CHAPTER III

METHODOLOGY OF RESEARCH

A. Research Method

The researcher used quasi-experimental study because this the research method to measure the effectiveness of semantic mapping is to improve students' reading comprehension on descriptive text.

The research design of this study

$$\frac{X_1 \qquad O \qquad X_3}{X_2 \qquad\qquad X_4}$$

Note; before treatment

X_1 : Pre - test conducted from the experimental class

X_2 : Pre - test conducted in the controlled class without treatment

x_3 : Post - test conducted from the experimental class

x_4 : Post - test conducted in the controlled class without treatment

O : Treatment.

As for experimental design, the researcher made two classes into two classes sample group. Each of the two become experimental and controlled class. In controlled class students will not receive treatment while in the experimental class students will be give treatment.

B. Setting

The research carried out at SMP IT Al-Barokah kabupaten Pandelang. Which located on Jl. Salmin No.1 Rt/Rw 01/01 Kp.Kadomas Kel. Kadomas Kec, Pandelang Kab. Pandelang Prov. Banten (42218). Conducted this research in Eighth grade at SMP IT Al-Barokah as a subject or place for this research. The reason why research choose this setting because this school gives permission and accesses to carry out study there. Moreover, this research also found some student have problem in reading and it need to be solved by provides effective reading studies which applicable and used a by students. In this study, it was conducted five meeting each two classes.

C. Population and Sample

Population is entire groups of the subject the writer wants information on.[20] Population for this study were eighth grade of SMP IT Al-Barokah Pandeglang 2020/2021 academic years. In eighth grade have three classes that is VIII-A, VIII-B and VIII-C. This class is selected because there is still low in

[20] Daniel Stockemer, *Qualitative Methods for the Social Sciences,* (Ottawa: University of Ottawa, 2019), 57.

reading comprehension, learning process delivered in one direction only and because no one it yet previous research on the semantic mapping strategy.

A Sample is a portion of the population the research actually examines to gather her data.[21] It means sample is part of the number and characteristic possessed by the population under research and if the writer intends to generalize the results from the sample, it is referred to as sample research.

The research, the researcher uses two classes that is control class and experimental class each groups consist sixty of students. The researcher chooses the eighth grade-B as experimental class that have member thirty of students and class eighth grade-A as controlled class and also have member thirty of students.

D. Technique of data collecting

Research instrument for the facilities used in this study to collect data activities is carried out in our order obtain research data in accordance with the problems of the research. The researcher used two methods namely interview and test. Interview were conducted with English teacher and students to obtain information about their problems in English learning especially in reading the result of interview have been describes in chapter I and it will be interpreted in depth in chapter IV to support data from pre - test and post - test. Meanwhile reading test were given in both classes were gave in same test. This pre-test and

[21] Daniel Stockemer, *Qualitative Methods for the Social Sciences*, 58.

post-test to see whether there was an effect and if there were any different in results learn by applying semantic mapping strategy and conventional learning.

1. Treatment

   Treatment were given only to experimental groups by utilizing semantic mapping. At the first meeting before English teacher gave treatment to students, teacher explained and shows semantic mapping strategy to student and explained how to use graphics to help them to understand English text. In the meeting, the researcher made a review of the material about descriptive text then teacher divides students into several groups, each groups would consists of five people and the groups was given the descriptive text. Teacher and students discuss to find word related to the main topic.

2. Test

   Test is set of question that are used to measure the ability of individuals or groups carried out by the teacher. It means a form of questions given to students to get answer from student. So, English teacher will know the level of students' ability in reading comprehension on descriptive texts. To do this test, the researcher uses two test to measure students' abilities namely; pretest and posttest

a. Pre-test, pre-test questions will be given to both classes (experimental and controlled class) before the research gave treatment to the experimental class using sematic mapping. The reason why the writer asked students to answer pre-test question because it had to be done and to find out the result of their reading comprehension on descriptive texts before the writer gave treatment in experimental class.
b. Post-test, post-test question will also give to both classes after the teacher teaches reading descriptive text to experimental class using semantic mapping strategy and controlled class using conventional method. The reason is to know the success rate of reading comprehension ability in both classes after using two different methods.

So, the researcher uses two test items in this research, there is multiple-choices which consist of 25 items Multiple-choice is part of the text focuses on the choosing of the right answer. The reason why the researcher chose these items because this tests are often used to test students and when the scoring is also fast, easy and objective.

E. Technique of collecting data analysis

The researcher uses T-test. T-test is a form of statistical test used to compare the means of two groups.[22] The purpose in quasi-experimental use pre - test ad post - test. So, the writer uses t-test to measure the final test between two classes. The t-test proses through following some steps:

Students' scores = $\frac{Students\ Score}{Total\ Items}\ x\ 100$

1. Use the formula to determine the variable x1

   $M_{1=\frac{\sum X_1}{N_1}}$

2. Use the formula to determine the mean value of the variable x2

   $M_{2=\frac{\sum X_2}{2}}$

3. Use the formula to determine the score of the variable x1

   $X_{1=X_{1-M_1}}$

4. Use the formula to determine the derived score variable x2

   $X_{2=X_{2-M_2}}$

[22] Tae Kyun Kim," T-test as a Parametric Statistic", *Korean Journal of Anesthesiology*, Vol. 68, No. 6, (November, 2015), 540.

5. Testing normality of test data by using liliefors formula with formula as follows

$$Z = \frac{X - \bar{X}}{SD}$$

6. Continue degree of freedom with formula as follows;

   df = N1+N2-2

7. After the researcher collects pre - test and post - test data. The next process is Analyze.

$$t = \frac{m_1 \quad -m_2}{\sqrt{\left(\frac{\sum X_1^2 \quad +\sum X_2^2}{N_1 \quad +N_2 \quad -2}\right)\left(\frac{N_1 \quad +N_2}{N_{1.}N_2}\right)}}$$

Note:

M_1 = Experimental class mean score

M_2 = The control M2 mean score

$\sum X_2^1$ = From experiment class, the sum of square derivation score

$\sum X_2^2$ = In controlled class, the sum of square deviation score

N_1 = The number of students from experimental class

N_2 = The number of students enrolled in controlled class

2 = A fix number

Df = Degree of Freedom