools.

Based on the results of observations that have been conducted by researchers on the learning process in class IV, it states that during the learning process the teacher has not fully used the module as a guide, and still uses the lecture learning model, does not use learning media, students' enthusiasm in the learning process is lacking, students are less focused when the teacher explains the material, students are not active in asking and answering questions in class. Based on the results of interviews that have been conducted by researchers with Mrs. Inggit Regita Sari, S.Pd. teachers who teach class IV students stated that and student learning outcomes in Science Learning class IV are still in the low category. This can be seen from student learning outcomes that are still low or below the minimum completion criteria of KKTP because students' enthusiasm for learning is still lacking. The average daily test score is 66.2% while the KKTP that has been set at the school is 60. Of the 19 class IV students, only 7 students achieved completion while the remaining 12 students are below KKTP. Where learning completion or the percentage of learning success achieved by all students studying in class (classical) is said to be complete if it reaches a completion percentage of at least 80%. Furthermore, during the learning process, students often do not focus and have difficulty understanding the material being presented.

To overcome the above problems, an appropriate solution is needed to improve student learning outcomes. Therefore, educators need to use learning media that can complete student learning outcomes. One of the learning models that can be used as a solution is the Student Teams Achievement Division (STAD) learning model. Cooperative learning models have various types, one of which is the STAD type cooperative model. The STAD type cooperative model according to Istarani (2012:19) states, "In this learning model, students are placed in learning teams consisting of 4-5 people who are mixed according to achievement level, gender, and ethnicity." The teacher presents the lesson, and then students work in their teams to ensure that all team members have mastered the lesson. Then, all students are given a test on the material, during this test they are not allowed to help each other.

The purpose of this study is to determine the achievement of the learning outcomes of fourth-grade students of SRI Negeri 1 Srikaton in the 2025/2026 academic year after the implementation of the Student Teams Achievement Division Cooperative Learning Model. The results of this study are

expected to provide benefits for the users of this study. The benefits of this study are to directly identify the problems of learning science on the role of economics in efforts to improve the welfare of people's lives in Indonesia, and can be used as reference material and input for other parties conducting similar research.

2. METHODS

The research method used in this study is a quantitative approach through the experimental method. The experimental method used in this study is a quasi-experimental method. This type of research is an experimental study (Pre-Experimental Designs) with an experimental design in the form of a One Group Pre-test and Post-test design.

Table 1. Pre-Test and Post-test experimental design

<i>Pre-test</i>	<i>Treatment</i>	<i>Post-test</i>
01	X	02

Source: Jakni, (2016: 70)

Information:

01: Pre-test (before treatment)

02: Post-test (after being given treatment)

X: Treatment

This research will be conducted at Srikaton 1 Public Elementary School located in B. Srikaton Village, Tugumulyo District, Musi Rawas Regency, South Sumatra 31662. This research will be conducted in the Even Semester of 2024. The implementation and research began with the administration of a pretest on August 8, 2025. The research was conducted in the fourth grade of Srikaton 1 Public Elementary School. The population in this study was all fourth grade students of Srikaton 1 Public Elementary School. A total of 19 students consisting of 10 male students and 9 female students. In sampling, the researcher used saturated sampling. Saturated sampling is a sampling technique where all members of the population are used as samples. In saturated sampling, the population is relatively small, less than 30 students. The sample in this study was all 19 fourth-grade students, consisting of 9 girls and 10 boys.

The data collection technique used in this study is the test technique. In this study There are two quantitative methods of data collection, namely pre-test and post-test. The pre-test is used to determine the subject's initial condition before being given treatment, while the post-test is used to determine the condition after being given treatment using the STAD Learning Model. The data analysis technique used in this study are through the average value and standard deviation, data normality test, and hypothesis test.

3. FINDINGS AND DISCUSSION

Based on the results of the research conducted, the Students Teams Achievement Division (STAD) learning model can be used as an alternative in the teaching and learning process in the classroom. The implementation of this research was carried out in four meetings, with details of one Pretest at the beginning of the meeting, two learning sessions using the Students Teams Achievement Division (STAD) learning model and one meeting to provide a Posttest which is useful for determining student learning outcomes after the implementation of the STAD learning model.

Pretest given before treatment using the STAD learning model which is used to determine students' initial abilities. The test given to students is related to Pancasila lessons. In this Pretest activity,

students are assigned to answer 8 essay-shaped test questions. After all students have completed the questions that have been given, the author then provides an assessment of the results of the pretest that has been done by each student. It turns out that the average score of students in answering questions before using the STAD learning model is 50.79. This is evidenced by the results of the initial test (Pretest) which can be described that students who get a score ≥ 60 with the criteria of completion are no students who have completed the initial test that has been conducted by the researcher.

The implementation stage, namely the first meeting on August 9, 2025, which was conducted in class IV with 19 students in the Science material. Before the learning began, the researcher explained the material briefly to the students and provided stimulus so that the students got an idea of the material to be studied. Then, after the teacher had provided stimulus or explained the material briefly to the students, the next activity was a question and answer session between the teacher and students. The teacher asked the students to ask questions about the material that had been delivered and the teacher also asked the students about the material that had been explained, so that students could understand the material that had been delivered. So that the learning process does not only take place in one direction.

After a brief explanation of the material has been done, so that students get an overview of the material to be studied. Next is the application of the STAD learning model. Before students use the STAD learning model, the teacher first explains how to use or how to apply the STAD learning model to students. Because at this first meeting students do not yet know about the STAD learning model, so the teacher must first explain how to use the learning model. Next, students will be given a picture, where each group of students is given a text about the material presented and the students will look for problems for each group given by the teacher.

The second meeting on August 11, 2025, was conducted in class IV with 19 students in the science learning material. After implementing learning using the STAD learning model in the previous first meeting, now in the second meeting the students have begun to understand the learning process of the STAD learning model, so the researcher did not have too much difficulty explaining how to use the STAD learning model.

The second meeting on August 11, 2025, which was conducted in class IV with 19 students in the Photosynthesis material, at this last meeting, all groups of students already understood the use of the Students Teams Achievement Division learning process so that researchers easily explained how to use the STAD learning model to students and students no longer asked many questions about the use of the STAD learning model.

In this third meeting, the researcher opened the lesson by greeting, asking for news, praying, checking attendance, then entering the learning process activities. First, the researcher informed the students what material would be studied, then the researcher explained and asked about the previous material, then the researcher explained the objectives of today's learning. Then, the researcher entered the learning process, where the researcher first explained to the students about today's material, then the teacher conducted a question and answer session with the students regarding the material that had been explained, after the question and answer process had been carried out, the researcher then gave pictures again according to the material to each group of students to work on questions or problems in the STAD model.

Then each group will explain and present the results of their discussion in front of the class, each group gets the same opportunity to explain the results of their discussion in front. Then the researcher concludes the results of the discussion from each group to determine the most correct answer and each

group that has advanced to the front will be given appreciation, in this final meeting the researcher did not experience any difficulty teaching in using the STAD learning model

The results of the final test (Posttest) conducted on August 12, 2025, after participating in learning using the STAD learning model or after carrying out treatment activities or providing treatment using the STAD learning model. Researchers assessed the work results of fourth-grade students of Srikaton 1 Elementary School, it turned out that the average score of the final test (Posttest) of students after using the STAD learning model increased to 83.42. The magnitude of the increase from Pretest to Posttest was 32.63. This is because the STAD model is able to influence the activeness of all students when participating in the learning process and train students to dare to express their opinions. As proof of the description above, a data normality test calculation was carried out to see whether the data from the students' Pretest and Posttest results were normally distributed or not. The results of the calculation of the data normality test using the goodness-of-fit test (chi-square) can be concluded that the Pretest and Posttest show that the data are normally distributed at a significance level of $\alpha = 0.05$, because the count <table. Then after being analyzed using the z-test, it is known that the z-count value = 12.26, then the z-count value compared with the table value is 1.64. So, the z-count value > z-table or $12.26 > 1.64$. So it can be concluded that the Picture and Picture learning model is significantly complete or equal to 60 ($\mu \geq 60$) $\chi^2 \chi^2 \chi^2$.

4. CONCLUSION

Based on the results of research and discussion regarding the application of the Students Teams Achievement Division (STAD) learning model in Pancasila Education learning for fourth grade students of Srikaton 1 Elementary School, the average value of the Pretest (initial test) was 50.79 and the standard deviation was 10.03, while the average value of the Posttest (final test) was 83.42 with a standard deviation of 8.34, while the calculated Pretest (initial test) value was 1.3985 and the table was 9.488, and the calculated Posttest (final test) value was 1.8193 and the table was 9.488, because the calculated Pretest value <table ($1.3985 < 9.488$) and the calculated Posttest value <table ($1.8193 < 9.488$), it can be concluded that both data are normally distributed. After being analyzed using the z test at a significant level $\chi \chi \chi \chi \chi \chi \chi \chi \alpha = 0.05$ ($12.26 > 1.64$) it can be concluded that H_0 is rejected and H_a is accepted. Therefore, it can be concluded that the average learning outcomes of fourth grade students of Srikaton 1 Elementary School after implementing the STAD learning model are significantly completed with a category of more than or equal to 60 ($\mu \geq 60$).

In connection with the research results that have been achieved in this research conducted at Srikaton 1 Public Elementary School, the researcher provides suggestions for further researchers. It is hoped that this research can be used as a comparative study in conducting further research and become a provision for prospective teachers in improving the completion of learning outcomes, especially in the subject of science and science.

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