

## CHAPTER III

### METHODOLOGY OF RESEARCH

#### A. The Time and Place of the Research

This research was conducted at the third grade of SMP Al-Mansuriyah Tangerang Banten. The research was held for three weeks. It started from February-March 2018 at the second semester of the year of study 2017/2018.

#### B. Method and Design of the Research

The method of this research is quantitative method. It is often about calculation and analysis of the numerical data. Meanwhile, the design used is a quasi-experimental design. According to David Nunan stated that “Experimental is a procedure for testing a hypothesis by setting up a situation in which the strength of the relationship between variables can be stated.”<sup>1</sup> Then the writer use quasi experimental method, in which the research give certain treatment to experimental class to find whether or not there are significant of difference of students’ reading skill after being treated by using story grammar strategy.

The design is used to examine cause and effect of using story grammar strategy on students’ reading comprehension of narrative text. In this research, it compares experimental class

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<sup>1</sup> David Nunan, *Research Method in Language Learning* (Now York: Cambridge University Press, 1992, p. 230

(where story grammar strategy is applied in learning of narrative text class) and controlled class (where story grammar strategy is not applied in learning of narrative text class). The effectiveness can be seen by comparing improvement of students' score of experiment class and controlled class of post-test after they have been given treatments by the writer.

### **C. The Population and Sample**

#### **1. Population**

According to Suharsimi Arikunto, a population is a set (or collection of all elements processing one or more attributes of interest.”<sup>2</sup> So the population is taken of whole subject or person in study to get required data. The population of this study is 90 students of third grade of SMP Al-Mansyuriyah Tangerang.

#### **2. Sample**

The sample for this study was two classes. There are IX-A and class IX-B. Then the researcher manipulates the sample, IX-A as experimental class and IX-B as controlled class. The class IX-A has its member for about 30 students and the class IX-B has 30 students.

### **D. Instrument of the Research**

The instrument used for this research is test. The tests are divided into pretest and post-test. The test consists of 15

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<sup>2</sup> Suharsimi Arikunto, *Prosedur Penelitian*, (Jakarta: Rineka Cipta. 2010, p.

multiple choices and 5 essay question of narrative text. The tests are tested out to some students in another class of experiment and controlled class. There are two kinds of test used; they are pre-test and post-test.

Besides, pre-test is provided to find out students' reading achievement in narrative text before the treatment while post-test is conducted after students of experiment and controlled class had treatment from the writer.

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

For collecting the data, the researcher will use test (pre-test and post-test), observation and documentation.

#### **a. Pre-test**

Test Test is main instrument in this research. The test technique was used to see the result of students' improvement in their reading comprehension of narrative text. The test was applied in experimental and control class to find out students' achievement. The score of the test used as comparison between experimental and control class. The writer conducted the test two times for both classes. The first was pre-test and the second was post-test. After knowing and getting the data, the writer analyzed the data to see the effectiveness of story grammar strategy on students' reading comprehension of narrative text.

##### **1) Pre-test**

Pre-test was applied for experimental class and control class and it was conducted in the first meeting before the strategy of story grammar was given by the writer. The pre-test

consisted of 15 multiple choice and 5 essay questions. There are several narrative text passages in the test and the students had to answer the questions based on the text.

## 2) Post-test

Post-test was also applied for both classes and it was conducted after the treatments were given. The purpose of post-test is to measure the effectiveness of story grammar strategy on students' reading comprehension of narrative text by looking at students' post-test score. The test used in this post-test was multiple choice which consisted of 15 numbers and 5 essay question . The test in pre-test and post-test have the same difficulty level.

### **b. Observation**

Observation is one of data collection techniques which were used by the writer. The purpose is to get the preliminary data. The writer observed respondents' activities and the process of teaching and learning activity to identify the problems which occur in the classroom before applying the technique for her research.

### **c. Documentation**

In documentation, the collecting data by using take the picture in learning process and take some notes about students' test of this research.

## F. The technique of Analysis Data

The technique of analysis data in this research uses Test-t. According to Sudijono Test-t is used for testing the null hypothesis of the mean differences of two samples.<sup>3</sup> Because the quasi experiment use pre-test and post-test then the writer uses this test to measure the final test between experiment class and control class.

The steps for statistic analyze that are<sup>4</sup> :

- a. Determining mean of variable X1 with formula :

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

- b. Determining mean of variable x2 with formula :

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

- c. Determining derivation score variable x1 with formula :

$$x_1 = X_1 - M_1$$

- d. Determining derivation score variable x2 with formula :

$$x_2 = X_2 - M_2$$

After collecting the data from pre-test and post-test, the researcher analyze it by using statistic calculation of t-test by using fisher formula with significance degree 5% and 1%. The formula is as follow :

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

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<sup>3</sup>Anis Sudijono, *Pengantar Statistik Pendidikan*. Jakarta: PT Raja Grafindo, 2014. P. 307

<sup>4</sup>Anis Sudijono, *Pengantar Statistik Pendidikan*. P. 314

Notes :

$M_1$  = 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 ( $df = N_1 + N_2 - 2$ )

### E. Statistical Hypothesis

The statistical hypothesis of the research can be seen as:

1. There is no effectiveness of using story grammar on students' reading achievement of narrative text (**H<sub>0</sub>**).

$$\mathbf{H_0 = \mu_1 = \mu_2}$$

2. There is effectiveness of using story grammar on students' reading achievement of narrative text (**H<sub>a</sub>**).

$$\mathbf{H_a = \mu_1 \neq \mu_2}$$

Where: **H<sub>0</sub>**= Null hypothesis

**H<sub>a</sub>**= Alternative hypothesis

**$\mu_1$**  = Students' pre-test achievement

**$\mu_2$**  = Students' post-test achievement

And then, the criteria used are as follows:

- a. If t-test (**t<sub>o</sub>**) > t-table (**t<sub>t</sub>**) in significant degree of 0.05, **H<sub>0</sub>** (null hypothesis) is rejected. It means that the average score rates of the experimental group are higher than the controlled group. In other words, using story grammar on students' achievement of narrative text is effective.

- b. If t-test ( $t_o$ ) < t-table ( $t_t$ ) in significant degree of 0.05,  $H_o$  (null hypothesis) is accepted. It means that the average score rates of the experimental group are same as or lower than the controlled group. In other words, using story grammar on students' achievement of narrative text is not effective.