

CHAPTER III

METHODOLOGY OF THE RESEARCH

A. Method of Study

The writer uses quasi-experimental research. A method is procedure or way that use in achieving a certain purpos. The writer have to remember that the method use should be in accordance with the purpose or the research, he will use quantitative design to achieve the purpose. Research can define as effort to get result within scientific method objectively.¹

This experiment utilized a pre-test and post-test design. It is assumed in this design that there are two events in an experiment where one can clearly point out if there has been an improvement in the experiment conducted; these two events would be the beginning of the experiment, and after apply the ABC Brainstroming.

There are three types of experiment, pre-experiment which may have pre- and posttreatment tests, but lucks a control group, quasi-experiment which has both pre- and posttest and experimental and contrpol groups, but no random assignment of subjects, and true-

¹ David Nunan, *Research Methods In Language Learning*, (Cambridge : University Press, 1992). P.1.

experiment which has both pre- and posttests, experimental and control groups and random assignment of subjects.²

Experimental research is a research method that test the hypothesis which has the form of cause and effect relation by manipulating dependent variable during manipulating time, the writer has control extraneous variable, perhaps the transition that occurred really as an effect of manipulating which is not caused by other variables. In experiment the post-test measures the dependent variable, and the independent variables are isolated and controlled carefully.³ Experiment are carried out in other to explore the strength of relation between variables.⁴

B. Place and Time

In research activity, place is needed as location of research to get appropriate. The writer takes place for research at second grade of SMA Negeri 22 Kabupaten Tangerang. Later she must determine how long the research will take the time it depends on research problem. The writer will be starting the experiment at April until finish.

² Ibid. P. 41.

³ Luis Cohen et all, *Research Method in Education*, (London: Routledge, 2007), Ed. 6th, p.272.

⁴ David Nunan, *Research Methods In Language Learning*, (Cambridge : University Press, 1992). P.24-25

C. Population and Sample

1. Population

The writer would like choose population of this research in second grade students of SMA Negeri 22 Kab.Tangerang in academic year 2016-2017. The total of the second grade of SMA Negeri 22 Kab.Tangerang are 180 students from fourth classes each class is 30 students.

2. Sample

Sampling is important because, in almost all cases, it is not practical to study all the members of population.⁵ The writer would like to uses two classes as sample (experiment class and control class). At this research the sample are 60 students, 30 students from XI.IPA 3 as experiment class and 30 students from XI.IPA 1 as control class.

D. Research Instrument

There's two basic modes of academic, these are conceptual inquiry and empirical research. Conceptual work is theoretical

⁵ Vanderstoep Scott, *Research Method For Everyday Life*. (USA, Jossey Bass, 2009), P. 26

or philosophical in nature and is usually referred to as scholarship rather than research, it focuses on an examination of the assumptions and conditions that shape teaching and learning and on the formulation of broad principles for models of teaching and learning.⁶ 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 using abc brainstorming in improving students reading comprehension, the writer gives each student a copy of the ABC Brainstorming Sheet. Because with this test the writer would like to give the score of reading.⁷

A study using quantitative method usually processed by systematically manipulating its specific variable to test the predictions made by the theory informing the study.⁸ 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 ABC Brainstorming as a method

⁶ Flood James, *Research On Teaching The English Language Arts*, (New Jersey, Lawrence Erlbaum Associates, 2005), P.5

⁷ Altieri L Jennifer, *Powerful Content Connection*, (International Reading Association, 2014) P.114

⁸ Flood James, *Research On Teaching The English Language Arts*, (New Jersey, Lawrence Erlbaum Associates, 2005), P.9

and experiment class before given treatment with ABC Brainstroming as a method.

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

E. Techniques of Collecting Data

The writer uses test as the research instrument. In this research the writer used some technique to collect of data as follows :

1. Observation

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

- a. The English teacher of SMA Negeri 22 Kab.Tangerang.
- b. The condition of the education at SMA Negeri 22 Kab.Tangerang.

- c. The situation of the teaching and learning process of English subject.
- d. Interview the English teacher at the second grade of SMA Negeri 22 Kab.Tangerang to get information about the teaching reading comprehension.

2. Test

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 learner difficulties, gaps in their knowledge, and skill deficiencies. The construct validity of the findings depends not only on the data but on the interpretation.⁹

a. Pre-test

As a technique of collecting data chosen by writer this test will be given by writer to both of control class and experiment class before treatment in both of that classes, 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. Before the writer

⁹ Flood James, *Research On Teaching The English Language Arts*, (New Jersey, Lawrence Erlbaum Associates, 2005),P.54

gives pre-test for collecting data, the writer introduces himself to the students as a first meeting and explain the test then introduces what a kind of questions, how to fill the questions, and how to do it correctly.

b. Post-test

This test will be given by witer to both of control class and experiment class after writer give 6 until 8 treatments to both of that classes, it means writer would like to take the data which after 6 until 8 treatments in both of that classe, this test helps the writer knows how is the effectiveness of using ABC Brainstroming in improving students reading comprehension. This test given which students were taught how to identify the word on using abc brainstroming, The data will collecting with writer and classifying, and take conclusion after finishing.

F. Technique of Data Analysis

To analyze the data, the writer will use Quantitative descriptive technique. First the writer will get analysis the data for students reading comprehension in experimental by pretest and posttest. Then to find out how significant the effectiveness of abc

brainstroming in teaching reading comprehension, the data will use variable of reasearch.

The data from result of the test qualifed. The conclusion from this research is the effectiveness of abc brainstroming in improving students reading comprehension. It can be seen from the result:

To analyze the data, the writer applied the following techniques:

1. Preparing the key
2. Correcting and scoring the students' answer sheet
3. Computing the students' correct answer on the test
4. After the data was collected, and then analyzing the data, to find out the result of the effectiveness of Using ABC Brainstroming in improving students reading comperhension ability. Quantitative is analyzed by statistic calculation of t-test with the formula are follow:¹⁰
 - a. Determine Range, Interval class
 - b. Make distribution frequency
 - c. Determine mean, by formula:

¹⁰ Anas Sudijono, *Pengantar Statistik Pendidikan*, (Jakarta: PT Raja Grafindo Persada, 2014), 52,53,90,162 cet. 53

$$\text{Mean} = M' + i \left(\frac{\sum fx'}{N} \right)$$

- d. Determining standard deviation, by formula:

$$SD = i \sqrt{\frac{\sum f.x'^2}{N} - \left(\frac{\sum f.x'}{N} \right)^2}$$

- e. Determine error standard

$$SE_{x^2} = \frac{SDx^2}{\sqrt{N-1}}$$

- f. Make the polygon graphic

- g. Comparison scores of experimental and control class.

- h. Determine average score

$$M = M_2 - M_1$$

- i. Determine difference of error standard

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

- j. After getting the data from pre-test and post-test, the writer analyzes it by using statistic calculation of T-test with the degree of significances 5 % and 1%.

The formulas of T-test as follow:

$$t_0 = \frac{M_x - M_y}{SE_{M_x} - SE_{M_y}}$$

G. Research Hypothesis

Donald et al., in *Introduction to Research in Education*, said that a research hypothesis states the relationship one expects to find as a result of the research. It may be a statement about the expected relationship or the expected *difference* between the variables in the study.¹¹ A hypothesis is a specific statement of prediction. It describes in concrete (rather than theoretical) terms what the writer expect will happen in this study.

Related to the objective of the research and definition of hypotheses above, the study proposes the null hypothesis (H_0) and alternative hypothesis (H_a) which is be formulated as follows:

If $t_0 > t_t$: the alternative hypothesis (H_a) is accepted and null hypothesis (H_0) is rejected. It means that there is significant difference between improving students reading comprehension using ABC Brainstroming and improving students reading without ABC Brainstroming method. It means that using ABC Brainstroming method has significant influence in improving

¹¹Donald Ary, Lucy Cheser Jacobs and Chris Sorensen, *Introduction to Research in Education* (New York: CBS College Publishing, 2007), 91

students reading comprehension at second grade of SMAN 22 Kab.Tangerang.

If $t_0 < t_t$: the null hypothesis (H_0) is accepted and alternative hypothesis (H_a) is rejected. It means that there is no significant difference between improving students reading comprehension using ABC Brainstroming method and improving students reading comprehension without ABC Brainstroming method. It means that using ABC method has no significant influence in improving students reading comprehension at second grade of SMAN 22 Kab.Tangerang.