



## Implementation of Cooperative Learning Models of Numbered Heads Together Method for Improving Skills in Forming for Early Age Children in PAUD Rosellana

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### Abstract

Every child has the skills to form in theirs. Increasing forming skills in children requires stimulation by giving the opportunity to be more creative. Therefore forming skills are very appropriate to be developed from an early age. One way that can be done to improve the skills of forming early childhood is that the cooperative learning method, Numbered Head Together (NHT) is expected to be able to assist children in developing forming skills. The researcher aimed to find out the differences and improvement of skills in forming early childhood based on the implementation of Numbered Head Together learning in Paud Rosellana. This research is a quantitative research using the One-Group Pretest-Posttest Design method. Data collection techniques in this study used scale forming skills in early childhood, while data analysis used the Paired Sample t-Test method and percentage techniques. Based on the results of the statistical test of hypothesis testing, the t-test test data using the Paired Sample t-Test on the SPSS program obtained  $t_{count} > t_{table}$  that is  $(8,447 > 2,045)$ , the sig (2-tailed) value was 0,000, so  $H_a$  was accepted and  $H_0$  was rejected. Based on this, it can be concluded that there is a significant difference in the skills of forming early childhood after being treated using the Numbered Head Together cooperative learning model.

### How to cite

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## INTRODUCTION

This article discusses the differences and enhancement of forming skills in early childhood based on the implementation of learning. This article is divided into five parts. The first section presents the background of this article with a review of various relevant literature and previous studies. The second part describes the methodological aspects of the study that preceded this article, which covers the subject of research, instrumentation, and data analysis. The third part presents the results of the study and research that have been carried out and the fourth part presents the discussion of the results, then in the fifth part is the conclusion of this article.

Forming activities will teach children that they can make things happen while increasing the control of their fingers and hand coordination of their eyes. Forming according to Einon (2005) is the process of making things happen. When a child develops creative abilities, the child can also produce innovative ideas and solutions in solving problems and improving the ability to remember things. Einon (2002) stated that the material for making a model can be a clay, play dough, pulp (papier mache), and salt dough.

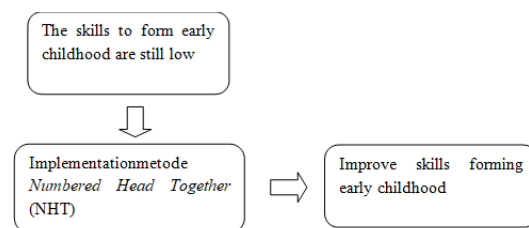
In this study, researchers used PlayDough media which is one of the educational games made of flour. According to Jatmika (in Sudiasih, 2014) playdough has many benefits for children, including training sensory abilities through touch, developing thinking skills, growing self esteem, sharpening language skills and fostering social abilities.

Based on the results of observations and interviews conducted at the PAUD Rosellana, Jepara, there were still children who are less skilled in forming activities such as lack of curiosity and lack of desire to make new things, and children preferred to silently see other friends playing. In addition, it was also based on the results of interviews obtained from Paud Rosellana's teacher that in general children have good forming skills but not all children can be said to have good forming skills because there are also some children who sometimes appear to be less active namely lack of curiosity, less interested in new things. As when in the class of lack of curiosity because there were only one or two children who often had the initiative to ask questions and express opinions if they felt unclear about the assignment given by their teacher, the child was more silent and less active.

These problems require solutions in the form of appropriate learning methods that need

to be used. The method that can be used to develop children's forming skills is the Cooperative learning model. Cooperative learning is known as group learning (Suprijono, 2016). Cooperative learning models provide opportunities for children to be responsible for giving group assignments. However, children's activities are generally not always cooperative and are not always beneficial for themselves. In order for children to enjoy cooperative activities, they need to feel a kind of convincing cooperative relationship with the teacher.

Based on Trianto (in Dewi, 2015) stated that the NHT method (Numbered Head Together) is a type of cooperative learning model designed to meet the patterns of student interaction and as an alternative to traditional class structures. Whereas according to Isjoni (in Dewi 2015) stated that the NHT method (Numbered Head Together) gives students the opportunity to share ideas and considerations of the most appropriate answers. In this learning model the students were divided into small groups and directed to study the subject matter that has been determined. The purpose of forming cooperative groups is to provide opportunities for students to be actively involved in the process of thinking and in learning activities. In Dewi's research, (2015) conducted at Tk Ganesha Denpasar, the cooperative learning model of Numbered Head Together (NHT) method can improve fine motor development in group B children. From the background flow above, we can illustrate the research flow as follows:



Picture 1.1 Theoretical Framework

## RESEARCH METHODS

This study used quantitative methods with this type of experimental research. The study was conducted in September 2018 in PAUD Rosellana Pecangaan District, Jepara Regency. The population in this study were all students at Rosellana PAUD Jepara. The sampling technique used in this study was Nonprobability Sampling. The samples in this study were group B students in Paud Rosellana Pecanggan Jepara with 30 children. The data collection technique used in

this study was a questionnaire (questionnaire) using skla likert. The data analysis method used in this study is to use Paired Sample T-Test analysis using the IBM SPSS 21 program.

The experimental research design used in this study was a pre-experimental design with one group pretest-posttest design. The design of this study, before the treatment was given a pretest (initial test) and at the end was given the posttest (final test) in the sample. Thus the results of treatment can be known to be more accurate, because it can compare with the situation before being treated (Sugiyono, 2015). The experimental group design table for One group pretest-posttest design is as follows:



Information:

X: Treatment or for the experimental group using manipulative scales.

O1: Results of the pretest (before treatment)

O2: Posttest results (after treatment)

Data collection was done by questionnaire twice, namely pretest and posttest. The respondents who participated were 60 children. The research process was carried out 12 times. Prettest was conducted at the beginning of the meeting to find out the skills to shape early childhood. Treatment is carried out according to a predetermined schedule. Before the instrument was tested, an instrument trial was conducted to determine validity. The researcher used a questionnaire that contained questions that included problems regarding the cooperative learning model variable Numbered Heads Together (NHT) and variables on improving child shaping skills. The aspects of the review used in this study are personal, motivator / press, process and product (Munandar, 2009). The researcher used 40 items of questions using the Likert scale which was classified in four categories namely Very Corresponding (SS), Corresponding (S), Disagree (TS), Very Incompatible (STS).

**Table 1.** Indicator Grid of Research Instruments

No	Forming Aspect According to Munandar, 2009	Indicator	F	UF	Total
1.	Personal	Having self-confidence	1,2,3	4,5,6,7	21
		Have curiosity	8,9	10,11	
		Responsible	12,13,14,15	16,17	
		Thinking fluency	18,19	20,21	
2.	Motivator	Able to motivate yourself	22		2
		Motivation from other people	23		
3.	Process	E x p r e s s yourself	24,25,26	27,28,29	6
4.	Product	P r o d u c i n g works	30,31,32	33,34,35	6

**Table 2.** Item statements on questionnaires (research instruments)

No	Statement
1	Children can form objects that are viewed
2	Children show their work to the teacher and their friends
3	Children are able to tell their work in front of the class
4	Children form with the help of the teacher
5	Children are hesitant in doing the assignments given by the teacher
6	Children always imitate the work of their friends
7	Children are afraid to express opinions in front of friends and teachers
8	Children ask actively
9	Children can try new things
10	The child is busy playing alone when the teacher explains about the activities to be carried out
11	Children are busy playing alone without working on activities
12	Children work on activities until they are finished

- 13 The child keeps the activity equipment back to its original place
- 14 Children complete their own tasks
- 15 Children tidy up the table after the activity is finished
- 16 Children completing forming activities with Play Dough are not on time
- 17 Children break the rules during activities
- 18 Children know various kinds of play dough colors
- 19 Children are able to communicate by developing ideas on the results of work in detail
- 20 Children stammer in asking and answering questions
- 21 Children have difficulty mentioning the materials used for activities
- 22 Children are busy creating creative works
- 23 Children have the desire to make good works
- 24 Children are interested in forming activities with Play Dough
- 25 Children are desperate when completing a task
- 26 Children have not been able to create varied forms
- 27 Children get motivation from the teacher when carrying out activities
- 28 Lack of teacher attention to children during activities
- 29 Children show pleasure when doing activities
- 30 Children pour ideas as spontaneously
- 31 Children can exchange opinions with their groups
- 32 Children have difficulty when doing activities in groups
- 33 Children show bored expression during activities
- 34 Children have difficulty when forming
- 35 Children produce works according to their imagination
- 36 Children can make shapes from the objects they see
- 37 Children can make shapes in groups
- 38 Children cannot make the work exemplified by the teacher
- 39 Children cannot form in groups

40 Children have not been able to create their own forms and are different from others

**RESULT**

This section will discuss the results which include hypothesis testing using different tests and rating tests. The researcher used the IBM SPSS 21 program with the Paired Sample T-Test technology.

**Table 3.** Test of the Paired Samples Test Hypothesis

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
pretest								
-								
posttest	-18,5	11,953	2,182	-22,963	-14,04	-8,477	29	,00

The hypothesis in this study is that there are differences in the skills of forming early childhood based on the numbered head together method. In the Paired Sample t-test table it can be seen that the t count is 8.447. Based on the results of the t-test calculation, the value of  $-t > |t_{table}|$ , ie  $(-2,045 > -8,447$  or  $-8,447 > 2,045)$ , with  $sig = 0,000$ , so  $H_0$  is rejected and  $H_a$  is accepted means that there are significant changes in the skills of forming early childhood after given the numbered head together method. Significant differences can be seen from the value of sig 2 tailed  $< 0.05$  which is  $0,000$ . Besides that, it can be seen from the average value obtained before and after the numbered head together method is applied as follows:

**Table 4.** Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pretest	80,47	30	6,257	1,142
Posttest	98,97	30	10,41	1,901

Based on the table above it shows that the average skills of forming early childhood before and after applied cooperative learning method numbered head together type is from 80.47 to 98.97 so that an increase of 18.50 occurs. From the data above, it can be concluded that cooperative learning numbered head together has an effect on increasing the creativity of early childhood in

PaudRosellana, showing significant differences. To test the percentage increase in skills forming early childhood in PaudRosellana are as follows:

**Table 5.** Percentage of Increased Level of Child-Building Skills

Treatment	Percentage%
Before	50%
After	83,30%

From the results above, it can be seen that the percentage of skill level forms early childhood before being given a treatment is 50%, after giving treatment it rises to 83.3% in good criteria. This shows that the skill of forming early childhood in terms of the implementation of cooperative learning models numbered head together has increased by 33.3%.

## DISCUSSION

Based on the results of statistical calculations that have been done, the results obtained the calculation of t-test through a paired sample t-test using the SPSS program. The results of the T-test obtained by  $t_{count} > t_{table}$  are  $(8,447 > 2,045)$ , with a significant value (2-tailed) of 0,000. This means that there is a significant difference in the skills of forming early childhood after being given treatment using the cooperative learning model numbered head together (NHT). The difference in the skills of forming early childhood based on the implementation of cooperative learning models numbered head together (NHT) method with the number of respondents (N) 30 children showed that the average score of skills forming posttest early childhood was higher at 898.97% than the average the pretest score of skills forms early childhood at 80.47%.

The percentage calculation results also showed a higher posttest value than the pretest value. The percentage of the pretest value was only 50% and increased to 83.3% in the posttest results or increased 33.3% after the implementation of the NHT method. This means that the skills of forming early childhood with the implementation of cooperative learning models numbered head together (NHT) method is higher than the skills of forming early childhood without the implementation of cooperative learning models numbered head together (NHT) method. In line with the research conducted by Wijayanti (2014) with the existence of cooperative learning models the numbered head together (NHT) method makes it easy for children to interact with friends

in groups, in the numbered head together (NHT) method children need to communicate with each other to exchange their ideas and produce a work.

Implementation of the method Numbered Head Together (NHT) according Handayani (2016) with regard to creativity early childhood is to do a study like supporting flexibility, using their imagination, problem solving, solving problems, finding new things skills form the child will grow well. Based on the research that has been done, the cooperative learning model numbered head together (NHT) can improve the forming skills in children. This is in line with the study of Kartikasasmi (2012), that the cooperative learning model numbered head together (NHT) method can improve students' forming skills because in the learning process students are invited to think from various perspectives which is one indicator of creativity.

From these results it can be seen that the implementation of the cooperative learning model numbered head together (NHT) can influence the improvement of early childhood formation skills as indicated by the development of child forming skills that children can collaborate with their groups, children can develop ideas according to their imagination, children are able to exchange opinions with their groups. Improving the skills of forming early childhood in the school environment is also inseparable from the implementation of habituation methods carried out by the teacher.

## CONCLUSIONS

Based on the results of the study "Implementation of the Cooperative Learning Method Numbered Heads Together to Improve Skills to form Early Childhood in PAUD Rosellana", the conclusions are as follows:

1. There are differences in forming skills in early childhood with the implementation of the cooperative learning model Numbered Head Together (NHT).
2. There is an increase in forming skills in early childhood based on the implementation of the cooperative learning model Numbered Head Together (NHT).

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