CHAPTER III

RESEARCH METHOD

A. Research Design

This research is an experimental research. According to Sugiyono (2008:72), experiment research methods can be interpreted as the research methods used to find the effect of a particular treatment over another in a run away condition. Arikunto (2007:207) defined that the experimental research try to prove there is or there is not cause and effect relationship between experimental class (treatment) and control class (no treatment).

In addition, Gay (2000: 367-368) says that the experimental research is the only type of research that can test hypotheses to establish cause-and effect relationship. It represents the strongest chain of reasoning about the link between variable. In an experimental study, the writer manipulates at least one independent variable, controls other relevant variables, and observes the effect on one or more dependent variables. He also defines experimental research is the most structured of all types of research. In an experimental study, the writer is in on the action from the very beginning. He or she selects the groups, decides what treatment will go to which group, controls extraneous variables, and measures the effect of the treatment at the end of the study.

There were two group involved the one is experimental and the other one is control group. Both of groups got the same topic, the same length of time In learning,and the same teacher. One group functioned as experimental group that would be treated by group work in teaching and learning process of writing and the control group which treated by teaching technique used in the target school, and target grade exactly, the

treatment was given to experimental group four meetings and also four meetings in control group. The figuration shows much clearer concept of this research:

Table 3

Research concept

Group	Treatment	Posttest
Experiment Group	X	T
Control Group	-	T

Note:

X = Teaching by using Clustering Technique

T = Post-test for experimental and control group

B. Population and Sample

1. Population

Gay (2000:122) state that population is the group of interest to the researcher, the group to which she or he would like the results of the study to be generalizable. In the other words population is the total number of students on a research.

The population of this research was students of Senior High School 15 Padang which consist of three classes of class XI IPS. The population of this research was 94 students. The distribution of the population can be seen in the table below.

Table 4

Population of the Research

No	Class	Number of students
1	XI IPS1	31
2	XI IPS 2	31
3	XI IPS 3	32
	Total	**94**

Source: English teacher at class XI SHS 12 Padang.

from the table above we can conclude that total of population is 94 students, consist of 4 classes, namely: XI IPS 1, XI IPS 2, XI IPS 3

After deciding population, the researcher used SPSS to show normality and homogeneity from the fourth classes above. Then to show the sample representative or not the researcher does the next step:

a. Collected the students'examination score data from the English teacher.
b. Test of Normality, Normality test had an objective to know the population normal or not. The researcher used kolmogrov Smirnov and Shapiro Wilk to do normality test, it is SPSS (*Statistical product and service solution)* test. The data would be normality tests, if every class was significant or more than 0.05.

Table 5

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	VAR00002	Statistic	Df	Sig.	Statistic	df	Sig.
VAR00001	XI IPS 3	.110	31	.200*	.958	31	.256
	XI IPS 2	.081	31	.200*	.973	31	.595
	XI IPS 1	.142	32	.100	.952	32	.162

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Test of Homogeneous Variances. After doing the normality test and got the normal data. Then the researcher did the homegeneous variation test. This test had an objective as to know the sample homogeny or not. The researcher did the test of homogeneity by using *Test of homogeneity of variance.* If the data were significant or the data were more than 0.05 it mean the data was homogeneous.

Table 6
Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
VAR00001	Based on Mean	.686	2	91	.506
	Based on Median	.744	2	91	.478
	Based on Median and with adjusted df	.744	2	87.901	.478
	Based on trimmed mean	.705	2	91	.497

2. Sample

According to Gay (2000:121) sampling is the process of reflecting a number of individuals for a study in such way that the individual represent the large group which it is selected. He also states that a good sample is the one that representative of the population from which is selected. In this research, the researcher will choose two classes to be the sample.

In order to get sample, the researcher used cluster random sampling. Sugiyono (2010) concerns that cluster random sampling refer to select a sample that the researcher believes to be representative of homogenous population. Sample was chosen randomly.

In this case, the researcher took class XI IPS 3 and XI IPS 2 as the sample, beside that the students in both of class have similar knowledge of English since they areteach by the same teacher and material. In determining this class as sample, it was chosen following the procedure of flipping coin to device class experiment and control, the result of flipping coin researcher gave X1 IPS 3 as experimental group, and class XI IPS 2 as control group.

C. Time and Place

This research had been held in Senior High School 15 Padang. The treatment will conduct at grade XI IPS 3 students at first semester. This research was done five times meeting where the treatment was twice a week for experimental class. The treatment was carried out based on the teaching schedule of SHS 15 Padang.

D. Instrument

The instrument of this research was written test that was used to collect the data about the improvement of student's writing ability after draw label caption strategy. A test must have content validity and reliability. Arikunto (2001:62) says that one of the characteristics of test validity is content validity. It means the test is valid if it fixes with the material that has been given to the students and it is based on the Curriculum and Syllabus. The writer used the Curriculum or Syllabus and teaching material to construct the test.

According to Gay (1987), validity was the most important quality of a test. It was the degree to which a test measures it was supposed to measure and consequently, permitted appropriate interpretations of test scores. However, Arikunto (1999) says "a test have had a validity if it could be measured the specific purpose related with the material that students have learned".

The written test was given in post test that the same writing test. In this case, the students were asked to choose one of the topics given and create their paragraph. The topics are: smoking, unhealthy food, effect of television, and internet. The students were asked to make outline firstly.

The reseacher choose two scorers In this research to assesthe students' writing post-test and to determining the students' writing component score in post test, writer used the ESL composition profile by (Jacob 1981:92). Those criteria can be seen from table below:

Table 7

No	Rating Quality	Score				
		Content	Text Organization	Vocabulary	Language Use	Mec
1	Excellent	27-30	18-20	18-20	22-25	5
2	Good	22-26	14-17	14-17	18-21	4
3	Fair	17-21	10-13	10-13	11-17	3
4	Very Poor	13-16	7-9	7-9	5-10	2
	Max Score	30	20	20	25	5

Table 8: Sample of Instrument in Giving Writing Scores for Experimental Class

No	Name of students	Categories					Total scores
		Content (30)	Organization (20)	Vocabulary (20)	Lg. use (25)	Mec. (5)	
1.							
2.							
↓							
10							

Table 9: Sample of Instrument in Giving Writing Scores for Control Class

No	Name of students	Categories					Total scores
		Content (30)	Organization (20)	Vocabulary (20)	Lg. use (25)	Mec. (5)	
1.							
2.							
↓							
10							

E. Procedure of The Research

There were some steps to do the research such as preparation, application, and finishing.

1. **Preparation**

The writer will use two classes to collect the data, the writer teach the students use group work for experimental class, and a conventional technique for control class. However, the material of the teaching was the same writing material. In short, the reseacher had proposed this procedure.

a. Determine the research time.

b. Prepare the lessons plan

c. Explaine to the students about the planning in learning process.

d. Prepare the final test.

2. **Aplication**

Table 10

Treatment procedure for Experimental and Control Group

Experimental Class	**Control class**
Appreciation	**Appreciation**
• **Main activity** ➢ **Build knowledge of field (10 minutes)** - Teacher introduces the today's topic (writing a Analytical exposition text).(5') - Teacher ask students' background knowledge while monitoring students language (vocabulary and grammar). (5')	• **Main Activity** ➢ **Build knowledge of field (10 minutes)** - Teacher introduces the today's topic (writing aAnalytical exposition text). (5') - Teacher ask students' background knowledge while monitoring students language (vocabulary and grammar). (5')

Elaboration ➢ **Modeling of the text (20 minutes)** ▪ Teacher model the text by explicit function of text, generic structure and language feature.(10') ▪ Teacher introduce how to use Clustering technique. (5') ▪ Teacher draws a mapping on the white board. (5') ➢ **Joint Construction Stage (35 minutes)** ▪ (1)The teacher asks the students to write the topic (smoking) in the middle of a sheet of their paper and asks them to circle it. (2') ▪ (2)The teacher asks the students to write the ideas relate to the topic around it, also ask them to circle the ideas and connect the to the central circle. (4') ▪ (3)The teacher asks the students to write down the ideas, example, facts, and other detail relating to each idea, and asks them to join it to the appropiate circle. (4') ▪ (4)The teacher ask the students keep going until they can not of anything else relating their topic. (4') ▪ The teacher divides students into group then ask the students to make outline (7') ▪ The teacher ask the student to conclude it with good paragraph in a text (Analytical exposition).(6')	**Elaboration** ➢ **Modeling of the text (20 minutes)** ▪ The teacher explains about social function, generic structure and language feature. (10 minutes) ▪ Teacher use conventional strategy. (10 minutes) ➢ **Joint Construction Stage (35 minutes)** ▪ The teacher divides students into group. One group just consist of two students.(5') ▪ The teacher askthe students to make Analytical exposition text.(30')

▪ The teacher divides students into pair. ▪ The teacher introduce peer review to the students and ask the students to change their paper with their peer to correct the mistakes about content, organization, language use, vocabulary and mechanic based on teacher intruction. (8') ➢ **Independent Construction (10 minutes)** ▪ Teacher ask the students to finish a complete Text based on their revision.(10')	➢ **Independent Construction (10 minutes)** ▪ The students are asked to make Analytical exposition text individually.(10')
Confirmation (5 minutes) Students get submit their final draft.(5') **Closing (10 minutes)** - Teacher collects students' writing and evaluates it.(5') - Teacher closes the class.(5')	**Confirmation (5 minutes)** Students get submit their final draft.(5') **Closing (10 minutes)** - Teacher collects students' writing and evaluates it.(5') - Teacher closes the class.(5')

3. Evaluation

After doing the learning process so the next step was the final test. The test was given to group as a sample. The test was an writing test. The students had been given explanation about the components of writing that were measured. They were content, organization, vocabulary, language use, mecanics.

F. Technique of Data Collection

The data of this research was collected by using writing test. The data of this research is the student's score in post-test. The students who are in experiment group and control group get the same test. They asked to write a free topic of the Analitycal

Exposition text. After finishing the test, the students asked to collect their writing to the researcher. Then the researcher scored the students' writing depended on marking composition suggested by Jacob (See: Appendix).

There are five aspects scored and the maximum score is 100. To get the score of each student, the scoring considered the five components: content, organization, vocabulary, language use, and mechanics. Finishing scoring the students, the researcher calculated the mean of the students' score. Finally the Analitycal exposition text was analysed.

G. Technique of Data Analysis

The technique of data analysis used here was the statistical procedures. To analyze the students` score, the researcher used T-test means a statistical procedure used to determine whether both of groups are in the same ability or not. T-test was analyzed from students' writing score in post-test. T-test formulas develop which is presented as follow:

a. This formula was applied to decide mean of students` test score in experimental and control group;

$$\overline{X_1} = \frac{\sum F_1 X_1}{\sum F_1}$$ (Experimental group)

$$\overline{X_2} = \frac{\sum F_2 X_2}{\sum F_2}$$ (Control group)

b. This formula was used to decide standard deviation of experimental group;

$$S_1^2 = \frac{n_1 \sum F1\ X1^2 - (\sum F1\ X1)^2}{n_1(n_1 - 1)}$$

This formula was used to decide standard deviation of control group;

$$S_2^2 = \frac{n_1 \sum F2\ X2^2 - (\sum F2\ X2)^2}{n_2(n_2 - 1)}$$

c. The formula of T-test is as follows (Sudjana: 2005):

$$t = \frac{X_1 - X_2}{S\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

With:

$$S = \sqrt{\frac{(n_1 - 1)S_1^{\ 2} + (n_2 - 1)S_2^{\ 2}}{n_1 + n_2 - 2}}$$

Note:

X_1 = Mean score of experimental group

X_2 = Mean score of control group

S_1 = Standard deviation of experimental group

S_2 = Standard deviation of control group

n_1 = Number of experimental group

n_2 = Number of control group

The $t\text{-}_{table}$ was employed to see whether there was a significant difference between the mean score of both experimental group and control group. The value of $t\text{-}_{obtained}$ was consulted with the value of $t\text{-}_{table}$ at the degree of freedom $(n_1\text{-}1) + (n_2\text{-}1)$ and the level of confidence of 95% = 0. 05. If the value of $t\text{-}_{obtained}$ was less than the value $t\text{-}_{table}$, the null hypothesis was accepted; on the contrary, if the value of $t\text{-}_{obtained}$ is equal or bigger than value of $t\text{-}_{table}$, the alternative one was not accepted.