

# EFFECTIVENESS OF APPLICATION OF MIND MAPPING-BASED DEMONSTRATION IN UNDERSTANDING ABLUTION MATERIALS IN SMA NEGERI 9 BULUKUMBA

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## ABSTRACT

The purpose of this research was (1) to find out the understanding of the ablution material of students who are taught without using the mind mapping-based demonstration method at SMA Negeri 9 Bulukumba Regency, (2) to find out the understanding of the ablution material of students who are taught by applying the mind mapping-based demonstration method at SMA Negeri 9 Bulukumba Regency, and (3) to find out the effectiveness of applying the mind mapping-based demonstration method to understanding ablution materials at SMA Negeri 9 Bulukumba Regency. This study used a quantitative experimental research method called the "non-equivalent control group design." The population in this study was all students at SMA Negeri 9 Bulukumba, totaling 282 students, while the sample was class XI MIPA 1 and class XI MIPA 2, totaling 60 students. The data was collected using observation and tests as instruments. The data analysis technique used in this research was descriptive and inferential analysis. According to the results,  $t_{count} = 30,86 >$  from the  $t$  table, which is 2.16. So,  $H_0$  is rejected, and  $H_a$  is accepted. So, applying the demonstration method based on mind mapping is adequate for understanding the ablution material at SMA Negeri 9 Bulukumba.

**Keywords:** Mind mapping; learning method

## 1. INTRODUCTION

In the era of globalization that is growing today, people are starting to compete to prepare for the future. One way to do this is to study science or criticize education. But some think that education is not very important, especially for people who live in rural or remote areas. For them, it is better to work than go to school. The main reason is predictable: if they work, they can earn money, whereas going to school only costs money, especially given the current job market.

Education is an effort that is carried out deliberately and systematically to encourage, assist, and foster a person to develop all of his potentials so that he achieves a better sense of himself. In the life of a country, education plays a very important role because education is a vehicle for improving and developing the quality of human resources. Therefore, it is very important to improve the quality of education, especially in our own country, namely Indonesia. (Mulyasa, 2013).

Surah al-Mujādilah, verse 11, explains the etiquette of attending assemblies (including knowledge assemblies and remembrance assemblies), that is, making room and giving others space to sit. In assembly, God will show adab to fellow human beings seeking knowledge, and Allah will elevate those seeking knowledge to various degrees. As a result, competing by demanding or seeking religious teaching knowledge is critical.

From the description, it can be concluded, that through education, it is hoped that it can create a better generation or civilization, which has intellectual values and good morals, and also become a better person who realizes religious ideals, namely piety toward God Almighty. To realize this goal, of course, cannot be separated from the role of an educator at school.

Students must be able to provide good, creative teaching, and have an understanding of the material to be provided. A professional teacher must also be able to make the best use of school facilities and use fun learning methods according to the material to be taught.

Every human being, in general, gets his first education in the family environment (informal education), the school environment (formal education), and the community environment (non-formal education). Informal education is education that a person receives from everyday experiences, consciously or unconsciously, from birth to death. This educational process lasts a lifetime, so the role of the family is very important for children, especially parents. Parents educate their children with great affection. The love given by parents is endless and incalculable. Parents teach children good things, for example, how to be polite to others, respect others, and share with others.

In addition, researchers are very concerned about the development of religious education, which is one of the keys to the progress of civilization for Muslims. Islamic religious education must be instilled in every owner and practiced in everyday life. Therefore, the focus of this research plan is on all aspects of worship, namely ablution. How important is it to instill ablution in children at an

early age<sup>2</sup> But the problem is that sometimes it is difficult for students to accept and understand the material because the method used is very monotonous, for example, the discussion method in teaching ablution material.

The method is a way and strategy for delivering certain subject matter from a subject, so that students can know, understand, use, and master the lesson material. For learning to run sufficiently, it is necessary to have active students so that there is the interaction between educators and students, which facilitates the course of the lesson, and the teacher can also find out the extent of the student's understanding of the learning process. One method that is suitable for use is the demonstration method.

In this case, Syaiful and Tayar explained that what is meant by the demonstration method is a teaching method that uses demonstration to clarify an understanding or show students how to do something (Syaiful & Tayar, 2005).

The advantages of this method are that students can directly observe and learn in-depth about the lessons given by the teacher. Furthermore, the teacher can see their students clearly in the learning process, for example, in the procedure for ablution. Then there is the mind mapping learning model, which is a learning model using mind mapping, which is a creative way for each lesson to generate ideas, record what is learned, or plan new assignments. Mind mapping is an excellent way to generate and organize ideas while studying. Asking educators to create mind maps allows them to clearly and creatively identify what they have learned or are planning to do.

## **2. METHODS**

The learning outcome variable (X) and the learning style variable (X) were the two variables used in this quantitative study's nonequivalent control group design (Y). The population in this study was all students at SMA Negeri 9 Bulukumba, totaling 282 students, while the sample was XI MIPA 1 and XI MIPA 2, which totaled 60 students. Observation and tests were the instruments used to collect data. Descriptive and inferential data analysis techniques were used in this study.

### 3. RESULTS AND DISCUSSION

The data normality test is used to determine whether the data is normally distributed or not. In this data normality test, the researcher used the Kolmogorov-Smirnov test using Statistical Porsocian Sciences (SPSS) Version 20 as follows:

Table 1. Normality Test of Control Class and Experiment Class

Class	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Result s experimental pretest	.137	30	.159	.935	30	.068
experimental posttest	.186	30	.010	.904	30	.010
pretest control	.150	30	.082	.912	30	.016
posttest control	.152	30	.073	.924	30	.034

Based on the table above, the normality test results use the Kolmogorov-Smirnov test. If the significant value is greater than 0.05 (significant level), it means that the data comes from a normally distributed population. The homogeneity test is carried out to measure a research result in the form of the data, namely whether it is homogeneous or not. In this homogeneity test, the researcher used the homogeneity test type with the largest variance and the smallest variance of the two datasets using SPSS version 20 as follows:

#### 1. Pretest Control and Experiment Class

Table 2. Homogeneity Test of Control and Experiment Class Pretest

	Levene Statistics	df1	df2	Sig.
Based on Means	.059	1	58	.809
Based on Median	.106		58	.746
Based on Median and with adjusted df	.106	1	56,480	.746
Based on trimmed mean	.080	1	58	.778

Based on the table above, the results of the homogeneity test use a type of variance test. If the significance value is greater than 0.05, it means that the variance of the two datasets being compared is homogeneous. The results of the analysis above show that the significant value of the student's understanding of ablution material is 0.59, which is greater than 8.09. Therefore, a significant value greater than 0.05 means that the variance of the two data sets being compared is homogeneous.

2. Posttest Class Control and Experiment

Table. 3 Posttest Homogeneity Test Class Control and Experiment

		Levene Statistics	df1	df2	Sig.
Results	Based on Means	3,389	1	58	.071
	Based on Median	3,391	1	58	.071
	Based on Median and with adjusted df	3,391	1	57,290	.071
	Based on trimmed mean	3.302	1	58	.074

The following are the results of homogeneity testing using the type of variance test, as shown in the table above: If the significant value is greater than 0.05 (significant level), it means that the variance of the two data sets being compared is homogeneous.

The results of the analysis above show that the significant value in understanding the students' ablation material is 0.71, which is greater than 0.05. Therefore, a significant value greater than 0.05 means that the variance of the two data being compared is homogeneous.

Hypothesis testing was carried out on student learning outcomes in the subject of ablation, which was signed between classes that were not taught using the mind mapping-based demonstration method and classes taught using the mind mapping-based demonstration method. The previous significant level was = 0.05. Based on data processing with SPSS version 20, the sig value was 0.000, meaning that  $H_0$  is rejected and  $H_a$  is accepted because  $\text{sig (2-tailed)} < \alpha$  or  $(0.000 < 0.05)$ , Thus, the conclusion of the study or the hypothesis that  $H_a$  accepted is that there is a significant difference in students' learning outcomes in ablation subjects between classes that are not taught using the mind mapping-based demonstration method and classes that are taught using the mind mapping-based demonstration method. The following is a table with paired samples.

Table. 4 Paired Samples Test

		Paired Samples Test					t	df	Sig. (2-tailed)
		Means	std. Deviation	std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PRE-TEST - POST TEST	-32.0000	19.36937	3.53635	-39.23264	-24.76736	-9.049	29	.000

In the paired sample test, guidelines for decision-making are as follows: accepted and rejected if sig (2-tailed)  $>$  or sig (2-tailed)  $>$  0.05; rejected and accepted if sig (2-tailed) or sig (2-tailed) 0.05. Based on the results of data processing, the value of Sig (2-tailed) = 0.000 was thus rejected and accepted because of Sig (2-tailed)  $<$   $\alpha$  or (0.000  $<$  0.05). This means that there is a significant difference in the understanding of student learning outcomes between classes that are not taught using the mind mapping-based demonstration method and classes that are taught using the mind mapping-based demonstration method on students' ablution material in class XI at SMA Negeri 9 Bulukumba.

Meanwhile, to see the implementation of the demonstration method based on mind mapping to increase understanding of students' ablution material in class XI at SMA Negeri 9 Bulukumba, observations were made. The type of research used was quasi-experimental with a non-equivalent control group design, namely, experiments conducted in two groups: Class XI MIPA 1 was an experimental class that was given treatment using a demonstration method based on mind mapping, while class XI MIPA 2 was a control class that was not given treatment. After applying the mind mapping-based demonstration method to improve students' understanding of ablution material, in practice students are very active in the learning process because of an interesting learning concept. Regarding the administration of the test in this study, the researcher gave the pretest as the initial test and the posttest as the final test after the learning process was carried out. both in the control class and the experimental class.

In the control class, the researcher gave a pretest with a total of 20 multiple-choice questions and was then given material without using the mind-mapping-based demonstration method. After that, the final test was a posttest with a total of 20 different questions with the same form but using different sentences. In the experimental class, the researcher gave a pretest with a total of 20 multiple-choice item items; after that, the treatment was given using a mind mapping-based demonstration method; and the final test was the posttest with 20 multiple-choice item items, namely 10 multiple-choice numbers with The form of the question is the same, but it uses a different sentence. In the control class, the researcher gave a pretest with a total of 20 multiple-choice questions and was then given material without using the mind-mapping-based demonstration method. After that, the final test was a posttest with a total of 20 different questions with the same form but using different sentences. In the experimental class, the researcher gave a pretest with a total of 20 multiple-choice item items; after that, the treatment was given using a mind mapping-

based demonstration method; and the final test was the posttest with 20 multiple-choice item items, namely 10 multiple-choice numbers with The form of the question is the same, but it uses a different sentence. In the control class, the researcher gave a pretest with a total of 20 multiple-choice questions, then gave material without using the mind mapping-based demonstration method. After that, the final test was a posttest with a total of 20 different questions with the same form but using different sentences.

In the experimental class, the researcher gave a pretest with a total of 20 multiple-choice item items, after that, the treatment was given using a mind mapping-based demonstration method; and the final test was the posttest with 20 multiple-choice item items, namely 10 multiple-choice numbers with The form of the question is the same, but it uses a different sentence. then given the material without using the mind mapping-based demonstration method, After that, the final test is the posttest, with a total of 20 different questions with the same form but different sentences. In the experimental class, the researcher gave a pretest with a total of 20 multiple-choice item items; after that, the treatment was given using a mind mapping-based demonstration method; and the final test was the posttest with 20 multiple-choice item items, namely 10 multiple-choice numbers with the same form but a different sentence. then given the material without using the mind-mapping-based demonstration method. After that, the final test is the posttest, with a total of 20 different questions with the same form but different sentences. In the experimental class, the researcher gave a pretest with a total of 20 multiple-choice item items; after that, the treatment was given using a mind mapping-based demonstration method, and the final test was the posttest with 20 multiple-choice item items, namely 10 multiple-choice numbers with The form of the question is the same, but it uses a different sentence.

### **Description of Understanding of Ablution Materials (Control Class)**

The results of the data analysis showed that the average score for understanding abluion material for students in class XI MIPA 2, who were taught without using the mind mapping-based demonstration method, was 43 for the pretest and 60 for the post-test. Very Low: as many as 11 people, or 36.67%, Low: as many as 6 people, or 20%; Moderate: as many as 9 people, or 30%; High: as many as 4 people, or 13.33%; and Very High: 0 people, or 0.00%. Based on these data, it can be concluded that the understanding of abluion material for class XI MIPA 2 students who

study without using the mind mapping-based demonstration method learning model is included in the "very low" category.

Learning in the control class is temporary learning carried out by educators in that class; in this case, researchers tend to use more of the lecture method when giving lessons, which causes students to become bored. As a result, only a few students are involved in learning.

### **Description of Understanding of Ablution Materials (Experimental Class)**

The results of the data analysis showed that the average value of understanding the ablution material for class XI MIPA 1 students, who were taught using the mind mapping-based demonstration method, was 44 for the pretest and 76 for the post-test. Very Low: up to 11 people (36.66%); Low: up to 9 people (30%); Moderate: up to 8 people (26.67%); High: up to 2 people (6.67%); and Very High: 0 people (0.00%). Based on these data it can be concluded that the student's understanding of the ablution material in class XI MIPA 1 was studied using the demonstration-based method mind *Mapping* included in the "high" category.

### **The Effectiveness of Applying Demonstration Methods Based on Mind Mapping**

The discussion in this section will answer the third problem formulation, namely, whether there is effectiveness in applying the demonstration method based on mind mapping to understanding ablution material at SMA Negeri 9 Bulukumba. The type of analysis used is inferential analysis. It is used to draw conclusions that apply to the general population. This analysis was carried out for the hypothesis by first carrying out the normality test, homogeneity test, and t-test, which had been formulated in the results of previous studies.

After knowing the description of each of the variables above, based on the significance test, it can be concluded that the  $t$  count = 30.86 > compared to the  $t$  table, which is 2.16. So,  $H_0$  is rejected and  $H_a$  is accepted; that is, the application of the demonstration method based on mind mapping is effective for understanding ablution material at SMA Negeri 9 Bulukumba. This means that in terms of the value of learning outcomes, there is a significant difference in students' understanding of ablution material between classes that were not taught using the based demonstration method (*mind mapping*) and classes that were taught using the based demonstration



method (mind *mapping*) on the understanding of students' ablution material at SMA Negeri 9 Bulukumba.

Hypothesis testing was carried out on student learning outcomes in the subject of ablution, which was signed between classes that were not taught using the mind mapping-based demonstration method and classes taught using the mind mapping-based demonstration method. The previous significant level was  $= 0.05$ . Based on data processing with SPSS version 20, which obtained Sig = 0.000, it can be concluded that  $H_0$  is rejected and  $H_a$  is accepted because sig (2-tailed)  $< \alpha$  or  $(0.000 < 0.05)$ , Thus, the conclusion of the study or the hypothesis that  $H_a$  accepted is that there is a significant difference in students' learning outcomes in ablution subjects between classes that were not taught using the mind mapping-based demonstration method and classes that were taught using the mind mapping-based demonstration method. That is, students' understanding of ablution material after using the mind mapping-based demonstration method is in the high category. And the students' understanding of the students' ablution material after using the mind mapping-based demonstration method was effective in understanding the students' understanding at SMA Negeri 9 Bulukumba.

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