

CHAPTER III

RESEARCH METHOD

A. Research Design

This research was pre-experimental research because it is aim to find out whether the effect of brainstorming technique in students' writing ability. Sugiyono (2010:74) states that pre-experimental research is a research which involves some characteristics of experimental research. This design, basically involves one group which is experimental group. The experimental group was given a treatment by the effect brainstorming technique in their writing ability.

Based on the expert's view above, it can be concluded that the research design which is used to find out whether the effect brainstorming technique in students' writing ability was conducted by The One-Group Pretest-Posttest Design. The study will be conducted into two steps: pre-test and post-test. The pre-test will be given at the first meeting of the research to see the students' ability before doing the treatment and the post-test will be done at the last meeting of the research to find the result of the treatment given (Sugiyono,2010:74). The success of the treatment will be determined by comparing pre-test and post-test scores (Gay, 1987: 281).

Table 3.1
Research Concept

Group	Pre-test	Treatment	Post-test
A	O	X	OA

A : Experimental group

O : Pre-test

X : Treatment of experimental group by through brainstorming

OA: Post-test

By doing this research, the researcher gave pre-test before give the treatment to the students, after that the researcher provided some treatments by using brainstorming technique. At the end of the research, the researcher gave post-test to the students to know their abilities in writing descriptive text.

Table 3.2
Procedure of One-Group Pre Test-Post Test Design

STEPS	PROCEDURES	AIM
Step 1	Pre test (Writing Test)	To measure the degree of the dependent variable before the treatment
Step 2	Treatment (2-5 Presentation, brainstorming, written.	To influence the dependent variable
Step 3	Post test (Writing Test)	To measure the degree of change on dependent the variable

B. Population and Sample

1. Population

According to Sugiyono (2010: 80) the population is generalization area consist of object/subject that has quality and special characterictic to learn and get conclusion by researcher. The population of this research is all of the eight grade students of Junior High School 36 Sijunjung. Total number of the eihtg grade students at Junior High School 36 Sijunjung is 41 consist of two classes (VIII 1 and VIII 2.

Table 3.3
Population of Junior High School 36 Sijunjung Class VIII Year
2017/2018

Class	VIII ₁	VIII ₂
Total Students	20	21

The students were chosen as population based on assumption that they have learnt English, so that they have experience in writing English and they also learnt with the same material and syllabus.

1. Sample

In deciding which is class will be the experimental class, the researcher used Total sampling. According to Sugiyono (2010:85)

total sampling is a sampling technique where the number of samples equals the population. The reason to take the total sampling because all populations will be sampled, consist of 41 students.

The researcher did these steps:

- a. Collecting the Midterm test score data from all second grade students in the first semester.
- b. Test of Normality

Normality test have an objective to know the population normal or not. In this research, to do the normality test the researcher used Kolmogrov Smirnov and Shapiro Wilk. This test was SPSS test. If the data is significant or more than 0.05 the class is normal. Then, two classes tested a normal data (VIII₁ and VIII₂). Based on the graphics Q-Q Plot, if the data were around and near with the line, it meant, the data was normal. (see appendix 3)

C. Time and Place

This research was held in Junior High School 36 Sijunjung. The treatment was conducted at eightth class students at first semester. This research was done six times meeting started on November 03th 2017 until November 21th 2017 where the researcher gave students the pre-test in the first meeting, gave treatment four time for two weeks and And the last meeting, the researcher gave post-test in order to know the students' writing ability. And to see whether the use of brainstorming technique gives significant effect on students' writing

ability, the researcher compares the pre-test and post-test result in the class. The treatment was carried outside the teaching schedule of Junior High School 36 Sijunjung. The schedule of the research also can be seen as the table below:

Table 3.4
Research Schedule

No.	Day/Date	Class	Time	Activity
1.	Friday, November 03 th 2017	VIII	14.00-14.40 14.40-15.20	Pre-Test
2.	Tuesday, November 07 th 2017		14.00-14.40 14.40-15.20	Treatment
3.	Friday, November 10 th 2017		14.00-14.40 14.40-15.20	Treatment
4.	Tuesday, November 14 th 2017		14.00-14.40 14.40-15.20	Treatment
5.	Friday, November 17 th 2017		14.00-14.40 14.40-15.20	Treatment
6.	Tuesday, November 21 th 2017		14.00-14.40 14.40-15.20	Post-Test

D. Instrumentation

The instrument of this research will be written test that is used to collect the data about the effect of brainstorming technique in student's writing ability. The instrumentation (written test) must consider the validity and reliability of the test. A test must have content validity if it measures what is going to be measured. Arikunto (1999:62) 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 will use 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 will be given in pre-test and post-test are the same writing test. In this case, the students would be asked to choose one of the topics given and create their paragraph. The topics are: describing people.

Table 3.5
Sample of instrument in giving writing score

1. Pre-test

No. of Students	Aspects					
	Content (30)	Organization (20)	Voc (20)	Grammar (25)	Mechanics (5)	Total (100)
1						
2						
↓						
41						

2. Post-test

No. of Students	Aspects					
	Content (30)	Organization (20)	Voc (20)	Grammar (25)	Mechanics (5)	Total !00)
1						
2						
↓						
41						

While, the researcher will be used the Jacob's criteria (1981:90) in scoring the student's writing. It can be seen in the following table:

Table 3.6
Indicator and Criteria of Scoring writing based on Jacob

No	Items	Criteria of Each Item	Score
1	Content	a. Excellent to very good: Knowledgeable; substantive; thorough development of thesis; relevant to assigned topic.	30-27
		b. Good to average: Some knowledge of subject; adequate range; limited development of thesis; mostly relevant to topic, but lacks detail.	26-22
		c. Fair to poor: limited knowledge of subject; little substance; inadequate development of topic.	21-17
		d. Very poor: does not show knowledge of subject; non-substantive; not pertinent; or not enough to evaluate.	16-13
2	Organization	a. Excellent to very good: Fluent expression; ideas clearly stated/ supported; succinct; well organized; logical sequencing; cohesive.	20-18
		b. Good to average: somewhat choppy; loosely organized but main ideas stand out; limited support; logical	17-14

		<p>but incomplete sequencing.</p> <p>c. Fair to poor: non-fluent; ideas confused or disconnected; lacks logical sequencing and development.</p> <p>d. Very poor: does not communicate; no organization; or not enough to evaluate.</p>	<p>13-10</p> <p>9-7</p>
3	Vocabulary	<p>a. Excellent to very good: sophisticated range; effective word/ idiom choice and usage; word form mastery; appropriate register.</p> <p>b. Good to average: adequate range; occasional errors of word/ idiom form, choice, usage but meaning not obscured.</p> <p>c. Fair to poor: limited range; frequent errors of word/ form choice, usage; meaning confused or obscured.</p> <p>d. Very poor: essentially translation; little knowledge of English vocabulary, idioms, word form, or not enough to evaluate.</p>	<p>20-18</p> <p>17-14</p> <p>13-10</p> <p>9-7</p>
4	Language Use	<p>a. Excellent to very good: effective complex constructions; few errors of agreement, tense, number, word order/ function, articles, pronouns, prepositions.</p> <p>b. Good to average: effective but simple construction; minor problems in complex constructions; several errors of agreement, tense, number, word order/ function, articles, pronouns, prepositions but meaning seldom obscured.</p> <p>c. Fair to poor: major problems in simple/ complex constructions; frequent errors of negation, agreement, tense, number, word order/ function, articles, pronouns, prepositions and/ or fragments, run-</p>	<p>25-22</p> <p>21-18</p> <p>17-11</p>

		ons, deletions; meaning confused or obscured. d. Very poor: virtually no mastery of sentence constructions rules; dominated by errors; does not communicate; or not enough to evaluate.	10-5
5	Mechanics	a. Excellent to very good: demonstrates mastery of conventions few errors of spelling, punctuations, capitalizations, paragraphing. b. Good to average: occasional errors of spelling, punctuation, and capitalization, paragraphing, but meaning not obscured. c. Fair to Poor: Frequent errors of spelling, punctuations, capitalizations, paragraphing; poor handwriting, meaning confused or obscured. d. Very poor: no mastery of conventions dominated by errors of spelling, punctuation, capitalization, paragraphing; handwriting illegible; or not enough to evaluate.	5 4 3 2

E. Procedure of Doing Research

1. Preparing

The experimental class was VIII which consists of 41 students. In this class the researcher used brainstorming technique to teach students in English subject, especially in writing skill. The material of the teaching was writing and correcting the text about describing people. In short, the researcher had proposed this procedure:

- a. Determined the research time.
- b. Prepared the pre test.
- c. Prepared the lessons plan arranged by curriculum.
- d. Explained to the students about the planning in learning process.
- e. Prepared the final test.

In the first meet of the research, the researcher conducted pre-test to the experimental class in writing form. It was aim to know the students' writing skill before giving the treatment. The form of the test was asking students to write descriptive text about person, exactly classmate.

2. Learning Process

After giving the pre-test to the experimental class, then the researcher gave them the treatment by using brainstorming technique in teaching writing. This treatment gave in four meetings to the experimental class. After that, the researcher gave them post-test to know whether brainstorming technique gave significant effect on students' writing ability. The result of the post-test became the data that researcher used in describing the improvement of students' writing ability after giving the treatment. The following table indicates the procedures that the researcher conducted in teaching writing process.

Table 3.7
Treatment Procedure of Learning and Teaching Writing in the
Experimental Class

Activity	Descriptive of Activity	Time allocated
Pre Activity	<p>Apperception</p> <ol style="list-style-type: none"> 1. Greeting 2. Praying 3. Checking students' attendance list <p>Motivation</p> <ol style="list-style-type: none"> 1. Teacher asks the students about last topic 2. Teachers re-remember the students about last topic 	10 minutes
Main Activity	<p>Exploration</p> <ol style="list-style-type: none"> 1. Teacher explains the material (descriptive text) 2. Teacher explains how to identify generic structure and language features of the text <p>Elaboration</p> <ol style="list-style-type: none"> 1. Teacher show the picture and write the topic in the whiteboard 2. Teacher invite students to say anything about the picture 3. Teacher writes the students' ideas on the whiteboard 4. teacher and students discuss the ideas related to the topic that have been brainstormed 5. Teacher and students discuss the 	65 minutes

	<p>brainstorming ideas and how to make paragraph with those ideas</p> <ol style="list-style-type: none"> 6. Asking the students to write their paragraph/text based on the brainstorming ideas. 7. Teacher help the students in using brainstorming 8. Students will have a plan or mind map about the topic given 9. Students write the first draft of the piece work 10. Teacher help the students to revise their first draft 11. Students make second draft 12. Students can copy out their essay, in a clean, final version. 13. Teacher monitors the students activities <p>Confirmation</p> <ol style="list-style-type: none"> 1. Students get the supporting comments from the teacher. 2. Teacher gives emphasize about descriptive text. 	
Post Activity	<p>Closing</p> <ol style="list-style-type: none"> 1. Teacher concludes the material 2. Teacher closes the class 	5 minutes

3. Evaluation

After doing the learning process, so the next step was the final test or post test. The test was given to group as a sample. The test was a written test. The students had been given explanation about the components of writing that was measured. They were content, organization, vocabulary, language use, and mechanics. The students wrote descriptive text about person exactly about idol, that had been learned before in the class.

F. Types of Data

The researcher collected the data in form of quantitative. The term quantitative data was used to describe a type of information that can be counted or expressed numerically. This type of data was often collected in experiments, manipulated and statistically analyzed. Quantitative data could be represented visually in tables. The data quantitative got from the result of students' writing test in form of written work.

G. Technique of Data Collection

The data of this research will be collected by giving writing test. The data of this research is student's score in pre-test and post-test. Pretest is the process of identifying the students' ability before giving the treatment. Treatment is the process of the effect brainstorming as a technique in teaching and learning process in student's writing ability.

The class conducted for four meetings. And the material that was taught was *a kind of the monologue text* (descriptive text) by through brainstorming. In this section, the researcher prepared an lesson plan for each meeting.

While, Post-test is the process of giving the test after giving the treatment. It is aimed to conclude the contribution of brainstorming in teaching and learning writing process to students' writing ability.

The score of the student pre test and post test were data in this research; the data were collected through following procedures:

- 1) The students were asked to write their writing ability in writing descriptive text about person with their own word that was paid attention to generic structure of descriptive text.
- 2) The researcher evaluated students' writing and then gave the score for students (content, organization, vocabulary, language use and mechanics) based on Jacob's assessment (1996: 111-112).

H. Technique of Data Analysis

This research involved many activities, therefore, various data are needed to be analyzed and described to find the accurate result of the experiment. There are two kinds of main data, generally, that the researcher tries to analyze through this research: students' writing products and students' writing performance in the process of writing.

Students' writing products would be analyzed by using ESL Composition Profile which consists of five components such as content, organization, vocabulary, language use, and mechanics. While, the student's performance in writing process was collected through performance assessment and it was described quantitatively.

Technique that also used to analyze the data is statistical procedures by using a set of test. It is used to see the different quality of the student's writing before and after implementing brainstorming technique.

Furthermore, the data was analyzed by using t-test formula as suggest by Gay (2000:488-489). T-test means a statistical procedure used to determine whether there is any significant different between the mean of the two sets of scores or between two coefficient of correlation. The purpose saw writing skill achievement. It was used to see the different quality of the student's writing before and after using peer feedback technique.

In analyzing students' test score, some steps have been done before analyzed the different mean using t-test formula as follows:

a. This formula was applied to decide mean of students' test score in experimental class.

$$M_x = \frac{\sum fX}{N}$$

Where:

M_x : Mean value of students

$\sum fX$: Total of value every student

N : Number of students

b. This formula was applied to decide standard deviation of experimental class.

$$SD = \sqrt{\frac{\sum fx^2}{N}}$$

Where:

SD : Standard Deviation

$\sum fx$: Total of value every student

N : Number of students

After that the data was analyzed above formula and next analyzed by t-test formula as follows:

$$t = \frac{\bar{D}}{\sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{N(N-1)}}$$

Where:

t : t-test

D : Deviation (variable X-Y)

$\sum D$: Sum of Deviation (variable X-Y)

N : Number of students

The t-table was employed to see whether there was a significant difference between the mean score of pre-test and post-test in experimental class. The value of t obtained is consulted with the

value of t-table. The data is analyzed by using simple regression for hypothesis with 1% of significance level, 5 % ($=0,05$) of significance level and the value of t-table of the level of freedom $df = N-1$. If the value t-obtained or t-test is bigger than the value of t-table, the null hypothesis is accepted. On the contrary, if the value of the t obtained is equal, bigger or smaller than the value t-table, the alternative one is not accepted (t-table) t-obtained.

