

## **CHAPTER III**

### **METHOD OF THE RESEARCH**

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

The researcher used quantitative method by using quasi experimental design. In many situations in educational research, however, it is not possible to randomly assign subjects to treatment groups. Neither the school system nor the parents would want a researcher to decide to which classrooms students were assigned. In this case, researcher chooses quasi- experiments in which random assignment to treatment groups is not used. Quasi-experimental designs are similar to randomized experimental designs in that they involve manipulation of an independent variable but differ in that subjects are not randomly assigned to treatment groups.<sup>1</sup>

Quasi experimental design was implied to know the influence of Picture Word Inductive Model (PWIM) toward students' writing ability in descriptive text. The researcher took two classes as control and experiment class. Experimental group will be taught descriptive text by Picture Word Inductive Model (PWIM) and control group will be not treated with Picture Word Inductive Model (PWIM) or accept common treatment. Both groups will be given pre test, and post test. In this case, the researcher aimed to prove whether or not there is influence of Picture Word Inductive Model (PWIM) toward the students' writing ability in descriptive text at eighth grade of MTs. Daarul Ahsan Kabupaten Tangerang. After conducting pretest, treatment and posttest, the data is interpreted.

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<sup>1</sup>Donald Ary, et.al., *Introduction to Research in Education*, (Belmount: Harcourt Braca Publisher, 2010) , 316.

## **B. Population and Sample**

### **1. Population Research**

Population is all cases, situations, or individuals who share one more characteristic.<sup>2</sup> In this research, all of the students at eighth grade of MTs Daarul Ahsan Kabupaten Tangerang took as population.

### **2. Sample Research**

Sample is subset of individuals or case from within population<sup>3</sup>. In this research the researcher used cluster sampling. This kind of probability sampling is referred to as cluster individuals who are naturally together. The sample of this research was the students of VIII A who consist of 32 students as an experimental class and VIII B who consist of 33 students as a control class in the 2016/2017 academic year of MTs. Daarul Ahsan Kabupaten Tangerang.

## **C. Research Instrument**

Selecting appropriate and useful measuring instruments is critical to the success of any research study. One must select or develop scales and instruments that can measure complex constructs such as intelligence, achievement, personality, motivation, attitudes, aptitudes, interests, and self-concept.<sup>4</sup> The instrument of the research was test. Meanwhile, in test the researcher used writing test.

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<sup>2</sup>David Nunan. *Research Method in Language Learning*(New York: Cambridge University Press,1992),230.

<sup>3</sup> Ibid,231

<sup>4</sup> Ibid,200

## 1) Test

Tests are valuable measuring instruments for educational research. A test is a set of stimuli presented to an individual in order to elicit responses on the basis of which a numerical score can be assigned.<sup>5</sup> In this research the researcher used writing test to know the influence of Picture Word Inductive Model (PWIM) toward the students' writing ability. The test divided into two parts; pre test and posttest.

### a. Pretest

It aimed to find out the initial differences of students' writing score in groups, experimental group and control group before treatment.

### b. Posttest

It gave after the treatments in order to find out whether or not the treatments give any contribution to the students achievement in the experimental group.

## D. The Technique of Data Analysis

Data analysis is a process whereby researchers systematically search and arrange their data in order to increase their understanding of the data and to enable them to present what they learned to others.<sup>6</sup> After the data collect, the researcher analyzed the data. The purpose of analyzing the data is to find out the influence of using Picture Word

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<sup>5</sup> Ibid, 201

<sup>6</sup>Ibid,480

Inductive Model (PWIM) toward students' writing ability in descriptive text. To analyze the significant difference of the mean score test in both experimental and control class. The researcher analyzed data through quantitative analysis and statistical procedure. The data came from the result of pre-test and post-test analyzed by using t-test application.

Because the writer wants to compare result of the research between experiment class and control class students, the writer take steps as follow:

1. The result of the post-test in experiment class is named variable (X1)
2. The result of the post-test in control class is named variable (X2)

The steps for statistic analyze are:

1. Determining mean of variable X1 with formula :

$$M_1 = \frac{\sum X1}{N_1}$$

2. Determining mean of variable X2 with formula:

$$M_2 = \frac{\sum X2}{N_2}$$

3. Determining derivation score variable  $X_1$  with formula:

$$X_1 = X1 - M_1$$

4. Determining derivation score variable  $X_2$  with formula:

$$X_2 = X2 - M_2$$

After getting the data from pre-test and post-test, the writer analyze it by using statistic calculation of t-test formula with the degree of significance 5% and 1% the formula as follow:

$$t = \frac{M_1 - M_2}{\sqrt{\left\{ \frac{\sum X_1^2 + \sum X_2^2}{N_1 + N_2 - 2} \right\} \left\{ \frac{N_1 + N_2}{N_1 \cdot N_2} \right\}}}$$

$M_1$  = the average score of experiment class (Mean X1)

$M_2$  = the average score of control class (Mean X2)

$\sum X_1^2$  = Sum of square deviation of experiment class

$\sum X_2^2$  = Sum of square deviation of control class

$N_1$  = Numbers of students of experiment class

$N_2$  = Numbers of students of control class

2 = constant number

df = degree of freedom

df =  $N_1 + N_2 - 2$ <sup>7</sup>

5. Doing interpretation and calculation by comparing the result of calculation t-test with t-table.

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<sup>7</sup> J.P.Guilford,et.al. *Fundamental Statistic in Psychology and Education: International Student Edition* (California: McGraw-Hill,1981), 157.