

Implementation of Cooperative Learning Model in Numbered Heads Together for Improving 4th Grade Students Learning Achievement on Social Science

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Abstract: *This study aims to describe the teacher activities, students' activities, and students' achievement. This study used cooperative learning model which is numbered Heads Together. This social science is expected to be able to learn about human and the environment. The Numbered Heads Together is a cooperative learning model which develops cooperative attitude among group members and creates students' performance to be brave. This study used a class room action research design. The subject were 24 students of 4th grade students in Dukuh Kupang III state elementary school. Data collection techniques used observation, tests, questionnaires, and documentation. Teacher activities, student activities, and learning achievement improved from cycle I to cycle III in the first observation is 54.16% which is in cycle I, 75% in cycle II, and 91.66% in cycle III. From these results, it can be concluded that the cooperative learning model of the NHT in social science can improve student achievement in 4th grade students in Dukuh Kupang III state elementary school, Surabaya.*

Keywords: *Social Science; Numbered Heads Together; Learning achievement.*

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I. Introduction

Learning is a process of someone in getting new experience which obtain a new behavior as the result of their own experiences during interaction in their environment. Thus, learning process is not passive activity. The learning process must be student-centered through physical activities and mental activities (Slameto, 2003, p. 2)[18]. In general, social science emphasizes on mastering the material which use teacher-centered methods, such as lecturing, recitation, textbook review, and so on. Even though social science is directly related to social conditions which students must be active in finding and learning the material in social science. Thus, Grouping is an alternative problem which faced by teachers in 4th grade students in Dukuh Kupang III state elementary school, Surabaya. According to Arends (2013, p. 80) [2] that cooperative learning is divided into six stages, among others: stage 1 explain the purpose and open the lesson, stage 2 presents information, stage 3 arranges students into the learning team, stage 4 helps teamwork and learning, stage 5 tests on material, stage 6 give awards.

Some problems, sometimes, give the effect to the students which make students less active in learning social science because the teacher does not provide an issue or problem in the opening of social science class. This condition creates learning achievement which measured by analyzing the results of evaluations on economic activity in 70 minimum completeness criteria (KKM). Besides, there were still many students who had not yet reached the KKM range on the highest and lowest scores. This case shows that the level of individuals in the class is quite high. The active learning can use cooperative learning such as *Numbered Heads Together* learning model. The teacher gives several questions and it will be answered in groups. Each student gets a different number as the identity and responsibility of the student when the teacher calls what number to present the results of the group discussion. The use of the Numbered Heads Together of cooperative learning model gives students more time to think, to respond and help each other. If students are more active and happy in learning process so student learning achievement is also expected in high score or improved. According to the description above, the author uses this title as "Implementation of cooperative learning model in Number Head Together for Improving 4th Grade Students Learning Achievement on Social Science".

II. Research Methods

The research design is a Classroom Action Research (CAR) which aims to improve and increase the quality of classroom learning process. This study uses a research model proposed by Kemmis and Mc Taggart that aims to improve the ability of students in the classroom, solve the solutions which exist in learning process and solve them in cyclical research. This model shows high effectiveness for the acquisition of good learning outcomes and to determine the effectiveness of the Numbered Heads Together in cooperative learning model especially in social science at 4th grade students in Dukuh Kupang III state elementary school, Surabaya. The main purpose of CAR is to improve the rationale and appropriateness of teaching and learning process, improve understanding of teaching and learning practices, and improve the situation or institution where the practice is carried out (Suyadi, 2010, p. 22) [25].

III. Results and Discussion

3.1 Result

The implementation of classroom action research on 4th grade students in Dukuh Kupang III state elementary school with the following reasons: (1) Low learning achievement in economic activity material during the learning process which tends to be monotonous and less attention for the students so that students feel bored when learn social science. (2) The strategy which is given by the teacher has not used student-centered yet so that the students lack of interest in learning social science and therefore researchers take an action to overcome it by applying the Numbered Heads Together of cooperative learning strategy.

This classroom action research was carried out during III cycles. Each cycle is sought to produce learning activities which are effective, efficient, and enjoyable so that learning achievement in social science can be improved. The implementation of each cycle use the Numbered Heads Together cooperative learning strategy. The result of data analysis process includes the improving of students and teacher's activities and the results of student learning achievement in the implementation of Numbered Heads Together cooperative learning on economic activities material. The results of data analysis are presented in three cycles as follows:

3.1.1 Teacher Activity

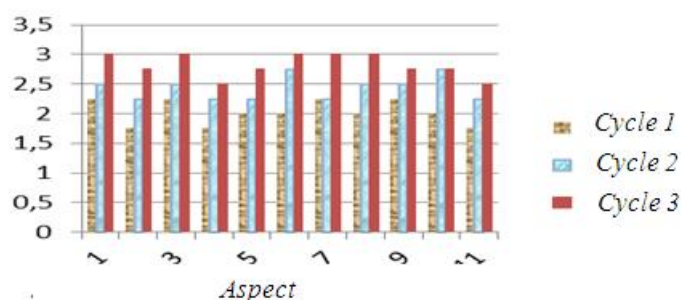


Figure 1. Graph of teacher activity on cycle I-III

Information:

- 1st Aspect: Motivating Students/giving apperception
- 2nd Aspect: Transferring learning objectives
- 3rd Aspect: presenting information
- 4th Aspect: presenting subject matter
- 5th Aspect: Organizing students in a group
- 6th Aspect: Gives a different number
- 7th Aspect: Teacher give some question
- 8th Aspect: Gives some direction
- 9th Aspect: Calling number of student until finished
- 10th Aspect: giving reward to the group
- 11th Aspect: concluding the material

From the diagram above, it can be seen that the teacher's ability to deliver Numbered Heads Together in cooperative learning which has increased from cycle I to cycle III. In the learning process of the first cycle, the teacher has not reached yet on the target of prescribed learning processes, however the teacher conveys the learning process well and the level of success in delivering the learning process is 67.42%. In the second cycle, teacher activities have reached the specified target of more than 80% and reached 81.06%. From first group to second cycle, there was an improvement of 13.64%. Although it has reached the target in the second cycle but there are still 5 aspects that have not been completed yet, such as the aspect of delivering learning objectives, presenting the subject matter, organizing students into study groups, guiding the group presentation, and concluding teaching material. Furthermore, it continues to the cycle III so that it reaches all the aspects of

completeness and reaches a value of 93.93%. From group II to cycle III there was an improvement of 12.87%. All aspects in Cycle III have reached as a predetermined target. So that the teacher is very good at delivering social science on economic activities by using the Numbered Heads Together in cooperative learning model.

3.1.2 Students Activities

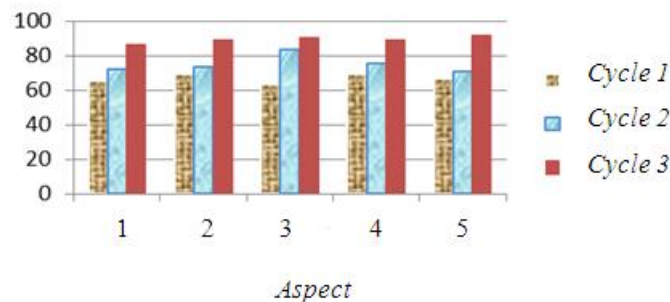


Figure 2. Graph of Student activities in cycle I-III

Information:

- 1st Aspect: Pay attention to the teacher's explanation
- 2nd Aspect: Accept the number given by the teacher
- 3rd Aspect: Cooperation in group work
- 4th Aspect: Doing presentation
- 5th Aspect: Doing evaluation

From the diagram above, it can be seen that the students' activities during Numbered Heads Together in cooperative learning improved from cycle I to cycle III. The average percentage of the first aspect is about paying attention to the teacher's explanation, which is achieved in the first cycle is 65.27%. The average percentage of the second cycle is 72.22% (an increase of 8.33% from the first cycle) and the average percentage of the third cycle was 86.11% (an increase of 13.89% from the second cycle). The average percentage of second aspect is about responding to the issue given by the teacher, which was achieved in the first cycle was 69.44%. The average percentage of the second cycle was 73.61% (an increase of 4.17% from the first cycle) and the average percentage of the third cycle is 88.88% (an increase of 15.27% from the second cycle). The average percentage of third aspect is about cooperation in group work achieved in the first cycle is 63.19%. The average percentage of the second cycle was 83.33% (an increase of 20.14% from the first cycle) and the average percentage of cycle III is 90.27% (an increase of 6.94% from cycle II). The average percentage of forth aspect which is about doing the presentation achieved in the first cycle is 69.44%. The average percentage of the second cycle was 75.69% (an increase of 6.25% from the first cycle) and the average percentage of the third cycle is 88.88% (an increase of 13.19% from the second cycle). The average percentage of fifth aspect which is about doing evaluation achieved in the first cycle is 66.66%. The average percentage of success in the second cycle was 70.83% (an increase of 4.17% from the first cycle) and the average percentage of the third cycle is 91.66% (an increase of 20.83% from the second cycle).

From the explanation above, it can show a recapitulation of the completeness of student activities such as the diagram as follows: the classical completeness of learning cycle I is 66.8%, classical completeness of learning cycle II is 75.13%, and classical completeness of learning cycle III is 89.16% and has reached a predetermined target of 80%.

3.1.3 Learning Achievement

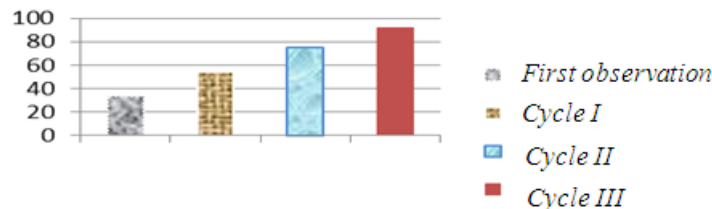


Figure 3. Graph of Student Learning Achievement

From the diagram above, it can be seen that in the first observation, the average value achieved was 58.75 with the percentage of classical achieved was 33.33%. After applying the Numbered Heads Together of cooperative learning in cycle I, the average score achieved by students was 67.91 with the percentage of classical achieved was 54.16%. Then in cycle II, the average score achieved by students was 77,41 with the

percentage of classical achieved was 75%. After that in cycle III, the average score achieved by students was 90,27 with the percentage of classical achieved was 91,66%. The percentage of classical completeness has increased from cycle II to cycle III by 16.66%. In this third cycle, classical completeness has reached the research target of more than 85% at 91.66%.

3.2 Discussion

**Teacher's activity in learning process
Cycle I-III (Observer 1 and 2)**

No.	The Aspect which is observed	Scores		
		Cycle I	Cycle II	Cycle III
1	Motivating students/giving apperception	2,25	2,5	3
2	Transferring learning objectives	1,75	2,25	2,75
3	Presenting Information	2,25	2,5	3
4	Presenting subject matter	1,75	2,25	2,5
5	Organizing students in a group	2	2,25	2,75
6	Gives a different number	2	2,75	3
7	Teacher give some question	2,25	2,25	3
8	Gives some direction	2	2,5	3
9	Calling number of student until finished	2,25	2,5	2,75
10	Giving reward to the group	2	2,75	2,75
11	Concluding the material	1,75	2,25	2,5
	Total	22,25	26,75	31
	Average	2,02	2,43	2,81
	(%) Percentage of completeness	67,42	81,06	93,93

Based on the table above, it can be seen that the classical completeness of learning cycle I is 67.42%, the classical completeness of learning in the second cycle is 81.06% and the classical completeness of learning cycle III is 93.93% and it has reached a predetermined target of 80%

**Students' learning activities
Cycle I-III (Observer 1 and 2)**

No	The aspect which is observed	Achievement percentages (%)		
		Cycle I	Cycle II	Cycle III
1	Paying attention to teacher explanations	65,27	72,22	86,11
2	Accept the number given by the teacher	69,44	73,61	88,88
3	Cooperation in work group	63,19	83,33	90,27
4	Doing presentation	69,44	75,69	88,88
5	Doing Evaluation	66,66	70,83	91,66
	Total	334	375,68	445,8
	(%) percentages of Completeness	66,8	75,13	89,16

Based on the diagram above, it can be seen that the classical completeness of learning cycle I is 66.8%, the classical completeness of learning cycle II is 75.13%, and the classical completeness of learning cycle III is 89.16% and it has reached the predetermined target of 80%.

From the first observations about student achievement in the first cycle reached a percentage which increase in 20.83%. In the Numbered Heads Together cycle II in cooperative learning, the average score achieved was 77.41 and the classical percentage reached 75%. The percentage of classical completeness has increased from cycle I to cycle II by 20.84%. In the Numbered Heads Together cycle III in cooperative learning, the average value achieved was 90.27 and the classical percentage reached 91.66%. The percentage of classical completeness has increased from cycle II to cycle III by 16.66%. In this third cycle, classical completeness has reached the research target of more than 85% at 91.66%. So student learning achievements always increase in each learning by using the Numbered Heads Together in cooperative learning model.

IV. Conclusion and Suggestion

4.1 Conclusion

Based on the results of the CAR data analysis on the implementation of the Numbered Heads Together in cooperative learning model on social science to improve student achievement in economic activity material at 4th grade students in Dukuh Kupang III state elementary school can be concluded that: (1) Teacher activities in the Numbered Heads Together in 4th grade has implemented the steps of the Numbered Heads Together completely and has improved from cycle I to cycle III. Teachers are able to be a master of economic activities and can implement the Numbered Heads Together learning model well. (2) The students' activities during the Numbered Heads Together has increased. The most prominent student activities are responding to the issues given by the teacher, cooperation in work group, doing presentations. (3) Student responses to learning by

using the Numbered Heads Together are very good. This result was shown by students who gave positive responses, students enjoyed studying social science in economic activities material after the implementation of the Numbered Heads Together learning model was applied. By applying the Numbered Heads Together in cooperative learning model is acceptable and effective for 4th grade students in Dukuh Kupang III state elementary school, Surabaya. (4) Increasing student learning achievement after being applied to the Numbered Heads Together type of cooperative learning model can be seen in student learning outcomes for cycles III. Learning achievement has increased accordance with the researcher's target (classical completeness is more than 85%). The test results showed the more prevalent students who achieved the specified Minimum Completion Criteria (KKM) score of ≥ 70 .

4.2 Suggestion

Based on the conclusions above, some suggestions can be suggested as follows: (1) Teachers are more active and creative in developing learning models, especially the Numbered Heads Together in cooperative learning model. (2) To increase the students' activities, the teacher should apply a learning model which emphasizes on students' activities. So that students are more active during learning process. (3) Numbered Heads Together in cooperative learning model can increase student motivation and response. (4) To improve student learning quality and student achievement, the teacher applies the Numbered Heads Together model. In a good learning achievement, the quality of learning will be improved and the Numbered Heads Together learning model is appropriate to be applied for social science in economic activities 4th grade students in Dukuh Kupang III state elementary school, Surabaya.

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