#### **CHAPTER III**

#### METHODOLOGY OF RESEARCH

#### A. Method of research

The method of research in this study is experimental research, Experiment is very often concerned with the frequency with which events occur, rather than with the comparison of mean scores.<sup>1</sup> According to David Nunan in his book "Research Method and Language Learning" the experimental researchers are particularly concerned with the issue of external validity and formal is specifically designed to enable the researcher to extrapolate the out comes of the research from the sample to broader population.<sup>2</sup>

Nunan said the experiment consist three types, they are preexperiment, quasi experiment, and true experiment and each type has the characteristics there are  $:^{3}$ 

- Pre-experiment : May have pre and post treatment test, but lack a control group.
- 2. Quasi-experiment : Has both pre- and post-test and experimental and control groups, but no random assignment.
- True-experiment : Has both pre-test and post-test, experimental and control groups and random assignment of subjects.

<sup>&</sup>lt;sup>1</sup> David Nunan, *Research Method in Language Learning*, (Cambridge: Cambridge University Press, 1992), 37.

<sup>&</sup>lt;sup>2</sup> Nunan, Research Method in Language Learning, 47.

<sup>&</sup>lt;sup>3</sup> Nunan, Research Method in Language Learning, 41.

In this research, the writer uses quasi experimental. Fraenkel, Wallen, and Hyun explain that quasi experimental design do not include the use of random assignment.<sup>4</sup>

Finally, the writer gives certain treatment to the students to find assessment of how is the effect of Cooperative Integrated Reading and Composition (CIRC) technique in reading comprehension of descriptive text with quasi experiment research. In quasi-experimental will be two classes, there are experiment class and control class. The samples is conducted do not have randomly and the result is decided from the pretest and post- test of experimental and control class.

## **B.** Place and time

In this research, the writer take a place for research at SMP Riyadlul Mubtadiin is located in Jl Raya Mandalawangi Kp.Pabrik, Bengkung Ds.Dalembalar Kec.Cimanuk Kab.Pandeglang-Banten. The writer does the research at the second grade of SMP Riyadlul Mubtadiin as the subject or place of the research. The writer will be starting the experiment at August 2017 until finish the research.

## C. Population and Sample

1. Population

Population is all cases, situation, or individuals who share one or more characteristics.<sup>5</sup> A population is commonly understood to be

<sup>&</sup>lt;sup>4</sup>Jack. R. Fraenkel, Norman E. Wallen, Helen H.Hyun, *How to Design and Evaluate Research in Education*, (New York: McGraw Hill, 1932), 264

<sup>&</sup>lt;sup>5</sup> Nunan, Research Method in Language Learning, 231.

natural, geoghraphical, or political collection of people, animal, plants , or subject. The population of this research is the second grade of junior high school SMP Riyadlul Mubtadiin 2016/1017 consist of 129 students.

2. Sample

Sample is a subset of individuals or cases from with in a population.<sup>6</sup> Sample in this research use a subset of all cases in population in this research is 64 students. 32 students from class VIII (C) as control class and 32 students from VIII (A) as experiment class.

# D. Instrument of the research

The instrument is a process of selecting or developing device and method appropriate to give evaluation and getting the data. To know the effectiveness of Cooperative Integrated Reading and Composition (CIRC) technique in students reading comprehension.

A study using quantitative method usually processed by systematically manipulating its specific variable to test the predictions made by the theory informing the study.<sup>7</sup> In this research, the writer gives two kinds of tests :

Pre-test : the test that is given to both of control class before giving treatment non CIRC as a method and experiment class before given treatment with CIRC as a method.

<sup>&</sup>lt;sup>6</sup> Nunan, *Research Method in Language Learning*, 232.

<sup>&</sup>lt;sup>7</sup> Flood James, *Research On Teaching The English Language Arts*, (New Jersey, Lawrence Erlbaum Associates, 2005), P.9

Post-test : the test that is given to both of control class after given 6 until 8 treatments non CIRC as a method and experiment class after given 6 until 8 treatments with CIRC as a method.

## E. Data Collection and Data Analysis

- 1. Data collection
  - 1. Observation

Observation is a method of collecting data through direct observation or review carefully and directly in the field of research sites. The writer observed the place of research. Information that is discovered a long these researches are from :

- a. The English teacher of SMP Riyadlul Mubtadiin Kb.Pandeglang
- b. The condition of the education at SMP Riyadlul Mubtadiin Kab.Pandeglang
- c. The situation of the teaching and learning process of English subject.
- 2. Test

is consist of some questions that related to the material, to get the data improvisations of the students, also diagnostic test can be used expose learners difficulties, gaps in their knowledge, and skill deficiencies. The construct validity of the findings depends not only on the interpretation.<sup>8</sup>

a. Pre-test

As a technique of collecting data choosen by writer this test will be given by writer to both of control class and experiment class before treatment in both of that class, it means writer would like to take first data by using pre-test in both of classes and will be finished by post-test after both of classes have 6 until 8 treatments by writer.

b. Post-test

This test will be given by writer to both of control class and experiment classes, it means writer would like to take the data which after 6 until 8 treatments in both of that classes, this test help the writer knows how is the effectiveness of Cooperative Integrated Reading and Composition in student's Reading Comprehension on descriptive text, the data will collecting with writer and calssifying, and and take conclusion after finishing.

2. Data Analysis

The writer used a quantitative data which is related to numerals and it is analyzed by statistics. The writer used "t-test" formula to calculate the data by comparing students' pre-test and post-test.

<sup>&</sup>lt;sup>8</sup> Flood james, *Research on teaching The English language Arts,* (New jersey, Lawrence Erlbaum Associaties, 2005) P.54

After collecting the data, the writer needed in research, the data processed and analyzed through the following steps:<sup>9</sup>

- a. Investigating student's worksheets ,giving score, and describing score in table.
- b. Determining mean of variable X (variable I) with formula:

$$M_{\rm x} = \frac{\Sigma X}{N_1}$$

c. Determining mean of variable Y (variable II) with formula:

$$M_y = \frac{\Sigma Y}{N_2}$$

d. Determining standard deviation of variable X with formula:

$$SD_{x} = \sqrt{\frac{\Sigma x^{2}}{N_{1}}}$$

 $SD_x = Standard Deviation of Variable X$ 

- N = Number of the Student
- e. Determining standard deviation of variab Y with formula:

$$SD_y = \sqrt{\frac{\Sigma y^2}{N_2}}$$

 $SD_y = Standard Deviation of Variable Y$ 

N = Number of the Student

<sup>&</sup>lt;sup>9</sup> Anas Sudijono, *Pengantar Statistik Pendidikan*, (Jakarta: PT. Raja Grafindo Persada, 2014), 305.

f. Determining standard error of mean variable X with formula:

$$SE_{M_{\chi}} = \frac{SD_{\chi}}{\sqrt{N_1 - 1}}$$

 $SE_{M_{\chi}}$  = Standard Error of Mean Variable X

 $SD_x$  = Deviation Standard of Variable X

N = Number of the Student

g. Determining standard error of mean variable Y with formula:

$$SE_{M_y} = \frac{SD_y}{\sqrt{N_2 - 1}}$$

 $SE_{M_{\mathcal{Y}}} = Standard Error of Mean Variable Y$ 

 $SD_y = Deviation Standard of Variable Y$ 

N = Number of the Student

h. Determining standar error of mean difference variable X and variable Y with formula:

$$SE_{M_{x}-M_{y}} = \sqrt{SE_{M_{x}}^{2} + SE_{M_{y}}^{2}}$$

 $SE_{M_x-M_y}$  = Standar Error of Mean Difference Variable X and Variable Y

 $SE_{M_{\chi}}$  = Standard Error of Mean Variable X

 $SE_{M_{\mathcal{V}}} = Standard Error of Mean Variable Y$ 

N = Number of the Student

i. Analyzing the result by using calculation of the t-tes as follow:

$$t_o = \frac{M_x - M_y}{SE_{M_x - M_y}}$$

j. Determining degrees of freedom (df) with formula:

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

F. The Statistical Hypothesis

Before deciding the result of hypothesis, there are statistical research hypotheses as follows:

Ho :  $\{\mu_1 = \mu_2\}$ Ha :  $\{\mu_2 \neq \mu_2\}$ 

Notes:

Ho = Null hypothesis

Ha = Alternative hypothesis

 $\mu_1$  = students' reading comprehension, who are taught through Cooperative Integrated Reading and Composition (CIRC) Technique.

 $\mu_2$  = students' reading comprehensiom, who are taught without Cooperative Integrated Reading and Composition (CIRC) Technique.  $H_a$  (alternative hypothesis): there is a significant difference of students' reading Comprehension between students who are taught using CIRC Technique and students who are taught without using CIRC technique.

 $H_o$  (null hypothesis): there is not significant difference of students' reading comprehension between students who are taught using CIRC technique and students who are taught without using CIRC technique.

The writer's assumption of those hypotheses are as follow:

- 1. If  $t_o \ge t_{table}$ , the Null Hypothesis (Ho) is rejected and alternative hypothesis (Ha) is accepted. It means there is a significant difference of students' reading comprehension between students who are taught by using CIRC technique and students who are taught without using CIRC technique.
- If t<sub>o</sub> ≤ t<sub>table</sub>, the Null hypothesis (Ho) is accepted and alternative hypothesis (Ha) is rejected. It means there is no a significant difference of students' reading comprehension between students who are taught by using CIRC technique and students who are taught without using CIRC technique.