

The Implementation of Think Pair Share to Increase Learning Outcome in Science Subject

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Abstract— The aim of this study is to increase teachers' performance, students' learning activities, and student achievement in science learning process by using Think Pair Share at 5th grade students of SDN Bongkok 01 (elementary School) Tegal Regency. Classroom action research was used which consisted of two cycles. Each cycle consisted of planning, action, observation, and reflection. The subjects were students and classroom teacher of 5th grade students of SDN Bongkok 01. The data were gathered test and non – test. The results showed that in the first cycle, the score of teacher performance was 81, 59 and it increased in second cycle into 85, 93. Score of student activities in the first cycle was 66, 57 and it increased in the second cycle into 77, 68. The average score of the students was 80, 00 and the percentage of learning mastery was 83, 34%. Score of classroom average improved from the first cycle into 81, 87 and percentage of mastery learning classical increased into 91, 66 percent in the second cycle. It can be concluded that there was an increase learning quality at science learning at 5th grade SDN Bongkok 01 Tegal.

Keywords—cooperative learning, learning outcome, science subject, think pair share.

I. INTRODUCTION

Based on Law No. 20 of 2003 states that Education is a conscious and planned effort to create an atmosphere of learning and learning process so that students are actively developing their potential to have spiritual strength, self-control, personality, intelligence, noble character, as well as the skills required by himself, society, nation, and country. Therefore, the country wants to create qualified human resources through the education process.

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The better the education process is organized, the better the results will be. Education consists of formal, non-formal, and informal education. Formal education consists of basic education, secondary education and higher education. The subjects of the education system, especially in basic education, are teachers and learners. Teachers as educators must design the learning process so that the students can achieve the expected competencies. Teachers are required to create a conducive atmosphere in the learning process, so that students get optimal learning outcomes. According to the findings of Indonesian Ministry of Education (2007), the results of recent educational research indicate that there are still many problems of implementation of the standard content of science subjects, less creative teachers, overuse of lecture methods and less interactive learning media. The circumstances described above also occur in 5th grade students of SDN Bongkok 01, especially in Natural Resources topic on science subject. Based on the data of the students in the second semester of the academic year 2011/2012. Of the 44 students, only 9 students achieved the learning mastery score and 35 students did not. From the data above, it can be concluded that science subject on natural resources topic on the SDN Bongkok 01 was less than optimal, because teachers only use conventional methods. Therefore, the learning process became monotonous and students became inactive during the learning process. Realizing these problems, the author implemented Think Pair Share to solve the problems that occur. According to Lie in Suprijono (2010: 56), cooperative learning model is a learning model based on the homo homini socius philosophy that emphasizes a man is a social being. The key to all social life is interactive dialogue (social interaction). Trianto (2007: 61) argues that Think Pair Share is a type of cooperative learning designed to influence the pattern of student interaction. Arends in Trianto (2007: 61) explains that Think Pair Share is an effective way to create variations in the classroom atmosphere for a discussion. Assuming that all discussions require settings to control the class as a whole and the procedures used in think pair share can give students more time to think, to respond and to help each other. Based on the explanation above, the researcher uses cooperative learning model Think Pair Share implemented in 5th grade students of SDN Bongkok 01, Tegal to improve students' learning outcomes

II. RESEARCH METHOD

This study was conducted by Classroom Action Research

design. PTK is action research conducted in the classroom with the aim of improving the quality of teaching practice (Arikunto, Suhardjono, and Supardi 2010: 58). A classroom action research is a reflection of learning activities in a class in the form of action. The action is given by the teacher or by the direction of the teacher and is conducted by the students. This study was conducted in pairs between the participant performing the action and the participant observing the course of action. The procedure of classroom action research took the form of a cycle; each cycle consisted of two meetings. There were four stages in each cycle of the classroom action research, namely planning, action or acting, observation, and reflection.

A. Planning

Planning played an important role in this study. "The first step of planning is basically the activity of developing an action plan which contains an explanation of What, Why, When, by whom, and how (the) actions will be performed" (Asrori, 2008: 100). Furthermore, in this planning step, there are a number of activities that should be performed: (1) identifying and analyze the problem. The problem to be studied should be a factual learning activity that takes place in the classroom and is important to be researched and useful for improving the quality of learning; (2) formulating the background of the importance of the research conducted. There should be a description that there is something that is important to examine; (3) formulating the research problem clearly. The formulation of this problem is usually in the form of a sentence but can also be a statement and (4) formulating action hypotheses.

B. Implementing

According to Arikunto, the implementation phase is the implementation or application of the contents of the design (Arikunto, Suhardjono, and Supardi 2010: 18). At the implementation stage, the teacher conducts learning activities in accordance with the formulation that is in the design.

C. Observing

"Observations are activities undertaken by observers" (Arikunto, Suhardjono, and Supardi, 2010: 19). Researchers observe everything that happens during the action. In the process of observation, researchers observed the performance of teachers, activities and students' learning outcomes. Observations are used to obtain accurate data for improvement in the next cycle.

D. Reflecting

Supardi in Arikunto, Suhardjono, and Supardi (2010: 133), states that "reflection is a reflective activity of changes that occur (a) in students, (b) classroom atmosphere, and (c) teachers.", Arikunto states that this stage is an activity to reflect what has been done. At this stage, the activities are aimed to evaluate and analyze the results of observation to measure the level of success of learning that has been implemented.

The subjects of the study were students and teachers of 5th grade of SDN Bongkok 01

Kabupaten Tegal. Data sources of this study were teachers and students. Test and non – test techniques were used for data collection. The test in this study was the result of formative test conducted at the end of cycle I and II. Non – test was performed by using observation technique. Observation was performed to collect teacher's performance data and students' learning activities. The data were analyzed quantitatively and qualitatively. Quantitative data were analyzed by scoring on student learning outcomes on a scale of 0-100. While, the qualitative data were analyzed by giving the scoring to be converted on scoring criteria. This model was considered effective to improve teachers' performance, activity, and student learning outcomes in science learning if, teacher performance value ≥ 71 , mean value of learning activity $\geq 75\%$, students' learning outcomes reaches average grade ≥ 70 and percentage of classical learning mastery $\geq 75\%$

III. RESULTS AND DISCUSSION

The test results of the cycle were based on the student's formative test score. Assessment of non – test in the form of observation data of teacher performance and student learning activity.

In the description of teachers' performance, the data of teachers' ability in making the lesson plan (APKG I) and in conducting lesson in class (APKG II) were obtained. The students' learning activity data were described to figure out the students' activity in learning and on the data of students' learning outcomes, we can see the average score of the students and the percentage of students' learning mastery. Implementation of think pair share during natural resource topic on science subject through cooperative learning model in cycle I resulted in the teachers' performance score = 81,59. The results of teacher performance observation can be seen in the table below.

Table 1. Teacher Performance Results Cycle I

Meeting	APKG	Score	Value	End Value
1	1	24	75,00	80,55
	2	20	83,33	
1	APKG	26	81,25	82,63

From the table above, the teachers' activity has increased from the first meeting to the second meeting. The increase can be seen from the observation of the implementation of learning process plan (APKG 1) that is from 75 to 81,25. While, the professional competence by assessing the implementation of learning process (APKG 2) resulted in the same value between cycles I and II that is 83.33. The

acquisition of this value has shown that the ability of researchers in delivering natural resource material was improved.

A. Students' learning activities

This study was conducted collaboratively so that the researcher who filled the student activity sheet during the learning process performed the observation. Aspects in assessing student activities included; (1) student activeness in asking the teacher; (2) student cooperation at work in pairs; (3) persistence of students in completing the paired tasks given by the teacher; (4) students' ability to complete the paired tasks provided by the teacher; (5) the courage of the students in completing the paired assignment given by the teacher; (6) students' courage in expressing their responses or opinions. The following table shows the results of students' activity observation on cycle I. The other students' learning activities in the application of Think Pair Share can be seen in the following table:

No	Observation Aspects	Total score		Achievement (%)
		Part I	Part II	
1	Students' activity in asking the teacher	65,62	65,62	65,62%
2	Student teamwork	68,75	67,70	68,22%
3	Persistence of students in completing tasks paired by teachers	68,75	70,83	69,79%
4	The ability of students to complete tasks in pairs	68,75	65,62	67,18%
5	The courage of the students in completing the paired assignment given by the teacher	65,62	69,79	67,70%
6	The courage of students in expressing responses or opinion.	63,54	58,33	60,93%
Average activity score		66,83	66,31	66,57

From the data that has been mentioned above, it can be seen the percentage of overall indicators of students' learning activities in the first cycle was 66.57%. From the data, it can be concluded that the observation result of student's learning activity has not succeeded to reach the indicator that was $\geq 75\%$.

B. Students' learning outcomes

Implementation of formative test of cycle I was performed after learning by using Think Pair Share. Based on the formative test I, the average score data and the percentage of learning mastery were obtained. The details of exposure to formative test results of cycle I can be seen in the following table.

Learning outcome	Learning result cycle I	
	Number of student	Percentage
Score ≥ 71	20	83,34%
Score > 71	4	16,67%
The number of students' achieving learning mastery	20	83,34%
The number of Students not completing the learning mastery	4	16,67%

High score	100
Low score	55
Total score	1920
Average score	80
Average classical learning mastery	83,34%

From table 4.3 above, it can be seen that on the implementation of formative test of cycle I, the average value of the class was 80. According to the indicator of learning mastery, the students were considered as completing the learning mastery, if students get the value of ≥ 71 . If less than 71, then the students were considered as not completing the learning mastery. Achieving the target of students' learning mastery in cycle I can be described in the diagram as follows: the learning mastery of the students on cycle II.

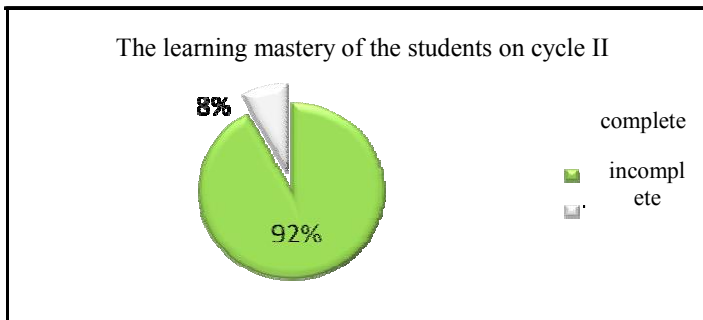


Figure 1 Student learning mastery cycle II

Figure 4.2 above shows the learning mastery in cycle II reaches 92. The results were considered satisfactory because it met the indicator of students' classical learning mastery was 75%.

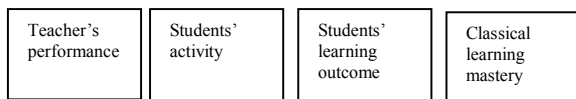
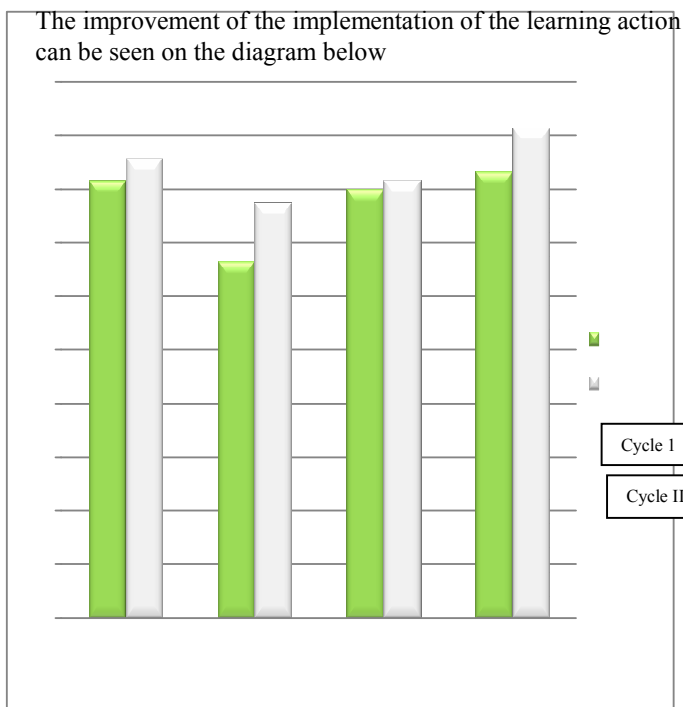


Figure 2 The improvement of the learning action

From the diagram above, it appears that the performance of teachers, student activities and learning outcomes of students in natural resources topic in science using Think Pair Share has increased from cycle I to cycle II. The increase of score from cycle I to cycle II was caused improvement of reflection results and revision at the end of each meeting in each cycle.

IV. CONCLUSION

Based on the results of data analysis and discussion that has been presented in the previous chapter, it can be concluded that the implementation of think pair share can improve teacher performance, activity and learning outcomes of 5th grade students of SD Negeri Bongkok 01, Tegal Regency on science subject. The results that support this statement are:

A. The Result of Observation of Teacher Performance

Based on the result of observation, the teacher's performance in implementing think pair share learning model during two cycles has increased in every cycle. In the first cycle, the teacher's performance score lesson planning was 80.55 for APKG I and 82.63 on the implementation of learning process for APKG II. Of the two values, the teacher's performance value is 81.59. Meanwhile, in cycle II, the score of APKG I was 84,22 and 87,64 for APKG II. The score of teacher performance in cycle II was 85,93. Thus, the score increased 4.34 from cycle I to cycle II. From the results of both cycles, it can be seen that think pair share can improve teacher's performance in planning and implementing learning process.

B. Results of Students' Activity

From the result of observation on student activity during learning, it can be seen that student activity have improvement in every cycle. Student learning activity in cycle I is 66,57%. Meanwhile, in the second cycle of student learning activities increased to 77.68%. On the observation of student activity there was an increase of 11.11%. This shows that cooperative learning model of think pair share can increase student activity in learning.

C. Student Learning Results

After the researchers applied cooperative learning model of think pair share, student learning outcomes consisting of learning classical completeness and average value can increase in every cycle. In the first cycle, the percentage of classical completeness is 83.34% with an average value of 80.00. Meanwhile, in cycle II, the percentage of classical learning completeness reached 91.67% with an average value of 81.87. From these two learning outcomes, it can be seen that the percentage of mastery learning classical increase as much as 8.33% and the average value increased by 1.87.

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