❐   111

Comparison of Cooperative Listening Team and Numbered Head Together Types of Learning Outcomes of Geography in the Material of Earth's Rotation and Revolution

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ABSTRACT

Purpose of the study: This study aims to determine differences in geography learning outcomes using cooperative learning models of listening team types, numbered heads together and discussions.

Methodology: This study used a Quasi-Experimental research method "Postest-Only Control Design". The population of this study were all students of class X at senior high school. Samples were taken by cluster random sampling technique. The selected sample is class A, B and C. The technique of collecting data on learning outcomes uses a test technique in the form of essay questions. The data analysis technique used was One Way Variant Analysis (One Way Anava) and post Anava test (Scheffe' method) with a significance level of 5%.

Main Findings: The results showed: 1) There were differences in geography learning outcomes using the Listening Team, Numbered Head Together (NHT) cooperative learning model and discussions on the subject matter of Rotational Motion and Earth Revolution for class X students. 2) The Geography learning outcomes using the Listening Team cooperative learning model were better than the Geography learning outcomes using the discussion method. 3) The learning outcomes of Geography using the Numbered Head Together (NHT) cooperative learning model are better than the learning outcomes of Geography using the discussion learning method.

Novelty/Originality of this study: Based on the results of previous research, it is known that the cooperative model with the Listening Team and Numbered Head Together (NHT) types can increase student activity and achievement. This is renewable through this research practically learning using cooperative learning models of the Listening Team and Numbered Head Together (NHT) types can improve students' learning outcomes of Geography in the material Rotational Motion and Earth Revolution.

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1. INTRODUCTION

Education as an effort to make real human beings, shape attitudes and character so that they become intelligent, dignified, faithful, pious, creative, and independent human beings [1]–[3]. This is one of the

important pillars that must be fulfilled in the life of society, nation and homeland. Through education, humans can develop the potential that exists within them to be able to survive in facing various types of situations and conditions that arise as a result of the times. Education is the foundation in forming superior human resources in achievement, in accordance with the goals of national education to educate the nation's life and develop Indonesian people as a whole [4]–[6].

The educational process takes place within the family, school and wider community. Education that occurs in the family and community environment takes place naturally and fairly, there are no binding rules. Education in the school environment is designed in such a planned manner, with various strict, tiered rules, supported by infrastructure and activities that take place continuously between teachers and students, so that it is referred to as formal education [7], [8]. In the whole process of education in schools, teaching and learning activities are the most important activity. Teaching and learning activities occur with a process of communication between the teacher as the party who teaches and students as the party who learns. The teacher's task is not easy, the teacher is an educator, mentor, trainer, and curriculum developer who can create a conducive learning atmosphere, provide space for students to explore and collaborate on their abilities, so that the potential development of students can run optimally.

In the era of information and communication technology that is increasingly advanced today, teachers not only teach but also have to create the right learning environment and atmosphere, which can foster the creativity and activity of students. The teacher is also a learning manager, a teacher manages all matters in teaching and learning activities, starting from preparing material, learning planning, organizing, controlling, to evaluating teaching and learning activities [9], [10].

Cooperative learning is a learning model using a grouping model/small team, namely between four to six people who have different (heterogeneous) backgrounds of academic ability, gender, race, or ethnicity [11], [12]. The scoring system is carried out on groups. Each group will receive an award, if the group is able to show the required achievements. Thus, each member of the group will have a positive dependency. It is this kind of dependence that will in turn bring up individual responsibility towards the group and the interpersonal skills of each group member. Each individual will help each other, they will have motivation for the success of the group, so that each individual will have an equal opportunity to contribute to the success of the group.

The Listening Team type cooperative learning model is a learning method that is carried out by forming discussion groups of students who listen while playing an active role according to their respective tasks in the group [13]. Basically, this activity is a way to help students stay focused and alert in various learning situations that are happening. The use of Listening Teams in learning which places more emphasis on optimizing students' hearing senses in addition to other senses, is expected to be able to encourage students to remain focused and alert during the learning process.

The Numbered Head Together (NHT) cooperative learning model is a learning method that places more emphasis on student activities in class [14]. In this method students occupy a very dominant position in the learning process and the occurrence of cooperation in groups with a numbering system. Each student tries to understand every material delivered by the teacher and is responsible for their respective member numbers. Students actively work in groups, they are fully responsible for the questions they get. For example, students with serial number 5 in their group have full responsibility for question number 5. Even though at the time of presentation they can be appointed to work on other numbers. Using this method, it is hoped that the learning process that occurs can be more meaningful giving a strong impression and a sense of responsibility to students.

Cooperative learning models of the Listening Team and Numbered Head Together (NHT) types are two types of learning methods among the many learning models in cooperative learning. Both of these models are thought to be suitable for material with the concepts of reasoning, analysis, and understanding of material in learning. With this method all students have the opportunity to be actively involved and have high discipline, can exchange ideas and help each other in their groups to solve problems found. These two cooperative learning models will be compared with the Discussion learning model. The discussion learning model is a teaching method in which the teacher gives a problem or problem to students and students are given the opportunity together to solve the problem with their friends. In discussions students can express opinions and refute the opinions of other students in the context of solving problems in terms of various aspects.

In the Basic Competency "Analyzing the Dynamics of Planet Earth as a Living Space", with the subject matter "Rotational Motion and Earth's Revolution" is material that requires reasoning, analysis, and understanding, not just memorization. Students must know about the causes of the apparent daily circulation of celestial bodies, the occurrence of day and night, the difference in time between one region and another, differences in the acceleration of gravity on the earth's surface, deflection of wind direction, deflection of ocean currents. Not only that, students must also be able to understand several events that humans can feel as a result of the earth's revolution. Through the application of these three learning models, it is hoped that students' thinking skills can develop so that the material can be conveyed properly. So that student learning outcomes can be obtained as much as possible. Based on this, the purpose of this research is to determine differences in

geography learning outcomes using cooperative learning models of listening team types, numbered heads together and discussions

2. RESEARCH METHOD

In this study, the research method used was experimental research method. The type of research used is quasi-experimental research. The experiment in question is to provide treatment or treatment to the experimental group using cooperative learning models of the Listening Team and Numbered Heads Together (NHT) types on the subject matter of Rotational Motion and Earth Revolution. The research design applied to this study was a posttest only control group design. This design places more emphasis on posttest learning outcomes so that the effects of the experiment are more clearly visible and can be compared with students' UTS (Mid Semester Examination) results.

The research was conducted at SMA Negeri 1 Colomadu. Population is defined as a group of subjects who wish to generalize the research results [15]–[17]. The population is the generalization area consisting of objects or subjects that have certain qualities and characteristics determined by the researcher to be studied and conclusions drawn. The population in this study were all X classes at senior high school which were divided into three classes, namely A, B, C classes. The sample is part of the number and characteristics of the population. [18]–[20]. Which were obtained using a random sampling technique.

This study uses the test method to obtain the necessary data. In this study to collect data using the test method that will be used is only the final test (post test only). Posttest is used to determine student learning outcomes after being provided with learning material. The form of the test used by the researcher was an essay with test questions made the same for the experimental group and the control group. The test questions used are arranged according to the grid and refer to the material presented. The grid of test questions can be seen in the table below.

Table 1. Data on Learning Outcomes of Class Two Stay Two Stray Students

Basic competencies	Indicator	Aspect Amount				Amount
		C2	C3	C4	C5	
3.3 Analyzing the Dynamics of Planet Earth as a Living Space (Sub-topic of Earth's Rotational Motion and Revolution)	Distinguish between rotation and revolution of the earth	2		3		2
	Identify the effects of the earth's rotational motion on living space	5			1	2
	Analyzing several events that occur as a result of the earth's revolution in the living space	7	4, 6		8	4
	Number of Problem Instruments					8

The data analysis used in processing the Geography learning outcomes data on the subject matter of Rotational Motion and Revolution of the Earth is to use descriptive statistical methods and parametric inferentials. Descriptive statistical analysis is used to describe or provide an overview of data in the form of tables and graphs of the average value in order to easily obtain an overview of the nature or characteristics of objects from the data [21]–[23]. Parametric inferential is used for hypothesis testing. Testing the hypothesis in this study used one way analysis of variance (one way anava) with a significance level of 5% ($\alpha = 0.05$). Before the analysis of variance for testing the hypothesis is carried out, it is necessary to do a prerequisite test first with the data normality test and the variant homogeneity test.

3. RESULTS AND DISCUSSION
3.1. RESULTS

The research data were obtained from the learning outcomes data of students in the cognitive domain on the subject matter of Rotational Motion and Earth Revolution. Data on cognitive learning outcomes were obtained from a written test in the form of an essay which was conducted at the second meeting after being given treatment at the first meeting. The test questions consist of 8 questions covering aspects C1, C2, C3, C4, and C5. The data were obtained from three classes with a total sample of 101 students divided into 33 students in class A, 34 students in class B, and 34 students in class C. Class A as a comparison class using the Discussion learning model, class B as the experimental class 1 using the cooperative learning model type Listening Team and class X IPS 3 as the experimental class 2 using the learning model. cooperative learning type Numbered Head Together (NHT).

Research data in the form of Listening Team class student learning outcomes data is presented in the following table.

Table 2. Data on Learning Outcomes Scores for Listening Team Class Students

Intervals	Middle value	Frequency	Percentage
19,5-21,5	20,5	3	8,82%
21,5-23,5	20,5	4	11,76%
23,5-25,5	24,5	7	20,59%
25,5-27,5	26,5	12	35,29%
27,5-29,5	28,5	6	17,68%
29,5-31,5	30,5	2	5,88%
Amount		34	100%
Means		25,59	
Median		25	
Maximum Value		30	
Minimum Value		20	

Based on the table above, it can be seen that the distribution of learning outcomes data for students in the Listening Team class. Through the cooperative learning model of the Listening Team type in class B, it can be seen that the most scores of geography learning outcomes are at intervals of 25.5 – 27.5 with a frequency of 12 students. The Listening Team class has an average of 25.59 with a median of 26 and has a minimum score of 20 and a maximum score of 30.

Research data in the form of student learning outcomes in the Numbered Head Together (NHT) class are presented in the following table.

Table 3. Data on student learning outcomes in the Numbered Head Together class

Intervals	Middle value	Frequency	Percentage
19,5-21,5	20,5	7	20,59%
21,5-23,5	22,5	3	8,82%
23,5-25,5	24,5	10	29,41%
25,5-27,5	26,5	8	23,52%
27,5-29,5	28,5	4	11,76%
29,5-31,5	30,5	2	5,88%
Amount		34	100%
Means		25,59	
Median		25	
Maximum Value		31	
Minimum Value		20	

In the table it can be seen the distribution of data on student learning outcomes in the Thing Pair Share Class. Through the application of the Thing Pair Share learning method in class C, the highest frequency of scores was in the value interval of 80.5-87.5, with a total of 11 students. The average score obtained in the Think Pair Share class reaches 80 with a median value of 81, and has a minimum value of 53 and a maximum value of 95.

The results of the research in the form of data on student learning outcomes in the Discussion class are presented in the following table.

Table 4. Data on Learning Outcomes of Discussion Class Students

Intervals	Middle value	Frequency	Percentage
18,5-20,5	19,5	6	18,18%
20,5-22,5	21,5	10	30,30%
22,5-24,5	23,5	13	39,39%
24,5-26,5	24,5	3	9,09%
26,5-28,5	26,5	1	3,03%
Amount		33	100%
Means		22,61	
Median		23	
Maximum Value		26	
Minimum Value		19	

In the table above, it can be seen that the distribution of learning outcomes data for Discussion Class students. Through the application of the Discussion learning method in class A, it can be seen that the most scores of geography learning outcomes are at intervals of 22.5 – 24.5 with a frequency of 13 students. The Discussion Class has an average of 22.61 with a median of 23, and has a minimum score of 19 and a maximum score of 26. Before the Anava test is carried out, there are conditions that need to be carried out, namely the normality test and homogeneity test. The normality test aims to ensure that the samples taken come from a normal distribution, and the homogeneity test aims to ensure that the samples taken are homogeneous.

The normality test was carried out to find out whether the sample came from a normally distributed population or not [24]–[26]. If indeed the data is normally distributed, then the data is considered capable of representing the population. The normality test was carried out using the Liliefors method with a significant level of 5%. The results of the normality test for Posttest data in each class can be seen in the following table.

Table 5. Posttest data normality test results

Data	Class	L price		
		L_{count}	L_{table}	Conclusion
Posttest	Eksperiment 1	0,1295	0,1520	
	Eksperiment 2	0,0972	0,1520	Normal
	Control	0,083	0,1544	

To determine the normality of the data is done by reading the value of L count and L table. If L count is smaller than L table, it can be concluded that the data is normally distributed. But if the calculated L value is greater than the L table then the data is not normally distributed. Based on the results of the normality test above, it can be seen that the data in the Listening Team Class, Numbered Head Together (NHT) Class and Discussion Class are normally distributed because L counts for all classes are smaller than L tables. Homogeneity test is the second prerequisite test that must be carried out before the Anava test, which aims to find out whether the data variants come from the same (homogeneous) data or not. Homogeneity test was carried out using the Bartlet method with a significance level of 5%. The results of the variance homogeneity test are shown in the table below.

Table 6. Results of variance homogeneity test

Data	Class	X^2 Price		
		X^2_{count}	X^2_{table}	Conclusion
Posttest	Eksperiment 1			
	Eksperiment 2	1,2962	5,991	Homogen
	Control			

Determination of data homogeneity is done by comparing the value of X2obs and the value of X2table. If X2obs < X2table, then the data is homogeneous, but if the value of X2obs > X2table then the data is not homogeneous. From the results of the homogeneity test calculations that have been carried out, the value of X2obs is 1.2962 and the value of X2table is 5.991, so when compared, the results will be obtained X2obs <X2table. Thus H0 is accepted and it can be concluded that the sample in this study which consisted of the Listening Team class, Numbered Head Together (NHT) class and Discussion class came from a homogeneous population. After the prerequisite tests were carried out, namely the normality test and homogeneity test were fulfilled, then hypothesis testing was carried out. In this study, the hypothesis test used was a one-way analysis of variance (ANOVA) test.

Anava is used to test whether there are differences in the effects of several treatments on the dependent variable. By continuing the post-anava test using the Scheffe' method. After the two prerequisite tests are met, then the hypothesis test is carried out. In this study, the hypothesis test used was a one-way analysis of variance (anava) test, followed by a post-anava test using the Scheffe' method. One-way anava results can be seen in the following table.

Table 7. One-way Anava calculation results

Source	JK	dk	RK	Fobs	Fα
Method	1369,2123	2	684,6061	8,0473	3,0892
Error	8337,0846	98	85,0722	-	-
Total	9706,297	100	-	-	-

The table above shows the test results of one-way analysis of variance with cells that are not the same. To determine the calculated one-way anava test results, it is necessary to compare the Fobs value and the Ft value, provided that if Fobs < Ft then H0 is accepted and if Fobs > Ft then H0 is rejected. The Fobs value is 8.0473 while the Ft value is 3.0892. Thus the results obtained show the Fobs > Ft value. this proves that there are differences in the learning outcomes of Geography of students who use cooperative learning models of Listening Team, Numbered Head Together (NHT) and Discussion types. To find out the significant differences in the treatment given, it is necessary to carry out a post-anava test, namely by using the Scheffe' method. The use of the Scheffe method was chosen because the number of students in each class was different. The following is a summary of the post-anava test results using the Scheffe' method on the students' Geography learning outcomes presented in the table below.

Table 8. Post Anava Test Results with the Scheffe Method

X_i	ListeningTeam	Numbered Head Together	ListeningTeam
X_j	Discussion	Discussion	Numbered Head Together
Rata - rata X_i	79,96	76,84	79,96
Rata - rata X_j	70,64	70,64	76,84
N_i	34	34	34
N_j	33	33	34
$(X_i - X_j)^2$	81,7396	22,2545	18,6929
$RKG \left(\frac{1}{n_i} + \frac{1}{n_j}\right)$	5,0801	5,0801	5,0043
F_{count}	16,334	4,38	3,7354
F_{table}	3,09	3,09	3,09
Test Decision	Ho was rejected	Ho was rejected	Ho was rejected
Conclusion	Different (Better)	Different (Better)	Different (Better)

The table above shows the results of the post-test of variance analysis using the Scheffe method. To determine the test decision in testing the second hypothesis, it is enough to look at the Fobs value from the Scheffe' test calculation between the results of learning Geography using the Listening Team and Discussion type cooperative learning model is 16.334, while the Fα value is 3.09. Based on these calculations, the results obtained by comparing the Fobs and Ft values are Fobs > Ft (16.334 > 3.09). Based on this comparison, the decision taken was that H0 was rejected. This proves that the second hypothesis is consistent, which states that the Listening Team type cooperative learning model is better when compared to the Discussion learning method for Geography learning outcomes for class X at senior high school.

Table 6 shows the post-anava results with the Scheffe' method. To determine the test decision in testing the third hypothesis, it is enough to look at the Fobs value from the Scheffe' test calculation between the results of learning Geography using the Listening Team and Discussion type cooperative learning model is 4.38 while the Ft value is 3.09. Based on these calculations, the results obtained by comparing the Fobs and Ft values are Fobs>Ft (4.38 > 3.09). Based on this comparison, the decision taken was that H0 was rejected. This proves that the third hypothesis is consistent, which states that the Numbered Head Together (NHT) type of cooperative learning model is better when compared to the Discussion learning method for Geography learning outcomes for class X senior high school.

Table 6 shows the post-anava results with the Scheffe' method. To determine the decision to test in testing the fourth hypothesis, it is enough to look at the Fobs value from the Scheffe' test calculation between the learning outcomes of Geography using the Listening Team and Numbered Head Together (NHT) cooperative learning model is 3.7354 while the Ft value is 3.09. Based on these calculations, the results obtained by comparing the Fobs and Ft values are Fobs > Ft (3.7354 > 3.09). Based on this comparison, the decision taken was that H0 was rejected. This proves that the fourth hypothesis is consistent, which states that the Listening Team learning method is better when compared to the Numbered Head Together (NHT) cooperative learning model for the learning outcomes of Geography class X senior high school.

3.2. DISCUSSION

This research was conducted with the aim of finding out the differences in the application of the Listening Team and Numbered Head Together (NHT) cooperative learning model to the learning outcomes of students in class X senior high school on the subject matter Rotational Motion and Earth Revolution, with a total

of three classes consisting of an experimental class and a control class with a total of 101 students. The three classes are class A with 33 students, B with 34 students and C with 34 students. Class X IPS 2 and class X IPS 3 were designated as the experimental class, while class A was designated as the control class.

In determining the experimental class and comparison class, the researcher did not base it on the acquisition of learning outcomes on the previous basic competencies but by drawing lots in two stages. The first stage is to determine the three classes that will be the research sample. The second stage is by drawing back the three selected classes to determine which experimental class 1 will receive treatment in the form of applying the Listening Team cooperative learning model, experimental class 2 will receive treatment in the form of applying the Numbered Head Together (NHT) cooperative learning model and the comparison class will receive the Discussion learning method treatment. The three classes that were given treatment produced an average score of different Geography learning outcomes. The difference in the average value is strongly influenced by the method used. A treatment is said to be influential if there is a difference in the average score after being tested.

The results of studying Geography in the experimental group 1 were better than the experimental group 2 and the comparison group, and the experimental group 2 was better than the comparison group so that the learning methods had differences. From a comparison of the average scores of students' Geography learning outcomes it is known that the application of the three types of learning models has an impact in the form of differences in Geography learning outcomes in class X senior high schoolon the subject matter Rotational Motion and Earth Revolution. This is due to the characteristics of the methods used in the learning process which have a different effect on each learning material where each learning material also has different properties, characteristics and suitability so that it has a different end result with the advantages and disadvantages of each.

The first hypothesis was tested using one-way analysis of variance (anava). Based on the results obtained, it is known that the value of Fobs > Ft (8.0473 > 3.0892) from the results of the one-way analysis of variance, the decision taken is that H0 is rejected. Thus it can be concluded that there is a significant difference in the average student learning outcomes of Geography between the use of cooperative learning models of the Listening Team, Numbered Head Together (NHT) and Discussion type cooperative learning models. The average score of the Geography learning outcomes of students who were given treatment using the Listening Team cooperative learning model was higher than those who were given treatment using the Numbered Head Together (NHT) cooperative learning model and the Discussion method. The influence exerted by each learning method varies due to the nature and characteristics of each of these learning methods.

The calculation of the one-way analysis of variance (ANOVA) test has not been able to determine which shows a significant difference between those who receive treatment using one learning method and another. To find out which treatment using the method is more influential of the three types of learning models, a post-ANOVA test was carried out using the Scheffe' method. The Scheffe' method is used because the samples taken have different average values. Thus, testing the second, third, and fourth hypotheses was carried out using the Scheffe' method to find out which learning method had more influence on students' Geography learning outcomes than the average value of their learning outcomes.

Testing the second hypothesis was carried out by comparing the learning outcomes of students who received treatment in the form of applying the Listening Team cooperative learning model and the Discussion learning method significantly. The results of the post-anava test using the Scheffe' method showed a value of Fobs > Ft (16.334 > 3.09). Based on this comparison Fobs > Ft, the decision taken is that H0 is rejected. This means that the treatment by applying the Listening Team type cooperative learning model has a better effect when compared to the learning outcomes of Geography students who use the Discussion learning method in class X. Based on the learning outcomes of Geography students, it is known that the average value of class B as the experimental class 1 is given treatment using the Listening Team type cooperative learning model of 79.96 and class A as the control class using the Discussion learning method has a value an average of 70.64. The difference in Geography learning outcomes between the two models is 9.32.

The results of learning Geography of students in the cognitive domain are comparable to the results of learning Geography of students in the affective and psychomotor domains. Assessment in the affective domain is carried out through two assessments, namely social attitudes and spiritual attitudes, the average value of students in the Listening Team class: Discussion is 3.33: 3.20, based on the assessment data there is a significant difference, the group of students who get the treatment using the Listening Team type cooperative learning model has a better attitude, in this assessment the attitude value is seen from activeness, independence, behavior towards friends, group work, and behavior when praying. Comparison of scores in the psychomotor domain between groups of students who were given treatment using the Listening Team type cooperative learning model: Discussion of 3.28: 3.07 based on this assessment it can be seen that the application of the Listening Team type cooperative learning model is more able to grow skills in students, Pricomotor assessment includes opinion skills, skills in compiling discussion material, and skills in presenting discussion material.

Thus it can be concluded that there is a greater influence on the class that is given treatment using the Listening Team type cooperative learning model compared to classes that use the Discussion learning method. The cooperative learning model of the Listening Team type has several advantages, namely: a) the interaction

between students with one another can grow intimacy, b) the application of this method causes a positive response for students who are slow, less proficient in receiving material and lacking motivation , c) Listening Team trains students to think critically, d) does not require complicated communicative skills, in many cases students can do it with simple directions, e) Students do not depend on teachers, but can increase confidence in their own thinking abilities, f) can develop the ability to express ideas/ideas, g) can develop the ability of students to test their own understanding and receive feedback, h) can increase motivation and provide stimulation to think.

Testing the third hypothesis was carried out by comparing the learning outcomes of students who received treatment in the form of applying the Numbered Head Together (NHT) cooperative learning model and the Discussion learning method significantly. The results of the post-anava test using the Scheffe' method showed a value of Fobs > Ft (4.38 > 3.09). Based on this comparison Fobs > Ft, the decision taken is that H0 is rejected. It means that the treatment by applying the Numbered Head Together (NHT) cooperative learning model has a better effect when compared to the learning outcomes of Geography students who use the Discussion type cooperative learning model in class X. Based on the learning outcomes of Geography students, it is known that the average value of class X IPS 3 as experimental class 2 was given treatment using the Numbered Head Together (NHT) cooperative learning model of 76, 84 and class X IPS 1 as a comparison class using the learning Discussion in its learning activities has an average value of 70.64. The difference in Geography learning outcomes between the two models is 6.2.

The results of learning Geography of students in the cognitive domain are comparable to the results of learning Geography of students in the affective and psychomotor domains. Assessment in the affective domain is carried out through two assessments, namely social attitudes and spiritual attitudes, the average value of students in the Numbered Head Together (NHT) class: Discussion is 3.29: 3.20 based on the assessment data, there is a significant difference, the group of participants students who received treatment using the Numbered Head Together (NHT) cooperative learning model had a better attitude, in this assessment the value of attitude was seen from activeness, independence, behavior towards friends, group work, and behavior when praying. And the comparison of values in the psychomotor domain between groups of students who were given treatment using the Numbered Head Together (NHT) type cooperative learning model: Discussion of 3.23: 3.07, based on this assessment it can be seen that the application of the Numbered Head Together type cooperative learning model (NHT) is more capable of cultivating skills in students, pricomotor assessment includes opinion skills, skills in compiling discussion material, and skills in conveying discussion material.

Thus it can be concluded that there is a greater influence on the class that is given treatment using the Numbered Head Together (NHT) cooperative learning model compared to the class that uses the Discussion learning method. Because the cooperative learning model of the Numbered Head Together (NHT) type has several benefits in its application to students whose learning outcomes are less than optimal, namely: a) there is interaction between students through discussions, students jointly solve the problems they face, b) smart students and less intelligent students benefit through this cooperative learning activity, c) all students have the same portion, cannot depend on other students d) by working in groups, the possibility of knowledge construction will be greater, e) can provide opportunities for students to use the skills to ask questions, discuss and develop leadership talent.

Testing the third hypothesis was carried out by comparing the learning outcomes of students who received treatment in the form of applying the Listening Team type cooperative learning model in experimental class 1 and the Numbered Head Together (NHT) type cooperative learning model in experimental class 2 significantly. The results of the post-anava test using the Scheffe' method showed a value of Fobs > Ft (3.7354 > 3.09). Based on this comparison Fobs > Ft, the decision taken is that H0 is rejected. It means that the treatment by applying the Listening Team type cooperative learning model has a better effect when compared to the Geography learning outcomes of students who are given treatment using the Numbered Head Together (NHT) type cooperative learning model in class X IPS SMA Negeri 1 Colomadu. Based on the learning outcomes of Geography students, it is known that the average value of class X IPS 2 as experimental class 1 was given treatment using the Listening Team type cooperative learning model of 79.96 and class X IPS 3 as experimental class 2 was given treatment using the Numbered Head Together (NHT) cooperative learning model in its learning activities had an average value of 76.84. The difference in Geography learning outcomes between the two models is 3.12.

The results of learning Geography of students in the cognitive domain are comparable to the results of learning Geography of students in the affective and psychomotor domains. Assessment in the affective domain was carried out through two assessments, namely social attitudes and spiritual attitudes. The average value of students in the Listening Team: Numbered Head Together (NHT) class was 3.33: 3.29. Based on the assessment data, there was a significant difference. The group of students who received treatment using the Listening Team type cooperative learning model had a better attitude. And the comparison of scores in the psychomotor domain between groups of students who were given treatment using the Listening Team type cooperative learning model: Numbered Head Together (NHT) was 3.28: 3.23, based on this assessment it can be seen that the

application of the Listening Team type cooperative learning model is more able to foster skills in students, pricomotor assessment includes opinion skills, skills in compiling discussion material, and skills in conveying discussion material.

The final decision after testing the second, third and fourth hypotheses with the Scheffe' method resulted in a decision that the Listening Team type cooperative learning model is better than the Numbered Head Together (NHT) type cooperative learning model and the Discussion learning method on Geography learning outcomes for class X IPS students at SMA Negeri 1 Colomadu. From these results it can be concluded that the three learning methods have different qualities. The average score of the Geography learning outcomes of students who were given treatment using the Listening Team cooperative learning model was higher than those who were treated using the Numbered Head Together (NHT) cooperative learning model and the Discussion learning method. This is influenced by the nature and characteristics of the learning method used.

There are differences in the influence of the application of each learning method on student learning outcomes Geography due to differences in the characteristics and advantages and disadvantages of each learning method. In the cooperative learning model of the Listening Team type, an increase in student learning outcomes occurs because this learning method can help students to focus their attention on the teacher's explanation when presenting material through group assignments (asking, supporting, arguing and giving conclusions). Giving different assignments so that each student has responsibility for their duties and to avoid the possibility of students only depending on friends in their group. In order to complete the assignments properly, it is enough for students to listen to the teacher's explanation, but the assignments given force them to dig up information from various sources. On the other hand, the application of the Numbered Head Together (NHT) cooperative learning model makes it possible to be more active and fully responsible for understanding learning material both in groups. Each group will get questions or problems to work on in groups, each group member gets a number which the teacher will later call to explain the results of the discussion, and the Discussion method, students absorb information through discussions with their groups and convey the results of the discussions in front of their friends.

It can be seen that there are differences in the effect of learning outcomes on Geography using cooperative learning models of Listening Team, Numbered Head Together (NHT) and Discussion types. The Listening Team type cooperative learning model is more effective than the Numbered Head Together (NHT) and Discussion type cooperative learning model, the Numbered Head Together (NHT) type cooperative learning model is more effective than the Discussion learning model, and the Listening Team type cooperative learning model is more effective than the Numbered Head Together (NHT) type cooperative learning model on the subject matter Rotational Motion and Earth Revolution. This shows that geography learning using the Listening Team and Numbered Head Together (NHT) types has a significant impact on improving students' Geography learning outcomes in geography class X SMA Negeri 1 Colomadu in the 2016/2017 academic year. Improved learning outcomes must also be supported by a conducive learning process. In addition, learning using Listening Team and Numbered Head Together (NHT) can be used as a basis for further research development.

Based on the results of research previously conducted by [27], it is known that the cooperative model with the Listening Team and Numbered Head Together (NHT) types can increase student activity and achievement. This is renewable through this research practically learning using the cooperative learning model type Listening Team and Numbered Head Together (NHT) can be applied in geography learning to improve students' Geography learning outcomes on the subject matter of Rotational Motion and Earth Revolution.

4. CONCLUSION

Based on the results of the research, the conclusions that can be put forward in this study are: 1) There are differences in the effect of applying the cooperative learning model of the Listening Team type, Numbered Head Together (NHT) and the Discussion learning model. about the results of learning Geography for class X students on the subject matter "Rotational Motion and Revolution of the Earth"; 2) There is a better effect of applying the Listening Team type cooperative learning model when compared to the Discussion learning model on the learning outcomes of Geography class X students in the subject matter "Rotational Motion and Earth Revolution"; 3) There is a better effect of applying the Numbered Head Together (NHT) cooperative learning model when compared to the Discussion learning model on the learning outcomes of Geography class X students on the subject matter "Rotational Motion and Earth Revolution"; 4) There is a better effect of applying the Listening Team cooperative learning model when compared to the Numbered Head Together (NHT) cooperative learning model on the results of learning Geography for class X students in the subject matter "Rotational Motion and Revolution of the Earth.

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