IMPROVING 4th GRADE STUDENTS' LEARNING COMPETENCY THROUGH STUDENT TEAMS ACHIEVEMENT DIVISIONS METHOD

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Abstract. This study aims to improve science learning outcomes through methods of Student Teams Achievement Divisions. Action Research (PTK) is conducted in two cycles. The research procedures based on the Kemmis and Mc Tanggart models include planning, action, observation and reflection phases that are adapted to the *Student Teams Achievement Divisions.*The results obtained from the implementation of cycle I and II, namely an increase learning outcomes after using Student Teams Achievement Divisions. In comparison the initial conditions, the cycle I and II show the initial conditions only 9 students, or 36%, in the first cycle of 16 students or 64% and the second cycle increased to 23 students or 92%. Based on the results concluded that Student Teams Achievement Divisions learning to improve student learning outcomes with indicators of >70%, which indicates success.

Keywords: *Student Teams Achievement Divisions*, learning outcomes, natural science

Wisudawati and Sulistyawati (2014) mentioned that Natural Science originated from English. Natural means learning about the relationship of nature or related to nature, while science means being scientific. Science can be said to be human knowledge of nature in a controlled way. Natural Science is also defined as a collection of knowledge that is arranged in a guided manner. This is in line with the KTSP curriculum (Depdiknas, 2006) that science study is concerned with systematically finding out about nature, so that it is not only the mastery of a collection of knowledge about facts, concepts or principles but also a process of discovery. According to Nash (in Usman, 2006) science is a method to observe nature that is analytical, complete meticulous and connecting other phenomena so that the whole natural science learns about the relationship with the systematic nature in the form of facts that are true in nature. In its development, science studies a collection of knowledge about nature that is composed and how to observe the nature carefully and connect with other phenomena about the object being observed.

The results of observations conducted on teachers and fourth graders of SD Negeri Kaliwungu 05 Kaliwungu Subdistrict, Semarang Regency on science subjects raised a concern. Student learning outcomes show a low score because of 25 students there are only 9 students who achieved the KKM (standard score) while 16 students don't achieve the KKM. In fact, science is a very important subject for human life and taught from elementary school level to college.

To improve the learning outcomes of science students of grade IV of this elementary school, Student Teams Achievement Divisions is one of the learning methods that can be applied. According to Slavin (2005), Student Teams Achievement Divisions are the simplest and easiest method of learning. This method of learning prioritizes group system, which consists of 3-6 students per group. The selection of this group should be done by the teacher to become a heterogeneous group, with various abilities, sex and tribe.

Steps of learning Student Teams Achievemen Divisions which become the reference of teachers when teaching science

subjects namely; 1) the delivery of objectives and motivation at the beginning of the lesson; 2) the teacher delivered the subject matter; 3) teacher forms several groups, each group consists of 4-5 students with different abilities; 4) materials that have been prepared are discussed in groups to achieve basic competencies; 5) the teacher facilitates the students in the form of summarizing, directing, and affirmation of the lesson material that has been learned; 6) the teacher gives the test or quiz to the students individually; 7) the teacher rewards the group based on the acquisition of individual learning outcomes from the average score of the quizzes of each group; 9) the teacher gives evaluation and conclusion.

METHODS

This study is a Classroom Action Research. Student Teams Achievement Divisions learning method applied to 25 students of fourth grade of SD Negeri Kaliwungu 05 Kaliwungu Subdistrict, Semarang Regency, 2nd semester, and academic year 2016/2017. The design of this study is Stephen Kemmis and Rotin Mc. Taggart design (in Tampubalon, 2014) through two cycles. Each cycle consists of 3 stages: action plan, implementation and observation, and reflection. In the action plan stage, a learning tool set up is a Lesson Plan with Basic Competence and preparing instructional media that supports teaching

materials, namely Student Teams Achievement Divisions method. In the implementation and observation, the lesson plan is implemented on science subjects that have been prepared in 4th grade class. Reflection activities are conducted to evaluate the advantages and disadvantages of the learning actions undertaken, as well as the barriers that teachers face while teaching and the students' learning process.

Data collection is done through observation, documentation, and tests. The instruments of data collection include test and non-test. Performance indicators are the learning outcomes that students achieve in the learning process. Science learning outcomes increase when> 70% of students score above the KKM and the standard score used is 70.

In this study, the researchers analyzed the data by using descriptive analysis technique to compare the initial test score, the value of the cycle test I and the value of the second cycle test based on the number of students who pass and failed the KKM after using Student Teams Achievement Divisions method.

RESULTS AND DISCUSSION

Table 1 shows the initial condition, 16 students or 64% did not achieve the KKM and 9 students or 36% achieve the KKM. After the first cycle, 68% achieved KKM and increased after cycle II to 92%.

Table 1. Cognitive Learning Competency

No	Score	Initial Condition		Cycle 1				Cycle II			
				Pretest		Postest		Pretest		Postest	
		Total	(%)	Total	(%)	Total	(%)	Total	(%)	Total	(%)
1	Pass	9	36	16	64	17	68	23	92	23	92
2	Failed	16	64	9	36	8	32	2	8	2	8
	Total	25	100	25	100	25	100	25	100	25	100
	Average	62.44		74		75.2		84.6		88.8	
	Highest Score	82		90		90		95		100	
	Lowest Score	45		50		55		65		65	

In addition to learning competency, observations during Student Teams Achievement Division learning methods are also conducted on the students' affective, psychomotor, and responses. The students' affective learning competency shows that only 3% of the total students in a low category, and the remainder were in the moderate to excellent category (Table 2). Meanwhile, students' psychomotor learning outcome shows that no students are in the low category (Table 3). While the response of students increased from meeting 1 to the third meeting, that is 21 people in the first meeting, 22 people in the second meeting, and 27 people in the third meeting (Table 4).

Table 2. Affective Learning Competency

N	Category	Range	Total	Percentage
1.	Very Good	91-100	10	20%
2.	Good	86 -90	14	28%
3.	Moderate	70 -85	23	46%
4.	Low	50-69	3	3%

Table 3. Psychomotor Learning Competency

N	Category	Range	Total	Percentage
1.	Very Good	91-100	12	24%
2.	Good	86 -90	16	32%
3.	Moderate	70 -85	22	44%
4.	Low	50-69	0	0

Table 4. Observation Result of Students' Response on Student TeamsAchievement Division Method

No	Activity	Meeting 1		Meeting 2		Meeting 3	
		Total Yes	Total No	Total Yes	Total No	Total Yes	Total No
1.	Cycle I	21	12	22	11	27	8
2.	Cycle II	23	10	25	8	26	7

Before Student Teams Achievement Division's learning method was conducted, student learning outcomes were still low. This can be seen from the initial condition of 16 students or 64% and the total value of 9 or 36% who don't reach KKM. The improvement of learning outcomes in cycle I is marked with the posttest score of students as 17 or 68% of students achieve KKM and only 8 students don't reach KKM. Then on the action cycle II, the learning competency also increased. This can be seen from the acquisition of the score at the time of posttest there are 23 students or 92% who achieve KKM and only 2 children failed to reach KKM.

In this study not only the learning competency are increasing, but the attitude of students during the learning process are much better. Before the study was conducted, students were passive during the learning process, not responding to the opinions of other friends and less enthusiastic in learning activities. In the application of Student Teams Achievement Division method, students are trained to be active, clever to express opinions and have an attitude of responsibility to the task. It also affects the students' learning competency because students will have a better understand on the material taught by the teacher. Prior to action, many students were on

low average score. However, after the first cycle of action and cycle II, the students' learning competency has increased.

The improvement of the science learning competency in this study is in line with research conducted by Rahman (2016), Ismail (2016), Wahyuni (2013), Kholisin (2014), Lasia (2014), Rahmawati (2011), Rahmawati (2014), Soffah (2014), Sulastri (2012), Wijaya (2013), Pastalu (2011), and Wijayanti (2014). However, this study differs from previous studies. In this study, the Student Teams Achievement Division's learning steps are modified with process standards comprising initial activities, core activities (exploration, elaboration, confirmation), and closing activities.

CONCLUSION

Based on the result of classroom action research, Student Teams Achievement Division study in science subjects of 4ᵗʰ grade students of SD Negeri 05 Kaliwungu, Kaliwungu Subdistrict, Semarang Regency, in the second semester of academic year 2016/2017, it can be concluded that Student Teams Achievement Division can improve student learning competency and simultaneously improve students' attitude and psychomotor.

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