ENHANCING LEARNING OUTCOMES THROUGH COOPERATIVE LEARNING MODEL GROUP INVESTIGATION ON 5th GRADE STUDENTS

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Abstract. This study aims to apply learning model of Group Investigation type in improving the science learning outcomes of 5th grade students of SD Negeri 04 Jambangan. This type of research is a classroom action research using the Spiral Kemmis and Robin Mc Taggart model. This study consisted of 2 cycles, with 3 meetings in each cycle. The subjects of this study were 29 students of SD Negeri 04 Jambangan. The data collection instrument uses both test and non-test techniques. The research instrument is a matter of multiple choice tests, and teacher observation sheet and students' response. The result of the research shows that students' cognitive, affective, and psychomotor learning outcomes are improved after the application of cooperative learning model with Group Investigation. Thus, it can be concluded that the model can improve science learning outcomes.
Keywords: Group Investigation study model (GI), learning outcomes, science.

Education plays an important role for life because education is a vehicle to improve and develop the quality of human resources. One way to improve the quality of education is by renewing the education system (Isjoni, 2010). Sanjaya (2010) explained that the learning strategy is a learning activity that must be done by teachers and students so that the learning objectives are achieved and effective and efficient. According to Dimyati and Mudjiono (2009), learning outcomes are things that can be viewed from two sides: the students' side and the teacher's side. From the student side, learning outcomes are a better level of mental development when compared to the before learning process. The level of mental development is manifested in the types of cognitive, affective, and psychomotor domains. While from the teacher side, the learning result is when the material is finished. The average Total of science learning is still low when compared with other subjects. With the *Kriteria Ketuntasan Minimal* (KKM) or the minimal passing total of 70, there are 61.5% of students are still under KKM or do not pass due to students' less understanding of learning and students' less interest to learn science and only

38.5% of students achieve the KKM. From the observation of the learning process conducted on the teacher of 5th grade students of elementary school 04 Jambangan, there are several problems in the learning process of science. First problem is that the conventional method is still applied by some teachers. As a result, student learning outcomes are less satisfactory and less optimum because out of 29 students, there are only 10 students who reach the KKM while 19 students are still under the KKM. Thus, there should be efforts to improve learning outcomes that can reach KKM gaps. One way that can be used is to apply the Group Investigation (GI) learning model. This is in line with Kristin (2016) opinion that the improvement of good learning outcomes is not only supported by the willingness of students to learn well, but the learning methods used by teachers also affect student learning outcomes.

Sharan and Sharan in Huda (2011) argue that GI learning model is a model that places more emphasis on student control choices rather than applying classroom teaching techniques. In GI learning model, students are given full choice to plan what they want to learn and investigate. This model requires students to have good

communication skills in group process skills. The result of group work is the contribution of members' ideas as well as group learning which tends to emphasize the intellectual ability of students compared with conventional learning. The first GI model study is group division (Suprijono, 2010). Furthermore, teachers and learners choose certain topics with issues that can be developed from those topics. Once the topic and its issues are agreed upon, the learners together with the teacher determine the research method developed to solve the problem. The GI model is a model that is often called the most complex cooperative learning model because it combines several foundations of thought, based on constructivist views, democratic teaching, and cooperative learning groups.

METHODS

This Classroom Action Research uses the spiral model Kemmis and Mc Taggart through four stages: planning, action, observation, and action. This research was conducted in second semester of academic year 2016/2017 from January to May at SD Negeri 04 Jambangan, Sub Geyer, Grobogan District. Subjects to be studied are the students of class V SD Negeri 04 Jambangan, consisting of 15 male students and 14 female students. The independent variable in this research is Group Investigation model. In this learning model students are required to work within the team through investigations to solve problems in order to gain knowledge. The dependent variable in this research is the result of science learning of the students. Data collection techniques used in the study are tests and observations. The test is given after the completion of cycle I and cycle II to find out the improvement of students' learning outcomes after using Group Investigation model (GI) model, and to know the achievement of the learning objectives. Observation is done to analyze the learning activity using Group Investigation type (GI) model that will be implemented in cycle I and cycle II in SD Negeri 04 Jambangan. The study used descriptive analysis techniques to compare initial test Totals, test Totals after cycle I, and test Totals after cycle II, as well as based on the number of students who reach KKM. The data are processed by descriptive analysis is data

from the Total obtained at the initial test Total, Total after cycle I and cycle II after using cooperative learning model of Group Investigation type. Data were obtained by comparing test Totals before improvement, after cycle I and after cycle II. Comparison of learning outcomes in cycle I and cycle II is used to determine the improvement that occurs after using GI learning model that is implemented in cycle I and cycle II.

RESULTS AND DISCUSSION

RESULTS

Table 1 showed that the comparison of learning outcomes of initial conditions, cycle I and cycle II has increased. The average learning outcomes at the initial condition of 59.48 increased in cycle I to 71.20, increasing again in cycle II to 82.54. The score of science KKM in SD Negeri 04 Jambangan is 70. In the initial condition, there are 10 students with the percentage of 34.48% and the unfinished student are 19 students with the percentage of 65.52%. Experienced in improving in cycle I, there are 19 students complete with 65.52% and unfinished 10 students with percentage of 34.48%. Increased again in cycle II, complete students as many as 27 students with 93% percentage and unfinished as many as 2 students with percentage of 7%.

Affective learning results obtained from the results of teacher observations to students during the learning taking place. Affective learning results emphasizes on aspects of student attitudes during the learning takes place. Based on Table 2, it can be seen that there is an increase in affective learning outcomes from cycle I to cycle II. On the implementation of the action cycle I seen in the aspect of cooperation with the group with an average score of 75 and in the second cycle increased to 79.31, tolerance in cycle I has an average score of 73.27 on the second cycle increased to 82.75, listening the opinion of others in the first cycle with the score of 65.47 in the second cycle increased to 79.31, the aspect of providing solutions in cycle I with the score of 73.27 in the second cycle increased to 81.03.

Tabel 1. Cognitive Outcomes Comparison from the Initial Cycle I and II

No	Criteria	Initial Condition		Cycle I		Cycle II	
		Total	%	Total	%	Total	%
1	Pass	10	34.48	19	65.52	2	7
2	Not pass	19	65.52	10	34.48	27	93
	Total	29	100	29	100	29	100
	Average	59.48		71.20		82.54	
	Highest Total	90		95		100	
	Lowest Total	35		45		55	

Tabel 2. Effective Learning Outcome Analysis in Cycle I and II

No	Criteria	Cycle I		Cycle II	
		Average	Classical Total	Average	Classical Total
1	Group Cooperation	68.96	67.24	77.58	93.10
2	Tolerance	77.58	79.31	82.75	96.55
3	Listening to others' opinion	64.65	67.24	81.03	89.65
4	Giving Solution	61,20	67.24	62.93	86.20
	Highest Total	75		100	
	Lowest Total	25		50	

Tabel 3. Psychomotor Learning Outcomes Analysis Cycle I dan Cycle II

No	Criteria	Cycle I		Cycle II	
		Average	Classical Score	Average	Classical Score
1.	Correctness	78.44	79.10	80.17	93.10
2.	Accuracy in writing material	63.62	67.24	78.44	89.65
3.	Explaining material	61.20	64.65	79.31	86.20
4.	Responding	68.10	67.24	76.74	86.20
	Highest score	100		100	
	Lowest score	50		75	

Based on Table 3, it can be seen that the students' psychomotor learning outcomes with aspects of determination to answer the material that has been determined by the group in cycle I 73.27, in the second cycle increased to 79.31, accuracy in writing the answer material in the group work sheet on cycle I Its score 73.27, in cycle II become 82.75, student ability in explaining material to other group at cycle I average score 65.37 in cycle II become 79.31, and last aspect ability of student in responding answer at cycle The score is 75 in the second cycle has increased to 81.03.

DISCUSSION

This classroom action research emphasizes improvement efforts to improve science learning outcomes in grade V SD Negeri 04 Jambangan by using Group Investigation (GI) learning model. Group Investigation (GI) learning model requires students to be active in discussions, dare to express opinions and be able to investigate or investigate a problem in groups. When student learning is given one topic of the problem then in groups of students together investigate or investigate the problem. Students with the group experiment to solve the problem. After students are able to solve the problem students present the results of group research in front of the class. Another group responded when a friend was presented. Teachers in the class become facilitators so students who dominate learning are not teacher-centered learning. At the end of the learning the teacher gives an evaluation to know how far students can understand about the material being studied.

Cognitive learning outcomes at baseline, cycle I and cycle II increased. The average of learning outcomes at initial conditions is 59.48; Increased in cycle I to 71.20; and increased again in cycle II to 82.54. In the initial condition, there are 10 students with the percentage of 38.48% and the unfinished students are 19 students with the percentage of 61.52%. Experiencing improvement in cycle I, there are 19 students complete with percentage of 61.52% and unfinished 10 students with percentage 38.48%. It increased again in cycle II, 27 students who are passing with 93% percentage and 2 students who are not passing with percentage of 7%.The results of affective learning cycle I and cycle II are seen increased. Aspects of cooperation with groups in the first cycle of 75 increased to 79.31 after cycle II; Tolerance of 73.27 increased to 82.75; Listen to the opinions of others 65.47 increased to 79.31; providing 73.27 solutions increased to 81.03.

The results of psychomotor study cycle I and cycle II have increased. Implementation of cycle I action seen on the aspect of accuracy of replying the material 73.27 increased to 79.31; Accuracy in writing the material 73.27 increased to 82.75; Ability to explain material 65.37 to 79.31; And the material's replying ability 75 increased to 81.03.

In cycle I and cycle II, the completed students continue to experience improvements in learning outcomes, as well as students who have not completed and given treatment using Group Investigation learning model (GI). Improved learning outcomes can occur because by using Group Investigation (GI) model of learning, students can more easily understand learning, increase student activity because students are able to discuss and cooperate with their group in investigating the problem given by the teacher. From the results of the exposure can be concluded that the model of cooperative type Group Investigation can be said to be successful in accordance with the theory of Sharan and Sharan in Huda (2011) that the Group Investigaton learning model is a model that emphasizes more on student control options than applying the techniques of teaching in space class. In the Group Investigaton (GI) learning model, students are given full choice to plan what they want to learn and investigate. This model requires students to have good communication skills in group process skills. The result of group work is the contribution of members' ideas as well as group learning which tends to hone the intellectual ability of students compared with conventional learning. This proves that cooperative model type Group Investigation has advantages and can increase student cooperation in group, as opinion expressed by Istarani (2010) advantages of this learning model is able to combine different students ability through heterogeneous group, train students to increase cooperation in Groups, train students to take responsibility because they are assigned tasks to be completed in groups, students are trained to discover new things from the results of group investigations conducted.

This research is in line with classroom action research conducted by Asviati (2012), Sutanto (2012) and Rutinah (2012). Based on the above research, the results showed that the application of Group Investigation model of cooperative model proved to improve student learning result because the result obtained in the research can increase the significant result. This condition has an impact on increasing the academic score of students.

The advantages of this study compared to previous research is in previous studies only

use the steps of Group Investigation (GI) learning methods without adding standard process in its application. In this study, Group Investigation (GI) learning steps are modified with process standards comprising initial activities, core activities (exploration, elaboration and confirmation) and closing activities. In this study also studied include 3 domains of affective, cognitive and psychomotor. In addition the researchers used the observation sheet so that the data collected more complete. Thus the results of this study differ from previous researchers used for a more complete assessment and application of learning models in accordance with its goals.

CONCLUSION

The application of Group Investigation learning model (GI) can improve the science learning outcomes of 5th grade students of SD Negeri 04 Jambangan. Students who are lacking in achieving minimal scores on science can pay more attention when following the lesson. Teachers should use learning models that can make students become enthusiastic in following the learning and schools can provide socialization to teachers to use varied learning models that can help a better learning environment.

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