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Student teams achievement divisions (STAD) to enhance learning outcome

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Abstract

This study aimed at determining the increase in students' learning outcomes in social science by applying the student teams achievement divisions (STAD) model with the steps based on Curriculum 2013. This research was a type of a classroom action research which was conducted in two cycles in 33 fourth grade students in a primary school in Salatiga in second semester of academic year 2017/2018. Data was collected using test and non-test techniques with help of evaluation test and an observation sheet. Results show improvement of learning outcomes by applying STAD model on social science subjects. The average completeness of learning outcomes increased from pre-cycle to cycle II. At pre cycle, the average was 57.71 with 31,42% completeness, at cycle I was 68.28 with 50% completeness, and cycle II was 70 with 71.87% completeness. Therefore, applying the STAD model can improve the learning outcomes of primary students in social science.

Keywords: *STAD; learning outcomes; primary school*

Introduction

Learning should be conducive in order to create an interesting learning environment, thus students would be more creative and active (Suyono & Hariyanto, 2011). Conducive learning should be achieved during classroom activities to obtain maximum learning outcome within three domains of cognitive, affective, and psychomotor (Wardani, Winanto, & others, 2012). In creating an active and creative learning environment, learning facilities are mandatory. Therefore, teachers may implement appropriate learning models to improve learning outcomes.

Student teams achievement divisions (STAD) is one of the cooperative learning model. As a learning method which involved group members, STAD provided opportunities for students to work together (Taniredja, Faridli, & Harmianto, 2011). Slavin (1990) suggested that STAD was effective for teachers who had just started to use cooperative approaches because it was a simple model. STAD is similar with Teams-Games-Tournament which uses 4-5 heterogeneous teams. However, to make it simpler, STAD replaces games and tournaments with 15-minute simple quizzes (Slavin, 1980). Although as easier as Team Assisted Individualization (TAI), STAD has an advantage that this is not a rigid method and slightly changes are acceptable (Johnson, Johnson, & Stanne, 2000). Moreover, TAI was developed for math and attitude toward math (Bryant, 1983), whereas STAD could be applied in any subjects (e.g. Tran, 2013; Vaughan, 2002; Wyk, 2011).

STAD model has advantages in the learning process. Learners always work together and enhance the values in the group. Every student worked actively to succeed together but also become peer tutor (Slavin, 1990). Moreover, by communicating, students will improve their competency in sharing opinion (Slavin, 1990). Contrary to its strengths, STAD method is not accommodated widely in Curriculum 2013 in Indonesia. Thus, we focused our study to apply this method in primary schools.

Based on the observations in a primary school in Salatiga, Jawa Tengah, Indonesia, students' outcome was still not satisfying. The results from social science exam showed that more than 50% of students did not meet the minimum passing grade. We also observed that some students paid less attention during the learning process. Therefore, students' learning outcome in social science should be enhanced using other learning method, i.e. STAD. This study aims at implementing STAD to increase primary students' learning outcome and cooperation.

Materials and Methods

We conducted a classroom action research by applying STAD method in a primary school in Salatiga, Jawa Tengah, Indonesia from September 2017 to April 2018. The subject of this study was 33 fourth grade students. We divided the research into 2 cycles, which were held 3 times with 3 hours of meeting each time. Each cycle consists of three stages: (1) plan, (2) implementation, and (3) observation and reflection. We collected data using three instruments, i.e. evaluation test, observation, and documentation. Prior to applying the instruments, we tested them for validity and reliability. Data were then analyzed descriptively by comparing results from pre-cycle, cycle I, and cycle II. We considered the STAD method was succeed if at least 80% students achieved the passing grade.

We modified the steps explained by Slavin (1990) as follows.

1. The teacher divided students into several groups. Each group consisted of 4 students with different merit, religion, gender, and ethnicity.
2. The teacher explained a learning material that aroused students' curiosity of the design of the study material (observing).
3. The teachers assigned tasks related to the topic being discussed (discuss).
4. The teacher gave direction thus all group members worked together and helped their fellow members; therefore, all students in the group mastered the study material.
5. Members of groups who had mastered the material, had to explain to those who had not (communicate).

6. Reported the results of the group.
7. All students would get quizzes to be done individually, and each group member was not allowed to cooperate (reasoning)
8. The value of all students in the group would be summed to get the group value.
9. Groups who reached the specified criteria would get another prize.
10. The teacher assigned a task that produces something (creating).

Results and Discussion

We observed that both teachers' and students' activity were increased after each cycle. Teachers' activity was increased to 80% and 100% after Cycle I and Cycle II, respectively. Similarly, students' activity was increased to 86.66% and 100% after Cycle I and Cycle II, respectively (Table 1).

In pre-cycle, students achieved an average score of 57.71, which was then increased to 68.28 after Cycle I, and to 70 after Cycle II. We noticed a decrease in the number of students who gained results less than the minimum requirement. On average, the decrease was approximately 8 students after each cycle (Table 2).

The application of STAD model was expected to improve students' learning outcome. Learning outcome was related to the learning activities which required students to be active, thus the material presented could be absorbed. Comparing results of each cycle, application of STAD model could improve students' learning outcome. Data from the aspect of learning activities also showed an increase in learning outcomes after each cycle. After Cycle I, we noticed that only 5 additional students passed the grade (Table 2). Therefore, we proceeded the next cycle. After Cycle II, 7 more students completed the learning process. In total, almost 72% students passed the grade, which means that we might stop the cycle. Based on the results we concluded that STAD method could improve primary students' learning outcomes.

Table 1. Activity after Cycle I and Cycle II

No	Activity	Cycle I		Cycle II	
		Average Yes	Percentage (%)	Average Yes	Percentage (%)
1	Teacher Activity	12	80.00	15	100
2	Student Activity	13	86.66	15	100

In previous studied, STAD has been successfully applied and showed significant results. Zakaria, Chin, & Daud (2010) implied that STAD could improve students' achievement in mathematics and attitudes toward mathematics, even better than problem based learning (Rattanatumma, 2016). (Lubis, 2012) concluded that the method gave significant result to students' learning outcome in Physics. Applying STAD with simple media in Science also showed significant results compared to the conventional method (Dwipayanti, Sudhita, & Parmiti, 2013). Not only in mathematics and science, STAD does show significant results in social science (Van Wyk, 2010; Wyk, 2011).

Table 2. Comparison of Learning Mastery among Cycles in Social Science

No	Learning Mastery	Value	Pre Cycle		Cycle I		Cycle II	
			∑	Percentage (%)	∑	Percentage (%)	∑	Percentage (%)
1	Completed	≥ 70	11	31.42	16	50	23	71.87
2	Not completed	<70	24	68.57	16	50	9	28.12
amount			35	100	32	100	32	100
Average			57.71		68.28		70.00	

Conclusion

Implementing STAD method, a cooperative model in learning, lead to an increasing in primary students' learning outcome. The model should be applied by the teachers, regardless of the time needed both by the teacher, to implement this method, and by the students, to achieve the desired results.

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