CHAPTER III

RESEARCH METHOD

A. Research Design

This research was an experimental research. According to Gay (2000: 367-368), the experimental research was the only type of research that can test hypotheses to establish cause-and effect relationship. Experimental Research typically consist of two groups, they were experiment group and control group. According to Sudjana and Ibrahim (2012:19), experiment research methods can be interpreted as the research methods used to find the relation between two variables or more or to find the effect of one variable toward other variable.

The two groups were taught by different technique but same teacher and same topic. The experimental group was taught by peer correction technique and the control group was taught by conventional technique (Note Taking). After deciding which classes were experimental and control, the researcher continue with the treatment process. Treatments were given to experimental group about six meetings. Every meeting the researcher gave different topics. At the end of treatment, the researcher gave the students post-test.

Finally, at the end of the research, the researcher compared the mean score students' writing of experimental class and control class to prove whether or not students who were taught of peer correction technique had better writing ability in descriptive text than who were not at Islamic Senior High School 4 Agam.

Table 3.1
Table Research Design

Group	Treatment	Post-test
Experiment	X	O_1
Control	-	O_2

X =Treatment (teaching through Peer Correction Technique)

O_1= Post-test for experimental class

O_2= Post-test for control class

B. Population and Sample

1. Population

Gay (1987: 101-102) says that population is a group to which the researcher would like the results of the study to be generalized and sampling is the processes of selecting a number of individuals for a study in such a way that the individual represent the large group from which they were selected.

The population of this research was tenth grade students of Islamic Senior High School 4 Agam. Total number of second year students in Islamic Senior High School 4 Agam was 92 consist of four classes. As showed in the table below:

Table 3.2
Population of the Research

No	Class	Total
1	X MIA 1	18
2	X MIA 2	19
3	X IA	24
4	X IS	31
TOTAL		**92**

Source: English teacher of MA N 4 Agam

2. Sample

The sample is representative of population; sample was a part of population that can represent the problem values of the population. A sample comprised the individuals, items, or events selected from a large group referred to as a population. According to Gay (2000:123) explained that random sampling is a process of selecting a sample in such a way that all in the defined population have an equal and independent chance of being selected for the sample. Cluster random sampling refers to select the sample that the researcher believed to be representative of homogenous population. After doing random, the researcher used coin to determine which one both of experimental and control group. Researcher selected class X MIA 1 as class experiment and class X MIA 2 as class control of students in Islamic Senior High School 4 Agam.

To get the representative sample of this research the researcher did these steps:

a) Collected students' peer correction from all of students at tenth grade.
b) Test of normality, normality test has an objective to know the population normal or not. The normality test analyzed by using SPSS (*Statistical Product and Service Solution*) with data exploration of Kolmogorov-Smoirnov test and Shapiro Wilk. Based on that test the data stated normal if every classes have significance or probability score bigger than 0.05. It can be seen on the table.

Tests of Normality

	VAR00002	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	Df	Sig.
VAR00001	MIA 1	.147	18	.200*	.933	18	.217
	MIA 2	.214	19	.022	.906	19	.062
	IA	.153	24	.154	.926	24	.078
	IS	.121	31	.200*	.936	31	.065

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

a. Lilliefors Significance Correction

c) Test of Homogeneous Variances

After the researcher has done 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 homogeneity 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.

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
VAR00001	Based on Mean	2.364	3	88	.077
	Based on Median	1.876	3	88	.139
	Based on Median and with adjusted df	1.876	3	72.017	.141
	Based on trimmed mean	2.213	3	88	.092

d) After researcher analyzed the homogeneity and normality test, researcher found that all classes were homogeneity and normal. Then, researcher was choose those normal classes for experimental class and control class. The procedure of

cluster random sampling is researcher made a lottery which contained all of population. So, the researcher got MIA 2 as control class and X MIA 1 as experimental class.

Table 3.3
Sample of Research

No	Class	Number of Student
1	X MIA 1(Experimental Class	18
2	X MIA 2(Control Class)	19
Total Sample		**37**

C. Place and Time of Research

This research was done in class X MIA at Islamic Senior High School 4 Agam. This place was chosen because the researcher had ever done observation there. The treatment conducted on November to December 2017 in academic year 2017/2018 at first semester.

D. Instrument

The instrument of this research was writing test. Students in experimental class were taught by peer correction technique and students of control class were taught by conventional technique.The written test was given in post-test. In this case, the students were asked to the topics given and create their paragraph. The researcher used Jacob's criteria (1981:90) in scoring the students' writing product can be assessed based on five categories that are; content, organization, vocabulary, language use, and mechanic.

E. **Procedure of Doing Research**

a. Preparing

i. Determine the research time.

ii. Determining the population and sample

iii. Preparing the lesson plan arranged by curriculum or syllabus for six meetings to experimental and control class

iv. Preparing research instrument

b. Application Step

The researcher gave the treatment to the students with peer correction technique in teaching writing in experimental class and conventional technique for control class. The following table indicated the procedures that the researcher conducted in teaching writing process.

Table 3.4
Procedures in teaching writing in the classroom

EXPERIMENT (Peer Correction Technique)	**CONTROL (Note Taking)**
A. Pre-teaching activity a. Opening the lesson by greeting and praying by lead of chairman. b. Starting the lesson by reading al-Qur'an c. Checking attendance list d. Giving question and pictures related to the topic e. Telling basic competence and indicator that must be reached	***A. Pre-teaching activity*** a. Opening the lesson by greeting and praying by lead of chairman. b. Starting the lesson by reading al-Qur'an c. Checking attendance list d. Giving question and pictures related to the topic e. Telling basic competence and indicator that must be reached

B. Whilst-teaching activity	***B. Whilst-teaching activity***
a. observing 1) Students observe the example of descriptive text and peer correction that show by the teacher. 2) Students identify social function, generic structure and language feature of descriptive text.	**a. observing** 1) Students observe the image of the Clock Tower Descriptive text displayed by teachers so that students are able describe in a simple sentence.
b. questioning 1) By guidance of teacher the students asking about the example of descriptive text. 2) By guidance of teacher the students asking about social function, generic structure and language feature of descriptive text. 3) Teacher explains about descriptive text and the example of peer correction.	**b. questioning** 4) By guidance of teacher the students asking about the example of descriptive text. 5) By guidance of teacher the students asking about social function, generic structure and language feature of descriptive text.
c. Exploring 1) The teacher provided a picture followed by several questions in order to generate the students' ideas. 2) The teacher let the students to start writing.	**c. Exploring** 1) Every students makes a descriptive text on the theme of the favorite place by guidance of teacher.
d. Associating 1) After completing their writings, the teacher gave a paper written by a third student to each pair and asked them to work together in making correction. 2) When all papers had been corrected, those papers were returned to the writers for revision. The students were given time to rewrite their papers.	**d. Associating** 1). Students identify tenses in descriptive text by guidance of teacher. 2) Students discuss together and restate the generic structure of descriptive text.

e. Communicating 1) The teacher evaluated the students' writing and gave general feedback related to the errors on students' writing.	**e. Communicating** 1). The teacher asks the brave students to read what they write in descriptive text.
C. Post-teaching activity a. Review and conclude the lesson with discussion. b. Teacher gave the homework for the students about the material that have been learned. c. Praying and close the class.	***C. Post-teaching activity*** a. Review and conclude the lesson with discussion. b. Teacher gave the homework for the students about the material that have been learned. c. Praying and close the class.

c. Final Step

a. Giving the test to experimental class and control class in the last meeting.

b. Processing data towards experimental class and control class.

c. Taking conclusion from technique of data collection

F. Technique of Data Collection

1. Test

The data were collected by giving writing test. Writing test was given to both of control and experimental group. Data of this research was the students' scores in post-test. The post-test was given at the end of treatment. The researcher gave treatment to experimental group for six times by using peer correction technique. It was aimed to find out the effect of treatments to students' writing score.

2. Scoring

Researcher used scoring technique of Jacob (1981: 92) in this research to assessed students' writing.

Table 3.7
Weighting Table for Writing

No	Rating Quality	Score				
		Content	**Organization**	**Vocabulary**	**Language Use**	**Mechanic**
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**

G. Technique of Data Analysis

Technique of data analysis in this research was statistical procedure. It gave a way to analyze the differences between the groups. To analyze the students' score in post-test, the researcher used T-test formula taken from (Sudjana, 2005: 239). In this case, T-test means a statistical procedure that used to determine whether both of groups were in the same ability or not. T-test formulas develop which was presented as follow.

In analyzing the students' test score, some steps were did before analyzing the different mean by using t-test formula as follows;

1. This formula apply to decide mean of students' test score in experimental and control groups;

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

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

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

$$S_1^2 = \frac{n_1 x \sum F_1 x_1^2 (\sum F_1 X_1)^2}{n_1 (n_1 - 1)}$$

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

$$S_2^2 = \frac{n_2 x \sum F_2 x_2^2 (\sum F_2 X_2)^2}{n_2 (n_2 - 1)}$$

The formula of t-test as follows (Sudjana, 2005).

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

With;

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

Notes;

t : The value of t calculated / observer / obtained

$\overline{X_1}$: Mean score of experiment sample

$\overline{X_2}$: Mean score of control sample

n_1 : The number of subject of experimental group

n_2 : The number of subject of control group

S_1^2 : Standard deviation of experimental group

S_2^2 : Standard deviation of control group

The $t\text{-}_{table}$ was employed to see whether there was a significant effect 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 is not accepted.