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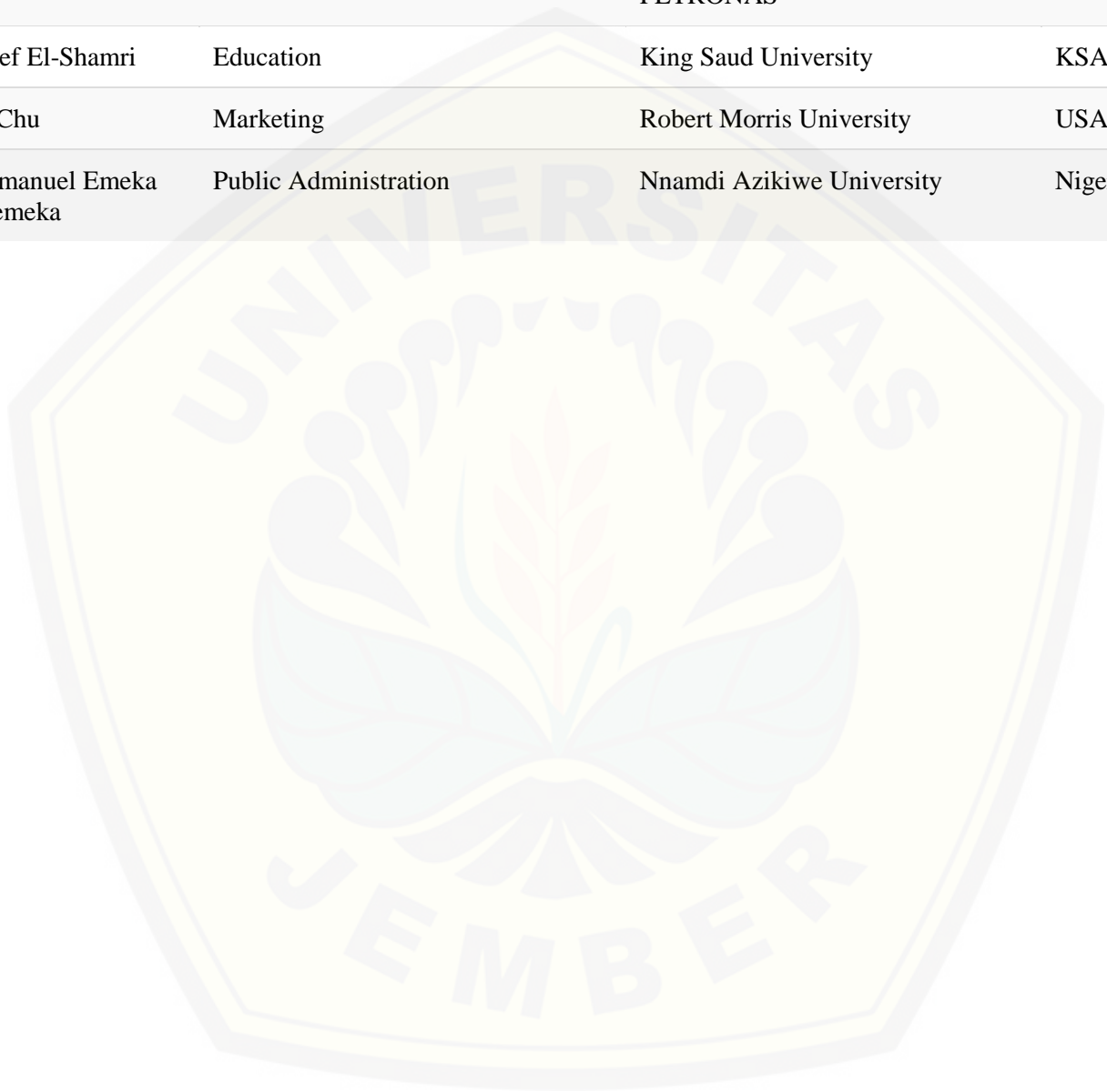
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The Effect of Type Cooperative Learning Models Numbered Heads Together (NHT) Against Results of Learning Theme Beautiful Diversity in My State in Class IV Students at Sdn Yosorati 02 Jember

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Abstract: *Education becomes an important element in the continuity of the progress of a nation and plays an important role in the sector of life, to become a developed nation is certainly the goal of every nation state in the world. Cooperative learning is structured in an effort to increase student participation, facilitate students with experience leadership attitudes and make decisions in groups, as well as provide opportunities for students to interact and learn together with students of different backgrounds. One model of cooperative learning is Numbered Heads Together (NHT). The research objective is to find out whether or not there is an influence of NHT type cooperative learning models on the learning outcomes of the beautiful theme of diversity in my country in class IV students at SDN Yosorati 02 Jember semester II of the 2019/2020 school year. This type of research is an experimental study with a pretest posttest control group design pattern. The subjects of this study were all grade IV students consisting of class IVA and class IVB at SDN Yosorati 02 Jember. Data collection methods used were test methods, student scores in the form of scores from the results of the pretest and posttest which were then analyzed by t-test using SPSS program version 24.0. . The results of t-test calculations using the SPSS program version 24.0 obtained t_{count} of 4.656. The results were then consulted with t_{table}, known db = (17 + 17) -2 = 32 at a significant level of 5%, so the value of t_{table} = 0.338 was obtained. T-test results indicate that the value of $t_{count} > t_{table}$ is 4.656> 0.338. the relative effectiveness test results obtained for the cognitive realm of 53.4% with the medium category, so it can be seen that the achievement of the cognitive realm of students in the experimental class with the NHT learning model that shows the results of 53.4% more effective when compared to the control class that does not use NHT learning model. So it can be concluded that there is a significant positive effect of the implementation of the NHT type of cooperative learning model on the learning outcomes of the theme of the beauty of diversity in my country in class IV students at SDN Yosorati 02 Jember 2019/2020 school year.*

Keywords: cooperative learning model type Numbereds Heads Together (NHT), learning outcomes, experimental research.

1. INTRODUCTION

The teacher is a very important factor in the education process. Without teachers, education is only a slogan and image because of all forms of policy in the world of education. In the end, what determines the achievement of educational goals is the teacher. Teachers become the center and foundation of educational development. Teachers are the foundation in improving the quality of education, where teachers will interact directly with students in classroom learning. Through these learning activities the quality of education begins.

Education becomes an important element in the continuity of the progress of a nation and plays an important role in the sector of life, to become a developed nation is certainly the dream of every nation state in the world. Education is the creator of

the next generation of quality. Indonesia is one of the many developing countries that has problems in the world of education. Educational problems that are often found in various regions, namely the lack of government attention to children who still drop out of school due to many factors, one of which is economic factors, and the lack of support for teachers which is the most important factor, and the lack of educational facilities provided by the government in various schools the area. It is fitting for all Indonesian children to get the right to education as stipulated in the 1945 Constitution in paragraph 4, one of which reads "educating the life of the nation", thus education is a major factor in the life of the nation and state.

The student ability survey released by the Program for International Student Assessment (PISA), in December 2019 in Paris, ranked Indonesia 72nd out of 77 countries. This data makes Indonesia ranked

sixth lowest, still far below neighboring countries such as Malaysia and Brunei Darussalam. The PISA survey is a reference in assessing the quality of education in the world, which assesses reading, mathematics and science skills. According to education observer Budi Trikorayanto, there are at least three problems that still shackle Indonesian education, namely the quality of teaching, the education system that is shackling, and educational institutions need improvement.

The causes of the low quality of education in Indonesia include problems of effectiveness, efficiency, and standardization of teaching, as well as the lack of creativity of educators in guiding students. This can cause teaching and learning activities for students to be less qualified. Like teaching and learning activities in primary schools where the majority of teachers still use conventional techniques even though they have been demanded to use the 2013 curriculum, but there are still many educators who uphold the old principles which should be replaced with more creative and innovative learning techniques. One learning model that is considered capable of helping the achievement of learning objectives in primary schools is the cooperative learning model.

Cooperative learning is structured in an effort to increase student participation, facilitate students with experience leadership attitudes and make decisions in groups, as well as provide opportunities for students to interact and learn together with students of different backgrounds. One model of cooperative learning is NHT. According to Supriyono (in Hidayat, 2019) NHT is a learning model using numbers above the head with the aim of facilitating educators to monitor the activities of students in searching, processing, and reporting information from various sources for later presented to the class.

NHT type of cooperative learning model can be used as an alternative in creating an atmosphere of learning that is not boring and can make students more active when in teaching and learning activities. NHT type of cooperative learning model, the teacher is required to group students into groups and then give the head number to each student in the group and the teacher calls the number representative from each group to answer the questions given by the teacher, this can train students to be able to work together and respect the opinions of others. Through NHT type cooperative learning models students are expected to be able to master every material that has been taught by the teacher and can make students more active in the learning process, so that learning goals are more easily achieved optimally.

The results of observations made on September 7, 2019 at SDN Yosorati 02 Jember, it is known that there are two classes and data obtained by students of class IVA have 17 students and class IVB has 17 students. Thematic learning at this elementary school, teachers still use the lecture method, assignments, and discussions despite using the 2013 curriculum. Students tend to be less active in the learning process and there are some students who do not understand the material being taught and sometimes students themselves are busy paying attention to teachers who teach front of the class. Learning using the cooperative model has actually been applied at SDN Yosorati 02 Jember, but the cooperative learning model with the NHT type has never been applied at SDN Yosorati 02 Jember.

Through this research, it is expected that the NHT cooperative learning model can affect student learning outcomes individually or in groups, because the NHT learning model has advantages, including the numbering given to each student and students are required to understand each answer to questions that have been given to the group and each student has the same responsibility to present the results of his answers in front of the class.

According to Gagne (in Dimyati and Mudjiono, 2017) learning is a complex activity. Learning outcomes in the form of capabilities. After learning people have skills, knowledge, attitudes, and values. The emergence of these capabilities is from (1) stimulation that comes from the environment, and (2) cognitive processes carried out by learning.

According to Subroto and Herawati (2004) what is meant by integrative thematic learning is an approach that combines one or several subjects in learning that starts from a particular subject or theme that is associated with other subjects, certain concepts are associated with other concepts, which is carried out spontaneously or planned, both in one or more fields of study, and with a variety of children's learning experiences so that the learning conducted becomes more meaningful.

According to Rusman (2015), thematic learning is one of the models in integrated learning which is a learning system that allows students, both individually and in groups to actively explore and discover scientific concepts and principles holistically, meaningfully, and authentically.

According to Dewey (in Majid, 2013) defines a learning model as "a plan or pattern that we can use to design face to face teaching in the classroom or tutorial setting and to shape instructional material" (a plan or pattern that we can use to design face to face in class, or additional learning outside the classroom and to sharpen teaching material).

According to Spancer Kagan (in Majid, 2013) NHT is an approach developed by involving more students in studying the material covered in a lesson, and checking their understanding of the contents of the lesson. Instead of the step of asking questions to the whole class.

According to Bloom (in Jihad, 2012), learning outcomes can be grouped into two types namely knowledge and skills. Knowledge consists of four categories, namely knowledge of facts, procedural, concepts, and knowledge of principles. While skills also consist of four categories, namely skills for

thinking or cognitive skills; action skills or motor skills, action or attitude skills, and interaction skills. Evaluation or assessment is carried out to not continue or how to measure the level of mastery of students of a material.

2. RESEARCH METHOD

Research this study used an experimental research design with a pretest posttest control group design. According to Masyhud (2016) experimental research is research that is intended to determine whether there is an influence or impact of a particular treatment on changes in a particular condition or condition. Experimental research seeks to examine whether there is a causal relationship between the treatment given and the impact it causes.

The research design used was an experimental study with a pretest posttest control group design. The experimental group and the control group were both given a pre-test to determine the initial conditions of the experimental group and the control group, then the experimental group was given treatment by applying the NHT cooperative learning model, while the control group was given a different treatment using the lecture and discussion methods. Then the two groups were tested again using the posttest using the same measuring instrument, the measuring instrument that was used at the initial measurement (pretest).

The subjects of this study were students of grade IVA and IVB SDN Yosorati 02 Jember in the academic year 2019/2020. The number of students in class IVA is 17 and class IVB is 17. Both of these classes both have students with the same number that is 17.

Homogeneity test was conducted aiming to determine the initial abilities possessed by students.

$$t_0 = \frac{M_1 - M_2}{MK_d \frac{1}{n_1} + \frac{1}{n_2}}$$

Source: Arikunto (2014)

The analysis of the results of t observation can be explained as follows.

1)　　If $t_o \geq t_{tabel}$ with a significance level of 5%, then it is H_0 rejected so that it does not show a significant mean difference.

2)　　If $t_o < t_{tabel}$ with a significance level of 5%, then it is H_0 accepted so that it shows a significant mean difference.

Homogeneity test calculation using midterm test scores. D ari these results it can be seen that the result $t_{count} < t_{table}$ (1.135 <2.000) so it can be said that the condition of these two classes are homogeneous. The purpose of the homogeneity test is to determine the students' initial abilities. Determination of the control class and the experimental class using random sampling techniques by lottery.

In this study data analysis was performed

using the difference between the pretest and posttest scores. The questions used for pre-test and post-test are first tested for validity, reliability testing, distinguishing features and the level of difficulty of the test. The questions used totaled 40 questions. The problem is declared valid if one of the item correlations with a factor score or with a total score is significant at the 0.05 or 0.35 level. After calculating the validity test is complete, then the next is the calculation of the reliability test of the instrument using the split method (split half).

The steps in the split half method are the researcher arranging the research instrument into two parts, then dividing the research instrument into two parts by odd or even-top way, after which the researcher correlates the total score of part one with part two (odd-even results), then the correlation results are reprocessed with the Spearman Brown formula and obtained at 0.8 7 so that it can be said that the instrument reliability level is in the high category. Based on this, it can be concluded that the research test instruments used are considered reliable.

In addition to the validity and reliability tests, an instrument must also meet the test differentiator index requirements and test difficulty levels by calculating using the following formula.

$$IDP = \frac{\sum JKT - \sum JKR}{\left(\frac{NT + NR}{2}\right)}$$

Source: Masyhud (2016)

Having discrimination power, which means that each test instrument developed must be able to distinguish between the smart group and the less clever or weak group in answering the test items. A problem is considered to meet the requirements if it has a distinguishing power index (IDP) or a minimum of 0.20. The level of difficulty of the test instrument leads to how difficult each test instrument item is used, the test items should not be too difficult and should not be too easy. Test items that are too difficult or too easy will not provide realistic information, recommended test items to use are test items that have a difficulty level of 10% to 90%.

The formula for calculating the difficulty level index is as follows.

$$IKES = \frac{\sum JKT + \sum JKR}{(NT + NR)} \times 100\%$$

Source: Masyhud (2016)

Analysis of the data used in this study is a separate sample data analysis technique, the purpose of the data analysis is to find out whether or not the influence of the NHT learning model on the learning outcomes of the beautiful theme of diversity in my country in fourth grade students, then data analysis using the formula:

$$t = \frac{M_x M_y}{\sqrt{\left[\frac{\sum X^2 + \sum Y^2}{N_x + N_y - 2}\right]\left[\frac{1}{N_x} + \frac{1}{N_y}\right]}}$$

Source: Arikunto (2014)

To test the hypothesis of a significant t_{test} effect, compared to the 5% significance level with t_{table} the following conditions.

1) If $t_{test} \geq t_{tabel}$ the null hypothesis (H_0) is rejected and (H_a) accepted.

2) If $t_{test} < t_{tabel}$ the null hypothesis (H_0) is accepted and (H_a) rejected.

Information:
1) H_a : there is a significant positive effect of the NHT type of cooperative learning model on the learning outcomes of the beautiful theme of diversity in my country in fourth grade students at SDN Yosorati 02 Jember 2019/2020 school year.
2) H_0 : there is no significant positive effect of the NHT type of cooperative learning model on the learning outcomes of the beautiful theme of diversity in my country in fourth grade students at SDN Yosorati 02 Jember 2019/2020 school year.

3. RESULTS AND DISCUSSION

Data Subjects in this study amounted to 34 students consisting of 2 classes, namely class IV A and class IV B at SDN Yosorati 02 Jember 2019-2020 school year. In this study there are experimental and control classes, the experimental class in this study is class IV A which consists of 17 students and this experimental class is treated with NHT type cooperative learning models while the control class in this study is class IVB which consists of 17 students and control classes are classes that are not applied to the NHT type of cooperative learning model. This research activity was carried out from 10 March 2020 until 11 March 2020.

Data in this study were obtained from the difference between the pretest and posttest scores of the experimental and control classes. This can be seen in the following table.

Table 1. Summary of t-tests

Information	Research group	
	Experimentation Class	Control class
$\sum$N	17	17
$\sum$ pretest	933	911
$\sum$ posttest	1 190	1053
The number of different pretest and posttest values	256	148
The average number of different pretest and posttest values	15.05	8.70

Furthermore, the data analysis is calculated to test the hypothesis, the data analysis on this research

is carried out using the t-test. The t-test calculation with SPSS program version 24.0, obtained the average value of the pretest and posttest cognitive domains in the experimental class (Mx) of 15.0588, while the average difference between pretest and posttest in the control class (MY) was 8.7059. The results of the t-test calculation using the SPSS program version 24.0 were t_{count} 4.656. The results are then consulted with t_{table}, known db = (17 + 17) -2 = 32 at a significant level of 5%, so that a value t_{table} = 0.338 is obtained . T-test results indicate that the value $t_{count} > t_{table}$ is $4{,}656 > 0{,}338$. So that alternative hypothesis is accepted and the null hypothesis is rejected, and it can be concluded that there is a significant positive effect on the implementation of cooperative learning model NHT the results learning theme of the beauty of diversity in the country in the fourth grade students at SDN Yosorati 02 Jember in the academic year 2019/2020 .

The next step to find out the level of relative effectiveness (ER) of applying the NHT type cooperative learning model to the learning outcomes of the theme of the beauty of diversity in my country in class IV students at SDN Yosorati 02 Jember can be calculated using the average data of pretest scores and postestt the control class and experimental class using the formula effectiveness relative (ER) s sa follows:

$$ER = \frac{MX_2 - MX_1}{\left(\frac{MX_1 + MX_2}{2}\right)} \times 100\%$$

Source: Masyhud (2016)

ER tally obtained by 53.04 %, This shows that learning by using cooperative learning model NHT more effectively around 53 , 0 to 4 % compared with a lecture and assignment . Apart from the application of the NHT type of cooperative learning model, the success of student learning outcomes is also influenced by other factors, such as students' interest and readiness in accepting learning. Based on this discussion it can be concluded that there is a significant positive effect of the implementation of the NHT type of cooperative learning model on the learning outcomes of the theme of the beauty of diversity in my country in fourth grade students at SDN Yosorati 02 Jember.

4. CONCLUSION

Based on the results of the analysis and discussion explained in the previous chapter, it can be concluded that there is a significant positive effect of the implementation of the NHT type of cooperative learning model on the learning outcomes of the beautiful theme of diversity in my country in grade IV students at SDN Yosorati 02 Jember 2019/2020. This can be seen in the results of the calculation of the value of the difference between pretest and posttest of the experimental class and control class indicates that obtained t_{hitung} arithmetic amounted to 4.656. The results were then consulted with t table, known db=

17 + 17) -2 = 32 at a significant level of 5%, so the t_{able} value = 0.338 was obtained. T-test results show that the value of $t_{count} > t_{table}$ is 4.656> 0.338.

Based on these calculations it can also be concluded that there is a significant positive effect of the implementation of the NHT type of cooperative learning model on the learning outcomes of the theme of the beauty of diversity in my country in fourth grade students at SDN Yosorati 02 Jember 2019/2020 academic year. The results of the calculation of the relative effectiveness of the application of the NHT type of cooperative learning model to student learning outcomes are the results of the relative effectiveness test for the cognitive realm of 53.4% with the medium category, so that it can be known that the achievement of the cognitive domain of students in the experimental class with the NHT learning model that shows the results of 53.4% are more effective when compared to the control class that does not use the NHT learning model.

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