

## CHAPTER III

### METHODOLOGY OF RESEARCH

#### **A. Research Method**

This research conducts to know cause and effect of the variables. It proposed to answer the question of the research formulation about how the independent variable effects the dependent variable. Thus, the quantitative approach is requires in this research a quasi-experimental research is decide as a method with pre-test and post-test control group design. A quasi-experimental has both pre-test and post-test, an experiment and control groups, but no random assignment of subject.<sup>1</sup> A research with this design is use enable researcher conduct an experimental research although it cannot strictly control other variables.

The procedure of conducting this design is dividing the participants into two group, in this case the students are chosen group into control and experiment class. The students in the experimental class get treatment. They are gives the material by using project based learning, while students in control class is not.

At first meeting, pre-test was given to both groups to make sure students of two groups have relatively the same understanding on writing procedure text. And then in the last meeting, the post-test was

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<sup>1</sup> David Nunan, *Research Method in Language Learning*, (Cambridge University press,1992), p.230

carried out to the experimental and controlled class. The result of post-test has given the information of these two classes after being analyzed. To make clear, below is a table to describe the procedure of quasi-experimental design.

<b>Group</b>	<b>Pre-test</b>	<b>Treatment</b>	<b>Post-test</b>
Control	T1	-	T2
Experimental	T1	X	T2

Notes:

X : Treatment

T1: Pre-test

T2: Post-test

## **B. Place and Time of the Research**

In this study the research were carried out at senior high school of Al-Rahmah Islamic Boarding School which located at Lebakwangi, Walantaka, Serang-Banten. The research will be conducted on March 2017.

## **C. Population and Sample**

### **1. Population**

According to Nunan, “population is all cases, situations or individuals who share one or more characteristics”<sup>2</sup>. The population in this Research is the student of MA Al-Rahmah in

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<sup>2</sup> David Nunan, *Research Method in Language Learning*, (Cambridge University press,1992), p.231

academic year 2016-2017. The school has 3 classes for first grade, they are about 90 students.

## **2. Sample**

According to Nunan,“ sample is a subject of individual or cases from within population”.<sup>3</sup> A sample is a group in research study on which information is obtained. Sample is smaller than population. For the sample, the writer choose two classes of first grade with 60 students, X B as experiment class and X A as control class, it is amount of each classes are 30 students it have class control and class experiment.

## **D. Research Instruments**

In this research the writer used pretest and posttest as an instrument. Pretest and post-test are research instruments that use as a devise to know the result from two different classes which use project based learning and the traditional one.

This study used test as instrument to collect data as follow:

### **1. Pre-test**

This test is to know students writing ability before the students given treatment. The writer will give pretest text that consist

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<sup>3</sup> David Nunan, *Research Method in Language Learning*, (Cambridge University press,1992), p.232

procedure text. Students make a procedure text to train writing ability and recognize procedure text.

## 2. Post-test

For post-test, each student make a procedure text beside on the material in making something and by using project based learning, it is objective for improve their writing ability and English learning.

In collecting data to support the research, the writer will give the test to students. The test is writing procedure text. Then, the students will write procedure text by the title how to make a coffee in pre-test and how to make the brooch in post-test. The last, the students' assignment are collected.

By this test the writer will know the students' ability in writing procedure text.

The test is:

1. Make an English procedure text by the title "how to make a coffee" (pre-test)
2. Make an English procedure text by the title "how to make a brooch" (post-test)
3. The amount of procedure text is minimal 100 words.

## **E. The Technique of Data Collecting**

As the study tends to improve students' writing skill, there are technique to get valid data and objective information:

### **1. Observation**

Observation is the first step to know the object conditional of MA Al-Rahmah, situation of the teaching and

learning process of English subject. The observation conducted to observe English teaching-learning process in the real classroom activities at the second grade of MA Al-Rahmah.

In this research, the writer use participant observation. Participant observation is the observation make by observer, but in the meantime the observer enters and follows the activities of the group being observed. In this observation researchers involved with the daily activities of people who are on watch or use as a source of research data.

## **2. Test**

Test is a method of measuring person's ability or knowledge in a given domain. The writer conducted a test to collect and to know how far students' ability. In collecting the data, the research do pre-test and post-test.

1. Pre-test: this test will do before students' given a treatment. This test is to know students procedure text writing before the students give the treatment and to get the data of their mastery on structure of both two group especially in writing.
2. Post-test: this test will do after students' given a treatment which students will though writing skill by project based learning. Post-test carried out in order to check the difference of two groups (control group and experiment group) after the researcher give the treatment for experiment group traditional method to control group.

## F. The Technique of Data Analyzing

The last step of the research methodology is data analyzing. To find out the influence of the test, the writer analyzes by using statistic calculation of the students test, with the following steps:

1. Checking the name and identifying of respondent
2. Checking the content of instrument data collecting
3. Collecting student scores by scoring the items for question items use objective answer with written test.

After examining the data, the result of post-test was calculated by t-test formula as follows:<sup>4</sup>

To: SE

Whereas:

M : Mean variable of experimental class

SE: Standard error of experimental class

The procedure of calculation as follows:

- a. Determine mean of experiment class (X)
  - Determine mean of pre-test with formula

$$M = \frac{\Sigma X}{N}$$

- Determine mean of post-test with formula
- $M = \frac{\Sigma X}{N}$

- b. Determine of control class (Y)

- Determine of pre-test with formula

$$M = \frac{\Sigma Y}{N}$$

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<sup>4</sup> Anas Sudijono, *Pegantar Statistic Pendidikan*, 2010. P. 346-347

- Determine of post-test with formula

$$M = \frac{\Sigma Y_2}{N}$$

- c. Make a preparation table to get mean and deviation from the mean of students' score between the students writing who applying project-based learning (experimental class) and without project-based learning (control class)
- d. Analyze the result by using calculation of the test as follow:

The formula to determine standard of deviation score:

$$SD_D = \sqrt{\frac{\Sigma D^2}{N} - \left[\frac{\Sigma D}{N}\right]^2}$$

- e. The formula to determine the mean of differences

$$MD = \frac{\Sigma D}{N}$$

- f. The formula to determine standard error of mean:

$$SE_{MD} = \frac{SD}{\sqrt{N-1}}$$

- g. The formula to determine  $t_o$

$$t_o = \frac{M_D}{SE_{MD}}$$

Determining t-table in significant level 5% (0,05) and 1% (0,01)

Df = N-1

Criteria:

If  $t_o > t\text{-table}$  means there is significance and  $H_a$  is accepted, and  $H_o$  is rejected.

If  $t_o < t\text{-table}$  means there is no significance and  $H_a$  is rejected, and  $H_o$  is accepted.

## **G. Research procedures**

1. Preparing research proposal
  - a. Choose the problem
  - b. Learn the problem and search the information about the problem
  - c. Make the statement of the problem
  - d. Make hypothesis
  - e. Choose the method of research
  - f. Determine the variable and sources of the data
  - g. Organizing the research instrument
2. Preparing the material in conducting pre-test
3. Preparing the material for teaching learning process during giving treatment
4. Preparing material in conduction post test
5. Preparing the need permission for conducting the research
6. Implementing of the research
  - a. Giving pre-test
  - b. Giving treatment
  - c. Giving post-test
7. Collecting data
8. Analyzing and interpreting the data collected from pre and post test



9. Make a conclusion drawing the interpretation based on the result and proposes some suggestions
10. Writing down into a paper as a research report.