

## CHAPTER III

### RESEARCH METHODOLOGY

#### A. The Method of Research

In this research, the method that was used is quantitative method in the design quasi-experiment. The writer used quasi-experiment as the design of the research to see the effect of using learning cell to improve students in reading comprehension. To conduct this research, the writer took two classes of the eighth grade students' of Junior High School on the odd semester as the experimental class and control class to see the effect of using learning cell to improve students in reading comprehension in narrative text by looking pre-test and post-test measurement and comparing the gained scores between both two classes.

Method is a way to conduct something in order to get the purpose or the goal as expected. The method of this research is experimental research. Experimental research is a research that test hypothesis which has the form of cause and effect relation between variables. Experiments are carried out in order to explore the strength of relationship between variables.<sup>1</sup>

According to Mujis that "Experimental research is a test under controlled conditions that is made demonstrate a known truth

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<sup>1</sup>David Nunan, *Research Methods in Language Learning* (Cambridge: Cambridge University Press:1992), 25.

or examine the validity of a hypothesis.<sup>2</sup> Meanwhile Nunan states that “Experimental study is define as a procedure for testing the hypothesis by setting up a situation in which the strength of the relationship between variable can be tested.”<sup>3</sup> In other words, that experimental study is a research method that test the hypothesis.

The researcher will conduct the research by applying quasi experiment to see the improve reading skill by using learning cell. As stated by Daniel Mujis that, “Quasi-experimental research is especially suited to looking at the effect of an educational invention, such as a school improvement program, a project to improve a specific element.”<sup>4</sup> It means compare the results of two group between experimental class and control class.

In this research the researcher gives pre-test and post-test to two classes. Pre-test is given in the beginning of research in order to obtained the initial information about students reading comprehension. Meanwhile, post-test is given to two classes, however only the experimental class which obtained treatment.

The form of treatment is the implementation of learning cell in learning reading comprehension on narrative text. The treatment was given as many as two meeting, and it mainly focuses on the application of learning cell in reading comprehension.

In the treatment, the researcher explained the definition, social function, generic structure, language feature and example of narrative text. Besides the researcher also deeply teach the

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<sup>2</sup> Daniel Mujis, *Doing Quantitative Research in Education* (London: SAGE Publications Ltd, 2004). 13

<sup>3</sup> David Nunan, *Research Methods in language learning*, 230

<sup>4</sup> Daniel Mujis, *Doing Quantitative Research in Education*, 27

implementation of learning cell to students comprehensively in order they have good comprehension.

The pre-test is conducted in order to the diagnose students' current ability in introducing someone else before the treatment applied. Meanwhile, post-test is to measure the effect of study after applying the treatment.

In applying this research, the researcher teaches about reading skill by using learning cell method as an experimental class, and researcher does not teach reading skill by using learning cell as a control class.

## **B. Setting and Research Timeline**

The research will be conducted at SMP Riyadul Muftadi' in it located on Jalan H. Tb Ghojali Kp. Pabrik Pandeglang Banten. The researcher chose this location because the researcher has an access to conduct the research, and the total of students' is representative for conductive research. The writer will conduct this research on Oktober 2019 until this research finished, and the researcher will conduct the data during 2 weeks, four meeting in every class both control class and experimental class.

## **C. Research Design**

To order to provide clear explanation on experimental research, the researcher provides the research design as follows:

**Table 3.1**  
**Research Design**

<b>Class</b>	<b>PRE- TEST</b>	<b>TREATMENT</b>	<b>POST- TEST</b>
<b>Experimental</b>	<b>T1</b>	√	<b>T2</b>
<b>Control</b>	<b>T3</b>	<b>X</b>	<b>T4</b>

The table above showed that the researcher only conducted the treatment in the experimental class and the researcher did not give the treatment in the control class, but two classes got the same pre-test and post-test.

#### **D. Population and Sample**

##### **1. Population**

The population of this research is all of the second grade of SMP Riyadul Mubtadi'in (located on jalan H. Tb Ghojali, Kp. Pabrik Kec. Cimanuk Kab. Pandeglang Banten). The total number of the population come class A, B, C, D, E the total number of students is 180 students. They consist of 97 male and 83 female.

Data of the population are:

**Table 3.2**  
**Data of Population**

<b>Class</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
VIII- A	20	12	32
VIII- B	21	11	32

VIII- C	15	24	39
VIII- D	19	20	39
VIII-E	19	19	38
	97	83	180

## 2. Sample

The sample of this study was two classes. There are VIII-A and class VIII-B. Then the researcher manipulates the sample, VIII-A as experimental class and VIII-B as control class. The class VIII-A has its member for about 32 students and the class VIII-B has 32 students.

## E. Instrument and Technique of Data Collecting

### 1) Instrument

A reading comprehension test, which serves as the research instrument is used to find out the student ability in reading comprehension on narrative text by using learning cell method in teaching students reading comprehension. In this research, the writer will take two items of test, those are multiple-choice and essay.

Multiple choice is a part of the test, it focuses on the choosing of the right answer. It is an objective test. And essay is the example from subjective test, which are the learners' ability performance are judged by examiner opinion and judgment. The test consists of 15 items of multiple choice and 5 essay related to the students reading

comprehension. Each question is given 5 (five) if the answer is true and 0 (zero) if the answer is wrong.

## 2) **Technique of Data Collecting**

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

The pre-test will do before treatment, the pre-test intent on to looking for the different students reading comprehension before and after the students using learning cell method, this pre-test do by researcher give an exposition text and ask to students to answer the question about the text. The question is 15 of multiple choice and 5 of essay.

### b. **Treatment**

After the researcher do the pre-test in the day before, the researcher do the treatment, that is teaching reading using learning cell method in experimental class and teaching reading by discussion in control class.

### c. **Post-test**

Post-test is measure on some attribute or characteristic that is assessed for participants in an experiment *after* a treatment. The research will do the post-test after the treatment and pre-test to measure the effect of using learning cell in reading comprehension on narrative text. The researcher give 15 multiple choice test and 5 essay for the post-test.

## F. Normality Test

From reading test using learning cell, the writer got two data, the first datum is the result of pre-test and the second one is the result of post-test. The researcher uses statistical of t-test to determine the final calculation t (t observation) that will be measure the student's scores in pre-test and post-test. The process of normality test throught following some steps :

1. Calculating students score both pre-test and post-test by using the following formula:

$$\text{Students Score} = \frac{\textit{Student's right answer}}{\textit{Total Items}} \times 100$$

2. Determining the Mean of variable X1 with formula:

$$M_1 = \frac{\Sigma x_1}{N_1}$$

3. Determining the mean of variable Y1 with formula:

$$M_2 = \frac{\Sigma y_1}{N_2}$$

4. Determining derivation score variable  $x_1$  formula:

$$x_1 = xI - M_1$$

5. Determining derivation score variable  $y_1$  formula:

$$y_1 = yI - M_2$$

6. Testing normality of data by using Lilliefors method with formula as follows:

$$Z = \frac{x - x}{SD}$$

7. Counting degree of freedom with formula as follows:

$$df = N_1 + N_2 - 2$$

8. Analyzing and comparing the result of post-test from both groups by using t-test formula as follows:

$$t_0 = \frac{m_1 - m_2}{\sqrt{\left(\frac{\sum x_1^2 + \sum y_1^2}{N_1 + N_2 : 2}\right) \left(\frac{N_1 + N_2}{N_1 \cdot N_2}\right)}}$$

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

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

$\sum x_1^2$  = Sum of square deviation of experimental class

$\sum Y_1^2$  = Sum of square deviation of control class

$NN_1$  = Number of students of experimental class

$NN_2$  = Number of students of experimental class

2 = Constant number

df = Degree of freedom

df =  $N_1 + N_2 - 2$ <sup>12</sup>

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