

CHAPTER III

RESEARCH METHOD

A. Research Design

The design of this research was experimental research. Seliger and Shanomy in Creswell (1994) state that experimental research was concern with studying the effect of specified and controlled treatment given to the subjects usually form into groups. There are two variables that will use in this research: independent variable and dependent variable.

In this research, the researcher used *posttest-only control design* where a group was given treatment and the other one was not. (Sugiyono, 2013: 114). There were two classes involved in this research. The first was classified as the Experimental (E) and the other one was the Control class (C). Both classes have the same topic, the same length of time. Experimental class taught by the writer and control class will teach by the English teacher. The two groups are treated as many as six meetings; it was assume that six meetings was be sufficient in seeing any difference that occurred afterward. So, the design of this research can be illustrated as follows:

Table 3.1
Research Design

Class	Treatment	Post-test
Experimental	X	Y
Control	Ø	Y

Note:

X : Treatment of Experimental Class

Ø : No treatment

Y : Post-test

Table 3.2

Variables of the Research

Variable X	Variable Y
Using Semantic Mapping Strategy.	Students' writing Ability in Procedure Text.

B. Population and Sample

1. Population

Gay (1987:102) defines that population was the objects that will be observed. In the other words, population was the total number of students on a research. From explanation above that the researcher concludes that population of the research was all of students at class IX of MTsN 2 Padang Pariaman in academic year of 2017/2018. There were six classes and the total of students class VIII was 206 students. As shown in the table bellows:

Table 3.3

The total students Class VIII of MTsN 2 Padang Pariaman

Academic Year 2017/2018

Class	IX.1	IX.2	IX.3	IX.4	IX.5	IX.6	Total
Total Students	30	39	38	26	32	36	206

Source: Curriculum staff of MTsN 2 Padang Pariaman

2. Sample

Sample was part or representative of the population research. Named the sample was to generalizing the results of the research. Generalizing means raised as a research conclusions as applicable to the population. According to Gay (1987:101), he said that sample was the process of selecting a number of individuals for a study in such a way that they represent the larger group from which they were selected. In this research, the researcher needed two groups (classes) to act the research sample. To get the representative sample of this research, the writer used Cluster Random Sampling. The researcher did these steps:

- a. Researcher collected the result of students' mid term test from all of students at class IX.
- b. The researcher looking for the normality of those classes whether those classes come from normal distribution or not.

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**Table 3.4
Test of Normality**

SCORE	CLASS	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	Df	Sig.
	1,00	,142	35	,126	,912	35	,017
	2,00	,136	39	,065	,940	39	,037
	3,00	,122	38	,150	,962	38	,214
	4,00	,132	26	,200*	,931	26	,064
	5,00	,149	32	,029	,924	32	,011
	6,00	,160	36	,015	,919	36	,009

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the table, can be seen that the significance or probability score just two classes (IX.3 and IX.4) bigger than 0.05 in both Kolmogorov-Smirnov and Shapiro-Wilk.

c. Test of Homogeneous Variances

After do the normality test, then researcher analyzed the homogeneous variation test. This test had an objective as to know the sample homogeneity or not. This test used SPSS with test, if the data significant or the data more than 0.05 it mean the data was homogeneous.

Table 3.5
Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
SCORE	Based on Mean	,847	5	207	,518
	Based on Median	,692	5	207	,630
	Based on Median and with adjusted df	,692	5	196,714	,630
	Based on trimmed mean	,879	5	207	,496

The decision of column *test of homogeneity of variance* shown that p-value 0.001 is smaller than 0.05, so it can be concluded that all the class were homogeneity.

- d. After researcher analyzed the homogeneity and normality test, researcher found all classes was homogeneity but there was class was not normal. Then, sample of this research consisted of two classes: an experimental class and control class. Researcher was chosen those normal and homogeneity classes as sample in this research. In determining experimental class and control

class, the researcher used flapping a coin. So, the researcher got IX. 3 as Experimental class and IX. 4 as Control class.

C. Time and Place of the Research

This research carry out at MTsN 2 Padang Pariaman. This place was choose because the researcher had ever did observation there. MTsN 2 Padang Pariaman has six classes for each grade. The treatment conducted at the class IX students of first semester. The time allocation of English subject was twice a week for each class or 4 x 40 minutes and each meeting spent 80 minutes (2x40 minutes).

D. Instrumentation

In this research, the researcher used written test. The written test did in post-test toward two classes (experimental and control class). After giving the treatment for six meetings, the researcher gave two classes post test in order to know the student's writing ability. And to saw whether the use of semantic mapping strategy was more effective than conventional strategy. The researcher compared the result of post test of the classes. To know the result of the students' writing score, the researcher used analytic method based on Jacob. As presented on the table belows:

Table 3.6
Sample of Instrument in Giving Writing Scores

Post-test

No. Of Students	Aspects					
	Content (30)	Organization (20)	Voc (20)	Grammar (25)	Mechanics (5)	Total (100)
1						
2						
↓						
30						

E. Procedure of the Research

1. Preparation

The researcher used two classes to collect the data, in experimental class, the researcher taught the students by using semantic mapping strategy and taught a conventional strategy for control class. In short, the researcher proposed these procedures:

- a. Determining the research time
- b. Preparing the lesson plan arranged by curriculum.
- c. Explaining to the students about the planning in learning process.
- d. Preparing the final test

2. Application (process)

Table 3.7
Treatment procedure of teaching writing in the classroom

Activity	Description of Activity	Time
Pre Activity	<ol style="list-style-type: none"> 1. Greeting the students 2. Asking the students to pray before start the lesson 3. Checking the students attendance 4. Reviewing or asking about the last material 5. Telling the purpose and benefit of the lesson 6. Telling the strategy of evaluation 7. Telling about the relation materials that will be held with daily life 	10 minutes
Main Activity	<p>Observing</p> <ol style="list-style-type: none"> 1. Teacher asks the students read the material about Procedure text. 2. Teacher asks the students to follow how to pronounce the words that said by the teacher. 3. Teacher asks the students to read to get the general information. <p>Questioning Guidance and discussion from the teacher, Students ask the distinction between some procedure text and other text.</p> <p>Exploring</p> <ol style="list-style-type: none"> 1. Teacher introduces learning objective to students 2. Teacher explains about definition, purpose and generic structure of procedure text. 3. Teacher gives the example of procedure text. 4. Students read some example of procedure text in others source. 5. Teacher writes a topic of lesson on the white board about procedure text. 6. Teacher writes the generic structure of procedure text before write the key words related to the topic. 7. Students choose one of the topic of procedure text such instruction, food, etc. <p>Associating</p> <ol style="list-style-type: none"> 1. the teacher asks to the students to select the word central to the topic 2. The teacher displays the target word about holiday. 3. The teacher invited the students to generate words as many words in categories. 4. The teacher asks to the students to write the generated words in categories. 	60 minutes

	<ol style="list-style-type: none"> 5. The teacher asks to the students to give label categories. 6. The teacher asks to the students to construct the map from that list. 7. The teacher leads the class in a discussion that focusses on identifying meanings and uses of words, clarifying ideas, etc. <p>Communicating</p> <ol style="list-style-type: none"> 1. Teacher asks the students start to write. 2. Teacher gives the reward like applause to appreciate students' work in their exercise. 3. Students express their experience that they have gotten for learning process, the difficult thing and easy to learn by using the strategy to solve the problem. <p>Creating</p> <p>Teacher asks the students to make a procedure text about food or drink</p>	
Post Activity	<ol style="list-style-type: none"> 1. Teacher collects students' writing. 2. Teacher asks the students about understanding materials that students have gotten 3. Teacher asks the students to conclude the lesson 4. The teacher closes the lesson by pray together. 	10 minutes

3. Finishing (Evaluation)

- a. Giving post-test to experimental and control class.
- b. Processing data.
- c. Taking conclusion from technique of data collection.

F. Technique of Data Collection

In this research, the researcher used post-test for collecting data. The purpose of the research was to know students' ability in writing procedure text through Semantic Mapping strategy. The researcher taught in both classes to did the research and collect the data. The research conducted six meetings. Then, after the selection of both groups, the treatment gave to the experimental group. The experimental group taught through semantic mapping strategy, and the control group taught through

conventional. Next, after treatment, the posttest gave to the both groups, experimental and control group.

In scoring the students' writing ability, the researcher choosed assesment of writing by jacob's Theory (1981:90) for measurements of writing ability as follows: Content, Organization, Language use, Vocabulary, and Mechanic.

G. Technique of Data Analysis

The technique of data analysis uses the statistical procedure. To analyze the students' score on pretest and posttest, the researcher used t -test that took from Gay (1987) and Statistical Software Program SPSS version 20. In this case, T -test means a statistical procedure used to determine whether there was any significant difference between the mean of the two sets score from control and experiment class.

In analyzing the students' test score, some steps did before analyzing the different mean by using t -test formula as follows:

1. This formula applied to decide mean of students' test score in experimental and control groups;

$$\bar{X}_1 = \frac{\sum F_1 X_1}{\sum F_1} \quad (\text{Experimental group})$$

$$\bar{X}_2 = \frac{\sum F_2 X_2}{\sum F_2} \quad (\text{Control group})$$

2. This formula used to decide standard deviation of experimental group;

$$S_1^2 = \frac{n_1 \times \sum F_1 x_1^2 - (\sum F_1 X_1)^2}{n_1 (n_1 - 1)}$$

3. This formula used to decide standard deviation of control group;

$$S_2^2 = \frac{n_2 \times \sum F_2 x_2^2 - (\sum F_2 X_2)^2}{n_2 (n_2 - 1)}$$

The formula of t-test as follows (Sudijono, 2005).

$$t_{observed} = \frac{M_1 - M_2}{\sqrt{\frac{(\sum x_1^2 + \sum x_2^2) (N_1 + N_2)}{(N_1 + N_2 - 2) (N_1 \cdot N_2)}}$$

M_1 : Mean score of experimental class post-test

M_2 : Mean score of control class post-test

$\sum x_1$: Sum of standard deviation of experimental class post-test score

$\sum x_2$: Sum of standard deviation of control class post-test score

N : Number of cases

The t-table was employed to see whether there was a significant difference between the mean score of post-test of experimental class. The value of t obtained was consulted with the value of t-table. The data was analyzed by using simple regression for hypothesis with 5 % ($\alpha = 0,05$) of significance level and the value of t-table of the level of freedom $(N_1 - 1) + (N_2 - 1)$. If the value t-obtained was bigger than the value of t-table, the null hypothesis was accepted. On the contrary, if the value of the t obtained was equal, bigger or smaller than the value t-table, the alternative one is not accepted.