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Implementation of the Numbered Heads Together Type Cooperative Learning Model

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ABSTRACT
This research aims to determine the improvement in student learning outcomes in the application of the Numbered Heads Together type cooperative learning model in the Al-Qur'an Hadith subject in class XI MA Unggulan KH. A. Wahab Hasbullah. The research method used is a quantitative method with a pre-experimental design with one group pre-test – post-test. The sampling technique used simple random sampling for class XI- Mathematics and Natural Science students, totaling 50 students. Data collection was carried out using tests. Data analysis uses the Paired Samples Test. The research results show that there is a significant increase in student learning outcomes after implementing the Numbered Heads Together model. The students' average pretest score was 53.20, while the average posttest score increased to 77.20. Statistical analysis using the t-test shows a significance value (Sig.) of 0.001, which indicates that the difference between the pre-test and post-test scores is very statistically significant. This research concludes that the Numbered Heads Together type cooperative learning model is effective in improving student learning outcomes in the Al-Qur'an Hadith subject.

Keywords: *Cooperative Learning Model; Learning Outcomes; Numbered Heads Together*

INTRODUCTION
Education is an important aspect of human resource development. Education is also believed to be able to instill experience for everyone to learn knowledge and skills so that productive humans can be obtained. One of the most basic things in the world of education is how to innovate the learning process so as to obtain maximum results (Hapsar & Fatimah, 2021). One of the learnings provided at MA Unggulan KH. A. Wahab Hasbullah is the Al-Qur'an Hadith. Learning the Al-Qur'an Hadith is part of education about religious teachings. Students are equipped with the values of goodness and religion through Al-Qur'an Hadith education with the aim that students are able to behave well according to Islamic religious rules obey and worship Allah SWT. Media plays an important role in improving the quality of learning. Therefore, the use of learning media can affect the success of learning (Umardiyah et al., 2023).

Studying the Al-Qur'an Hadith materials requires more understanding from students in order to achieve the expected goals. Studying the Al-Qur'an Hadith not only allows students to just listen to what the teacher says but also to practice these lessons in everyday life and solve problems in life. However, if in learning there are many obstacles, then all problems will be difficult to solve and the learning objectives of the Al-Qur'an Hadith will be difficult to achieve. The subject of Al-Qur'an Hadith that has been taught by teachers at MA Unggulan KH. A. Wahab Hasbullah, there are students during learning, there are students who already understand and still do not understand in understanding the material. Because students' abilities vary widely. Some students are quick to understand the material if explained by the teacher, some understand quickly if they learn from peers. This is the influence of the learning model applied by the teacher, where the teacher provides an explanation in advance of the subject matter, through lectures, questions and answers, and assignments. So that it can allow students' understanding to

vary. In addition, it seems that the learning process still tends to be student-centered, or teachers tend to choose and use speculative learning models such as lectures, which cause learning activities to be less interesting, not challenging, and difficult to achieve goals, especially in learning the Al-Qur'an Hadith so that students are passive and dependent on what the teacher has mastered. Then the teacher also uses a learning model with presentations so that students can think in a pattern and make students not passive and can work together with their group members, but as a result, there are still students who are passive when working on group assignments, this habit cannot be continued because it will reduce learning efficiency in the classroom.

Based on the results of observations conducted by researchers on the subject of Al-Qur'an Hadith at MA Unggulan KH A. Wahab Hasbullah. The teacher teaches using the lecture method, occasional questions, and answers, and refers to the student worksheet book. Students must follow the learning method provided by the teacher and obey the instructions set by the teacher. The learning model chosen and used by the teacher is still not quite right so that the level of student learning integrity is still lower than expected (Fatimah & Kartikasari, 2018). In this case, the main task of the teacher is learning. Teachers play an important role in improving the quality and quantity of teaching. Therefore, teachers must think and plan to improve the quality of learning and improve student learning outcomes.

Learning strategies that can produce the expected learning objectives. This requires changes in the learning model to achieve goals and foster student potential so that student learning outcomes increase. The expected learning to achieve its goals is by implementing the Numbered Heads Together cooperative learning model. Through this learning method, students can express their thoughts, exchange opinions, and work together if there are friends who have difficulties. This method requires students to be responsible for the questions given so that students must play an active role. The Numbered Heads Together learning model is also called the learning model with "structure numbered heads" is a learning model developed by Spenser Kagan. Numbered Heads Together is a learning method developed by Spencer Kagan in 1998 which aims to involve more students in reviewing various materials discussed in lessons and to check students' understanding of the material in a lesson (Nasrulloh, 2017).

This technique provides an opportunity for students to share ideas with each other and consider the most correct answer. So with this system and purpose, Numbered Heads Together really emphasizes students working together in groups so that each member of the group can be responsible for the results of the work so that the students themselves feel that they must be actively involved in the learning process. The results of research conducted by Ni Nyoman Suwandiari (2020) state that the application of the Numbered Heads Together cooperative learning model in Indonesian learning can improve student learning outcomes. Applying this Numbered Heads Together type of cooperative learning model, students are able to participate actively in the learning process and are more interactive with friends in their group and with other groups. This Numbered Heads Together type of cooperative learning model can help students improve maximum learning outcomes and develop student activities in cooperation and collaboration skills. Learning achievement is generally related to aspects of knowledge that are widely used in various fields and activities such as arts, sports, and education, especially in the learning process (Nasrulloh, 2019).

METHOD

This study uses a quantitative approach, which is a method used to answer research problems related to data in the form of numbers and statistical programs. Meanwhile, the type of research method used in this study uses the Experimental method. The form of experimental design used is pre-experimental Design with One-Group Pre-test-Post-test. Pre-test and post-test one group design is a study that provides an initial test (pre-test) before being given treatment, after being given treatment then giving a final test (post-test).

RESULT AND DISCUSSION

Result

To obtain research data, researchers use the following instruments or research tools:

- Testing of Question Items

To find out whether the questions used meet good question quality or not. Then a content validity test is carried out first. The content validity test used in this study is validity to the validator expert. The experts who tested the content validity were Lecturers. Muhammad Fodhil, S.Pd.I., M.Pd and Teacher. Manora Irfa 'Sunjaya.S.Pd. Based on the content validity test it was concluded that it was suitable for use, then the questions were tested on 20 respondents who were not included in the sample in this study to find out whether the questions were valid or not. The tools used in the trial analysis test include validity tests and reliability tests.

- Validity Test

The pre-test and post-test questions were tested using the product moment correlation formula with the distribution of r table using 0.05 with the decision if r count> r table means valid. The correlation that has been obtained is 20 questions with n = 20 indicating that the pre-test questions are valid and the post-test questions are valid when tested. So the researcher will test the pre-test and post-test questions to class XI- Mathematics and Natural Science students 2 with 20 questions. The validity table of the pre-test and post-test is as follows:

Table 1. Validation Test

No.	Pre-Test			Post-Test		
	Rcount	Rtable	Exp.	Rcount	Rtable	Exp.
1	0.471	0.444	Valid	0.540	0.444	Valid
2	0.501	0.444	Valid	0.475	0.444	Valid
3	0.501	0.444	Valid	0.550	0.444	Valid
4	0.502	0.444	Valid	0.485	0.444	Valid
5	0.522	0.444	Valid	0.594	0.444	Valid
6	0.520	0.444	Valid	0.570	0.444	Valid
7	0.499	0.444	Valid	0.514	0.444	Valid
8	0.462	0.444	Valid	0.534	0.444	Valid
9	0.488	0.444	Valid	0.446	0.444	Valid
10	0.456	0.444	Valid	0.505	0.444	Valid
11	0.455	0.444	Valid	0.495	0.444	Valid
12	0.541	0.444	Valid	0.534	0.444	Valid
13	0.469	0.444	Valid	0.606	0.444	Valid
14	0.499	0.444	Valid	0.467	0.444	Valid
15	0.479	0.444	Valid	0.508	0.444	Valid
16	0.445	0.444	Valid	0.626	0.444	Valid
17	0.539	0.444	Valid	0.534	0.444	Valid
18	0.484	0.444	Valid	0.587	0.444	Valid
19	0.456	0.444	Valid	0.453	0.444	Valid
20	0.456	0.444	Valid	0.554	0.444	Valid

Based on Table 1, the validity test on the pretest and post-test questions is valid with r count > 0.444, so the questions are valid to use. 3) Reliability Test to find out whether the questions to be tested are reliable in providing measurements of student learning outcomes. The reliability test uses Cronbach's Alpha with a significance level of 0.5.

Table 2. Reliability Test

	Cronbach's Alpha	N of items
Pre-test	831	20
Post-test	863	20

- The normality test

The normality test was obtained from the results of the pre-test and post-test scores in Class XI – Mathematics and Natural Science students 2 MA Unggulan K.H. Abd. Wahab Hasbulloh in the subject of Al-Qur'an Hadith. The data was processed using SPSS v.29 with the Kolmogorov Smimov formula. The basis for decision-making is if the 2-tailed sig value is > 0.05 then the data is normally distributed and if the sig value < 0.05 then the data is not normally distributed. The following are the results of the pre-test and post-test scores:

Table 3. Normality Test

Pre-test			Post-test
N		50	50
Normal Parameters[b]	Mean	53.20	77.20
	Std. Deviation	8.850	10.059
Most Extreme Differences	Absolute	.121	.121
	Positive	.119	.107
	Negative	-.121	-.121
Test Statistic		.121	.121
Asymp. Sig. (2-tailed)		.067[c]	.065[c]

At the sig value of 2 tailed pretest data is 0.067 which means > 0.05 then the data on the pre-test value is normally distributed. At the sig value of 2-tailed post-test value data sig value is 0.065 which means > 0.05 then the post-test value data is also normally distributed.

- Homogeneity Test

Using the One-way Anova test via SPSS V.29. if the sig value is > 0.05 then the data is homogeneous. The homogeneity test is presented in the following table:

Table 4. Homogeneity Test

		Levene Statistic	df1	df2	Sig.
Result	Based on Mean	1.675	1	98	.199
	Based on Median	1.490	1	98	.225
	Based on the Median and with adjusted df	1.490	1	97.860	.225
	Based on trimmed mean	1.637	1	98	.204

- Sample T-test

The sample T-test is used to compare the difference between two means from two paired samples assuming the data is normally distributed. Paired samples come from the same subject. Each variable is taken when the situation and circumstances are different. Decision making. If the significance value (2-tailed) <0.05 indicates a significant difference between the initial and final variables. This indicates that there is a significant influence on the differences in treatment given to each variable.

If the significance value (2-tailed) >0.05 indicates no significant difference between the initial and final variables, this indicates no significant influence on the differences in treatment given to each variable. Here are the T-Test results:

Table 5. Paired Sample T-test

Paired Samples Test									
		Paired Differences					t	df	Significance
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				Two- Sided p
					Lower	Upper			
Pair 1	Pre-test – Post-test	-24.000	11.910	1.684	-27.385	-20.615	-14.250	-14.250	<.001

The significance value is 0.001, which means <0.05, indicating that there is a significant influence on the differences in treatment given to each of these variables. The t-test shows that there is a significant difference between the pretest and post-test values. The post-test value is significantly higher than the pre-test value, with a fairly large average difference. The very small significance value confirms that this difference did not occur by chance, but rather as a result of the application of the Numbered Heads Together Cooperative Learning Model. Overall, these results indicate that the Numbered Heads Together Cooperative Learning Model significantly influences improving student learning outcomes.

Discussion

This research was conducted on Monday, July 9, 2024, the researcher gave pretest questions to students of class XI - Mathematics and Natural Science 2 on the subject of Al-Qur'an Hadith, and the researcher continued learning Al-Qur'an Hadith on the material competing in goodness with the cooperative learning model of the Numbered Head Together type with learning stages according to the lesson plan that has been made by the researcher. Such as students are divided into groups after that students join their respective groups according to the division. The teacher gives students assignments to discuss or solve problems together with their group members.

In the process of implementing the Numbered Head Together type cooperative learning model through the following steps:

- Numbering Phase
  The teacher divides students into 6 groups of 8 people and each group is given a different number.
- Asking Questions Phase
  The teacher gives questions to each group
- Thinking Together Phase
  Students work on student worksheets in groups and ensure that each member of their group knows and understands the answers.

The teacher comes to each group to ask about the difficulties experienced by students in working on the questions and offers assistance if needed.

- Question Answering Phase
  The teacher calls a certain number, and then the students whose numbers match raise their hands and come forward to present the results of their discussions to the whole class. And the teacher gives students the opportunity to respond to the results of other groups' discussions that have been presented. The teacher asks students to collect the results of the discussion.
- Conclusion Phase
  The teacher and students conclude the results of the answers to questions with the material studied. Based on these steps, the process of implementing the Numbered Head Together learning model was successful. Students learn in groups, with each member given a number and taking turns answering questions. This method increases student participation and involvement, creating a more interactive and collaborative learning atmosphere. Furthermore, students in grade XI - Mathematics and Natural Science students are given post-test questions to improve students understanding of learning outcomes with the Al-Qur'an Hadith subject so that students' final abilities can obtain the application of the Numbered Heads Together cooperative learning model.

Research related to the application of the Numbered Heads Together cooperative learning model in improving student learning outcomes at MA Unggulan KH. A. Wahab Hasbullah where the researcher found that the application of the Numbered Heads Together cooperative learning model was able to improve student learning outcomes as seen from the results of the posttest with quite high results compared to before the Numbered Heads Together cooperative learning model was applied. The application of the Numbered Heads Together cooperative learning model in learning the Al-Qur'an Hadith at MA Unggulan KH. A. Wahab Hasbullah, made a lot of preparations by making a lesson plan which included the Numbered Heads Together type cooperative learning model to be applied.

The researcher argues that the application of the Numbered Heads Together cooperative learning model is very effective in learning. Students are more able to participate actively in the learning process and are more interactive with friends in their groups and students will practice expressing opinions, practicing respecting the opinions of others. In this meeting, it can increase student learning outcomes in the subject of Al-Qur'an Hadith with easier understanding and students are very interactive in learning, compared to the lecture method used before the implementation of the Numbered Heads Together cooperative learning model in the subject of Al-Qur'an Hadith Students tend to be passive, so that the application of the Numbered Heads Together cooperative learning model applied at MA Unggulan KH. A. Wahab Hasbullah improves the learning atmosphere of students who are more interactive and collaborative which is very good Student learning outcomes are seen from the pretest and posttest scores, after the implementation of the Numbered Heads Together Cooperative Learning Model showed a significant increase.

The average pretest score of students was 53.20, while the average posttest score increased to 77.20. In the results of the normality test, it is known that the sig 2-tailed value on the pretest data is 0.067> 0.05 and the sig 2-tailed value on the posttest data is 0.065> 0.05, so the residual value is normally distributed and the data is spread following a normal distribution, continued with the homogeneity test showing sig 0.199> 0.05 so that the data has a homogeneous variant after the data is homogeneous, it is continued with the t-test. The t-test statistical test produces a significance value (Sig.) of 0.001 <0.05 which shows that the difference between the pretest and posttest values is very significant.

CONCLUSIONS

Based on the discussion that has been presented, the researcher concluded that the implementation of the Numbered Heads Together Cooperative Learning Model in the Al-Qur'an Hadith subject of Class XI - Mathematics and Natural Science 2 at MA Unggulan KH A. Wahab Hasbullah was successful. This model involves students in numbered groups, increasing active participation, interaction, and collaboration in the learning process. Student learning outcomes showed a significant increase after the implementation of the Numbered Heads Together model. The average pre-test score of 53.20 increased to 77.20 in the post-test, with the t-test producing a significance value of 0.001. This proves that the Numbered Heads Together Cooperative Learning Model is effective in improving student learning outcomes in the Al-Qur'an Hadith subject at MA Unggulan KH A. Wahab Hasbullah.

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