

**APPLICATION OF THE STAD LEARNING MODEL IN SCIENCE
LEARNING TO IMPROVE THE INTEREST AND LEARNING
OUTCOMES OF STUDENTS IN CLASS V ELEMENTARY
SCHOOL IN BARUGBUG 1 DISTRICT PADARINCANG**

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Abstract

This study used the STAD (Student Teams Achievement Division) Learning Model in Natural Science Learning to Increase Interest and Learning Outcomes of Fifth-Grade Students at Elementary School Barugbug 1, Padarincang District. The study aimed to determine the interest and learning outcomes of students by applying the STAD model in science lessons on the topic of the human respiratory system. The subjects of the research were 40 fifth-grade students at Elementary School Barugbug 1, consisting of 21 male and 19 female students. The research was conducted from March to May 2022, using a classroom action research method. Initially, the students were still passive, and the learning process was teacher-centered, with the first cycle showing some student engagement, though not comprehensive. The post-test result in the first cycle was 78.63, which increased to 89.12 in the second cycle. In the second cycle, students became more active, responsive, and collaborative. The interest questionnaire result increased from 57.5 in Cycle I to 80.62 in Cycle II.

Keywords: Student Learning Outcomes, STAD, Learning Interest

1. INTRODUCTION

Understanding Learning Outcomes Learning outcomes are changes that occur in students, both concerning cognitive, affective and psychomotor aspects as a result of learning activities. Explained by Akhmad that children who are successful in learning are those who succeed in achieving learning goals or instructional goals" (Akhmad, 2013).

Use of STAD (Student Teams Achievement Division) Model STAD (Student Teams Achievement Division) cooperative learning model is one of the models or approaches in simple cooperative learning for teachers, STAD (Student Teams Achievement Division) is also an effective cooperative learning model when used in class to students.

Student Learning Interest: Interest is an involuntary focus of attention that is born with full will and which depends on talent and the environment Slameto (2020). Interest is also a person's awareness that a person's object, a problem or a situation has something to do with him. According to Susanto et al., (2014), interest is what he calls a subject-related effect, which includes interest and attitudes towards the subject matter.

The main objective of this research is to investigate how the implementation of the STAD learning model influences both the engagement levels and academic achievement of fifth-grade students specifically in a science class that focuses on the topic of the human respiratory system. This study seeks to explore the correlation between using the STAD learning approach and the students' level of interest in the subject matter as well as their

overall performance in the course. Through this investigation, the researchers seek to offer valuable insights into the potential advantages of incorporating the STAD learning model to enhance the overall learning outcomes and experiences of fifth-grade students enrolled in a science course centered on the human respiratory system.

2. RESEARCH METHODS

This research was conducted with the aim of determining the increase in interest and learning outcomes of class V students at elementary school Barugbug 1 in the learning process using the STAD (Student Teams Achievement Division) model. The classroom action research stage consists of planning, implementing, observing and reflecting on each action based on initial references (Mundilarto, 2004).

This action research was carried out following the model developed by Hopkins, namely. Preliminary Stage (Pre Cycle), Cycle I, Cycle II. The types of data collection in this research are through observation, interviews, questionnaires, test questions, and documentation.

Data Analysis, based on the model used, namely Classroom Action Research, the appropriate data analysis technique that can be applied is the qualitative descriptive analysis technique. Quantitative Data Processing of Student Learning Results. Data from learning activities regarding the human respiratory system are analyzed based on assessment standards (Sugiyono, 2014). Syah et al., (2019) stated that "The lowest number that states passing/learning success for the 0-100 scale is 55 or 60. However, it would be necessary for school teachers to consider setting a higher Passing Grade (for example 65 or 70)". For this reason, the researchers adjusted the Minimum Completion Criteria (KKM) with the KKM from the school, namely 75. Calculated the percentage of students who achieved the KKM compared to the percentage obtained by the previous KKM. Evaluation and reflection are carried out, which actions have been successful according to the plan and which ones need to be improved as a reference for preparing action plans in the next cycle, namely in cycle II.

3. RESULTS AND DISCUSSION

Pre-Cycle: Fifth grade students at elementary school in Barugbug 1 have little interest in science subjects. The results of observing the learning process before the STAD (Student Teams Achievement Division) model was applied, obtained information that student learning outcomes were still low at 5.40, students' interest in learning science subjects was still low, because in this case it was seen from several factors including, students are still less active, always in class chatting and even joking with their seat mates, they don't have the courage to ask questions, students are not serious about learning, students are still not focused on studying, because they often go in and out of the toilet, understanding material about science lessons is still small.

3.1. Cycle I

Based on the results of the exam which was carried out for the first time at the beginning of the meeting, namely on April 5, Wednesday, the pre-test was carried out and the post-test was carried out on Wednesday, April 12, 2022 cycle I, as well as filling out

a student interest questionnaire in learning science, the results were obtained in the table, namely.

Table 1. Results of Pre-test, Post-test and Interest Questionnaire Cycle I

NO	Research Aspects	Pre Test	Post Test	Information
1	Average Value	49.25	78.25	Increase
2	High Score	62	80	Increase
3	Low Score	36	62	Increase
4	Average Value of Interest Questionnaire	57.5		The total of students in class V

Based on the results obtained in the action research cycle I, namely the pre-test results showed results with an average value of 49.25 and the post-test results were 78.62 while for the interest questionnaire, namely 57.5, this showed that in cycle I, the results obtained by fifth grade students at elementary school Barugbug 1 Padarincang Sub-District was less than optimal or said to be far from the achievement expectations, namely 75 as many as 30 students. The results obtained by class V students from the pre-test, post-test and questionnaire in cycle I still have to be followed up in the next cycle or cycle II.

The significant increase in learning outcomes in each cycle is proven by using the T test using the SPSS V application. 23. The results of the t test in cycle I can be seen in table 8, namely.

Table 2. T-test results of Learning Outcomes Pre-test and Post-test Cycle I

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair Pretest - 1 Posttest	-24.700	7.904	1.250	-27.228	-22.172	-19.764	39	.000

Based on the data above, the calculated t value is $-19.764 < t$ table 2.022, then there is a clear increase between the pre-test and post-test in cycle I. If seen from the Sig (2 tailed) value of 0.000, where $0.000 < 0.05$ then there is certainly a significant difference significantly at a probability of 0.05. This proves that there is an improvement between the pre-test and post-test results of cycle I.

3.2. Cycle II

Based on the results of the exam which was carried out for the first time at the beginning of the meeting, namely on April 17, the pre-test cycle II was carried out and the post test was carried out on April 26 2017 in cycle II, as well as observations regarding students' interest in learning science, the results showed an increase in learning outcomes

and students' interest in science subjects with material on the human respiratory system in this case can be seen in the table below, namely.

Table 3. Results of Pre-test, Post-test and Interest Questionnaire Cycle I

NO	Research Aspects	Pre Test	Post Test	Information
1	Average Value	61.25	89.12	Increase
2	High Score	86	100	Increase
3	Low Score	40	76	Increase
4	Average Value of Interest Questionnaire	80.62		The total of students in class V

Based on the results obtained in the second cycle of action research above, the pre-test results showed results with an average value of 61.25 and the post-test results were 89.12, while for the interest questionnaire it was 80.62, this was shown in cycle II, the results obtained by class V students of SDN Barugbug 1, Padarincang District, Serang Regency have reached the maximum or as expected by the researchers. The results obtained by class V students from the pre-test, post-test and questionnaire in cycle I do not need to be followed up for the next cycle, because in cycle II they have obtained results which are said to be complete or as expected, namely 75. These results show that in the cycle II there is an increase in yield and the increase has reached the KKM and it is stated that the cycle is stopped.

Based on the learning outcomes above, between the pre-test and post-test cycle II which was significant in cycle II was proven through the T test, yes, by getting results, this can be seen in the table.

Table 4. T-test results of Learning Outcomes Pre-test and Post-test Cycle II

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
1	Pair Pretest Posttest	-28.450	13.599	2.150	-32.799	24.101	13.232	39	.000

Based on the data above, the t statistic value is $-13.232 < t_{table} 2.022$, then there is a clear increase between the pre-test and post-test in cycle II. If seen from the Sig (2-tailed) value of 0.000, where $0.000 < 0.05$, it is certain that there is a significant significant difference at the probability of 0.05. The results of the Interest Questionnaire Test cycle I and cycle II in action research This class can be seen in the table below.

Table 5. T Test on Interest Questionnaire Cycle I and Cycle II

		Paired Samples Test					t	df	Sig. (2-tailed)
		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
Lower	Upper								
1	Pair Interest cycle I – Interest Cycle II	-23.925	13.463	2.129	-28.231	-19.619	-11.239	39	.000

Based on the data above, the calculated t value in the interest questionnaire is -11.239 < t table 2.022, If we look at the Sig (2-tailed) value of 0.000, where 0.000 < 0.05 then it is certain that there is a significant difference in the probability of 0.05. So in this case it can be concluded that the application of the STAD (Student Teams Achievement Division) learning model can increase interest in both cycle I and Cycle II.

4. CONCLUSIONS

Based on the findings of this study, the following conclusions can be drawn: There was an increase in the learning outcomes of fifth-grade students at Elementary School Barugbug 1, Padarincang District, after implementing the STAD (Student Teams Achievement Division) model in science lessons covering the human respiratory system. This can be seen in the first cycle post-test average score of 78.63, which increased to 89.12 in the second cycle.

There was also an increase in learning interest among the fifth-grade students at Elementary School Barugbug 1, Padarincang District, Serang Regency, with the application of the STAD (Student Teams Achievement Division) model in science lessons on the human respiratory system. The average interest questionnaire score increased from 57.5 in Cycle I to 80.62 in Cycle II. The application of the STAD (Student Teams Achievement Division) model was well-received by the fifth-grade students of SDN Barugbug 1, Padarincang District, Serang Regency, as evidenced by the students becoming more active, responsive, diligent, and enthusiastic, as reflected in the improved pre-test, post-test, and interest questionnaire results.

Recommendations include the principal encouraging teachers to further improve and activate learning activities, teachers using the STAD model more effectively to create engagement, students being more active and asking questions, and researchers continuing to explore the STAD model in other subjects and contexts.

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