

CHAPTER III

THE RESEARCH METHODOLOGY

A. The Research Method

In this research the writer will use experimental research. Experiments are carried out in order to explore the strength of relationships between variable. A variable, as the term itself suggests, is anything which does not remain constant.¹

Experimental research is a quantitative research method that tests the hypothesis which has the form of cause and effect relation by manipulating which is not caused by other variable. There were three kinds of experimental research, such as, True Experiment, Quasi Experiment, and Pre-Experiment. True experiment consist of a control and experiment groups to which subjects have been randomly assigned, and in which all subject are tested before and after the intervention or treatment under the investigation has been administered to the experiment group. A pre-experimental may have pre and post treatment test, but lacks of control groups. A quasi experiment has both pre and posttest, an experimental and control groups, but no random assignment of subjects.² In

¹ David, Nunan, *Research Methods in Language Learning*, (New York: Cambridge University Press, 1992), .25.

² David, Nunan, *Research Methods in Language Learning*, 230.

this research, the researcher uses quasi experiment method because the research will use two class, the first class is an experimental research and the last one is as the control class, so the research can see the point of there is or no the effect of the use peer tutoring. To get data, the researcher will used pre-test and post-test toward the subject of research.

B. Place and Time

The writer choose the research at Second grade of SMPN 3 Cikande, Which located on Jl.Desakung. Gorda Km 01, kecamatan Cikande Serang-Banten. Later she must determine how long the research will take the time it depends on research problem.

C. Population and Sample

a. Population

Population is number of subject that will be research while sampel is part be researched. According to Nunan," Population is all cases, situation or individuals who share one or more characteristics.

According to Fraenkel and Wallen population is always all of the individuals who process a certain

characteristic (or set of characteristic).³ And then he said in educational research the population of interest is usually a group of persons (students, teachers, or other individuals) who possess certain characteristic. The target population of this study is the second grade which consist of 120 students from four classes at SMPN 3 Cikande.

b. Sampel

Sampel is a part or representative of population being researched, it is called sample reasearch. According to Nunan, “ sampel is a subject of individual or cases from within population”. The research divided them two groups, 30 students of class B and 30 student of class D as control class. In the experimental class the research Use peer tutoring technique to know the effect of descripteve text use peer tutoring and in control class the researcher not use peer tutoring.

D. The Research Instrument

Research instrument is for facilitation that use by writer to collect the data. Researcher uses test to know the students' understanding. The research instrument used for

³ J. R Fraenkel and Norman E Wallen, *How to Design and Evaluate Research in Education*, (McGraw-Hill Higher Education, 2003), 91.

this study is a test given to the students. The teacher gave the pre-test and then teaching material, and post-test.

The instrument to get the data are observation to know conditional of teacher, teaching method and learning English process in classroom activity and then pre-test, teaching material, and post-test.

A study using quantitative method usually process by systematically manipulating its specific variable to test the prediction make by theory informing the study. In this research, the writer gives two kind of test, there are as follows:

Pre-test:

The test that is given to both of control class before giving treatment non peer tutoring as a technique and experiment class before given treatment with peer tutoring as a technique.

Post-test:

The test that is given to both of control class after given the treatment non peer tutoring as a technique and experiment class after given treatment with peer tutoring as a technique.

E. Data Collecting and Data Analysis

A. Data Collecting

In this research, the researcher determined quantitative research, it means that the researcher collects data from the field and must go to the place of the research.

Collecting data is an important thing in this research that can be determine. The technique data collecting will use this research are:

1. Observation

Observation is first step collecting data. The object of this observation is around of the school. Especially about the students' condition and situation of the school, facilities, principal and others that enable the writer to complete the data.

2. Pre-test

The writer gives pre-test before using the peer tutoring technique to knows students' understanding on descriptive text tense at SMPN 3 Cikande. This test was done before students give treatment. Which will be given 20 questions, which are 10 multiple choice questions, 5 essay, and 5 of True or False.

3. Post-test

After the writer gives pre-test and teaching material than gives post-test after using peer tutoring technique in learning English, the writer can know the result how the peer tutoring technique to improve students understanding on descriptive tense. Which consists of 10 multiple choice questions, 5 essay, and 5 of True or False.

B. Data Analyzing

To analysis data, the writer will use comparing two means or t-Test. The *t*-test is represented with the symbol *t*. T-test is the most frequently used measure in language research when comparing means score for two group. One widely used statistic for determining significant differences between two means is the t-test (always written with a lowercase t). The t-test is only used if the measurements consist of interval data (such as scores). Also, t-tests are always used to compare only two sets of data.⁴

⁴ David Nunan and Kathleen M. Bailey, *Exploring Second Language Classroom Research: A Comprehensive Guide*, (Boston: Heinle Cengage Learning, 2009), 373.

In this case, the writer will use the second formula or *fisher formula* according to Sudjiono (2012) for computing the *t*-value would look like this:

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

M_1 = Mean score of the experiment class

M_2 = Mean score of the control class

$\sum x_1^2$ = Sum of square deviation score in experiment class

$\sum x_2^2$ = Sum of square deviation score in control class

N_1 = Number of students of experiment class

N_2 = Number of students of control class

2 = Constant number

df = Degree of Freedom ($df = N_1 + N_2 - 2$)

First, to adjust to the symbol used in the fisher formula: Variable I is given the symbol X_1 , the Variable II is given the symbol X_2 , and the deviation

score of Variable I is given the symbol x_1 , and the deviation score of Variable II is given the symbol x_2 .⁵

Next the writer will take the square root of the result:

1. Determine Mean of Variable X_1 :

$$M_1 = \frac{\sum X_1}{N_1}$$

2. Determine Mean of Variable X_2 :

$$M_2 = \frac{\sum X_2}{N_2}$$

3. Determine score deviation of Variable X_1 :

$$x_1 = X_1 - M_1$$

4. Determine score deviation of Variable X_2 :

$$x_2 = X_2 - M_2$$

5. The squaring of X_1 , then add up; obtained $\sum x_1^2$
6. The squaring of X_2 , then add up; obtained $\sum x_2^2$
7. Determine t_0 :

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

8. Determining t-table in significance level 5% and 1% with df:

$$df = (N_1 + N_2) - 2$$

⁵ Anas Sudjiono, *Pengantar Statistik Pendidikan*, (Jakarta: Rajawali Pers, 2012), 317.