

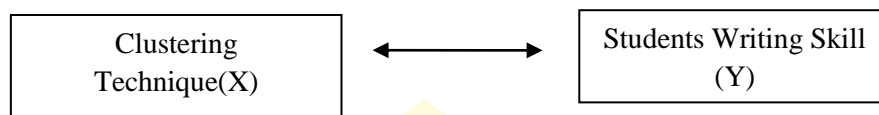
CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

The researcher used true-experimental research because the purpose of this study was to identify the cause effect between both of the variables, whereas Clustering Technique (X) and Students' Writing Skill (Y).

The relationship between both variables was shown in the schema below:



In this research, there were two groups involve. One group was the experimental group which gave treatment, in this case by using clustering technique, while the other group was the control group that was treated as usual. This research will involve two variables, independent and dependent variables. Independent variable, also call experimental variable, is that process or activity believed to make difference in performance, while dependent variable is the outcome of study, the measure of the change.

In this research, the researcher used *posttest-only control design* where a group was given treatment and the other one is not.(Sugiyono,2013: 114).

The design of this research can be represented as followed:

Table 3.1
Posttest-Only Control Design

Group	Treatment	Post test
E	X	O ₁
C	-	O ₁

Where:

E = Experimental Group

C = Control Group

X = Teaching Writing by Clustering Technique

O₁ = Students' score of post test

This design had two classes where the researcher chose randomly. The first, one class became the experimental class that received a treatment (X) or clustering technique in teaching writing process, while another class was the control class that received no treatment. The effect of giving treatment was posttest result. In this research, the effect of clustering technique statistically analyzed with t-test.

B. Population and Sample

1. Population

Sugiyono (2013:119) states that population is generalization region consisting of objects/subjects that have certain qualities and characteristics defined by the researchers to learn and then drawn the conclusions. So population is not just for person, but also everything included in research.

The population of this research was grade eight of SMPN 5 Payakumbuh. That population consisted of six classes with total numbers of students were 127 students.

Table 3.2

Total of students of SMPN 5 Payakumbuh

No	Class	Total
1	VIII.1	20
2	VIII.2	22
3	VIII.3	21
4	VIII.4	20
5	VIII.5	22
6	VIII.6	22
Total		127

Source: English Teacher of SMPN 5 Payakumbuh

the researcher used the aid of computer program called by SPSS (Statistical Product and Service Solution) to know the normality and homogeneous of the data. There were four classes which had normal. They were class VIII.1, VIII.4, VIII.5, VIII.6. While there were two classes that not normal. They were class VIII.2 and VIII.3.

2. Sample

After decided the population, the researcher needed to choose the research sample. In deciding which group for experimental group, the sample was taken by cluster random sampling. According to Sugiyono (2013:120) concern that Cluster random sampling refers to selected the sample that researcher believes to be representative of homogenous

population. In this research, the researcher chose two classes that had similarity in skill among the students in it.

Before the researcher took the sample, the researcher did these steps:

- a. Collected the MID test score data from all students grades VIII in first semester.(see Appendix I)
- b. Test of normality

Normality test had an objective to know the population normal or not. In this research, to do the normality test the writer used Kolmogrov Smirnov and Shapiro Wilk. This test was SPSS test. If the data was significant or more than 0.05 the class was normal. The normality table as was stated as follow:

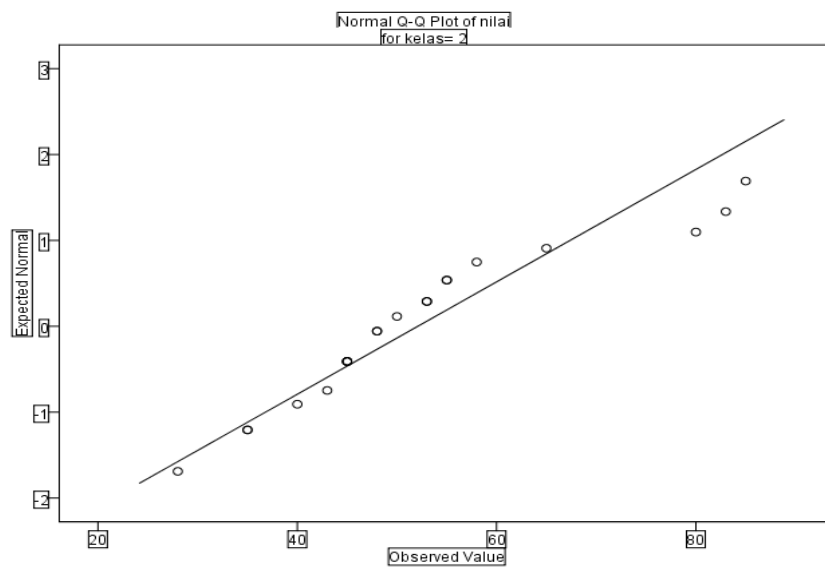
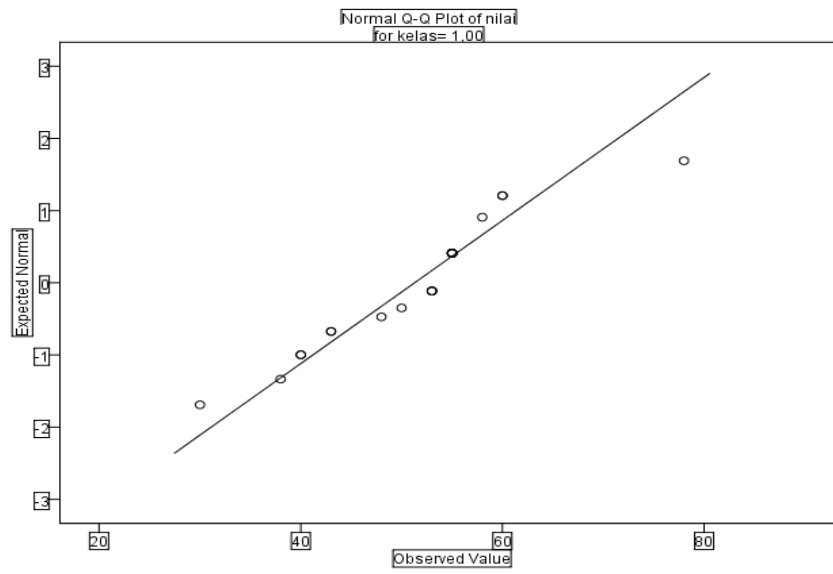
Table 3.3

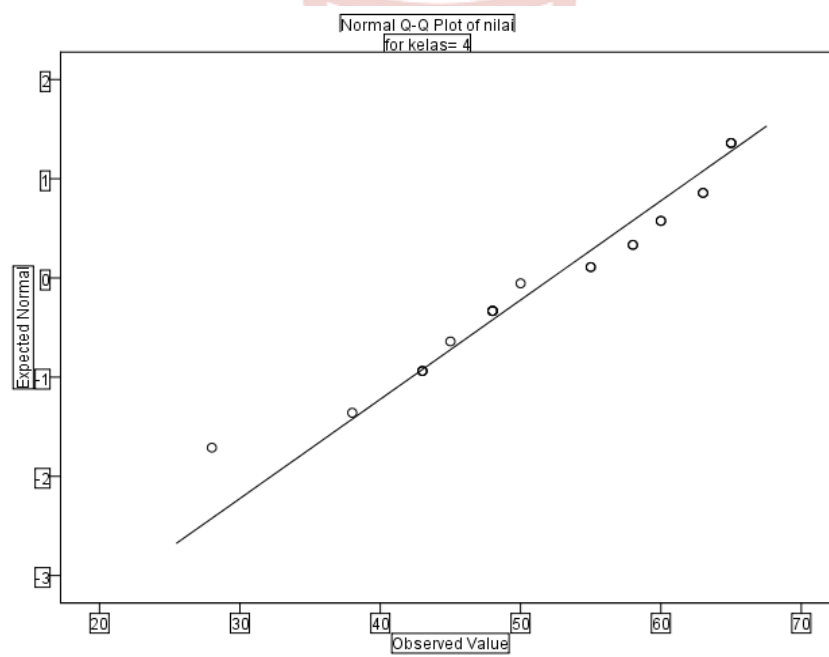
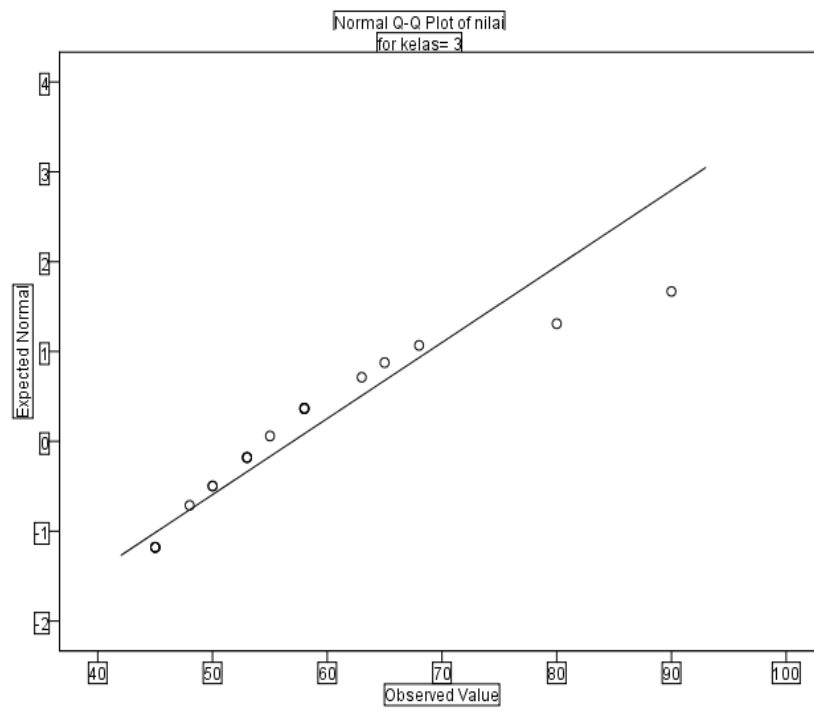
Tests of Normality

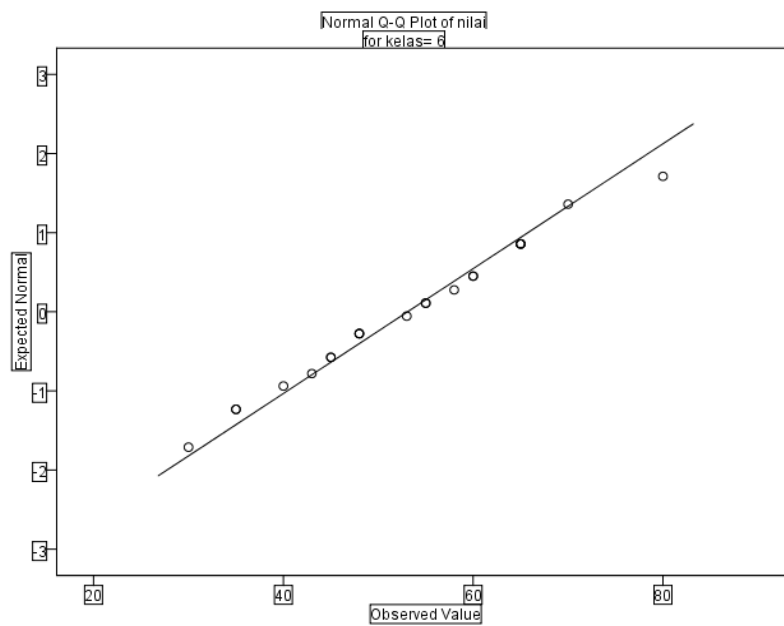
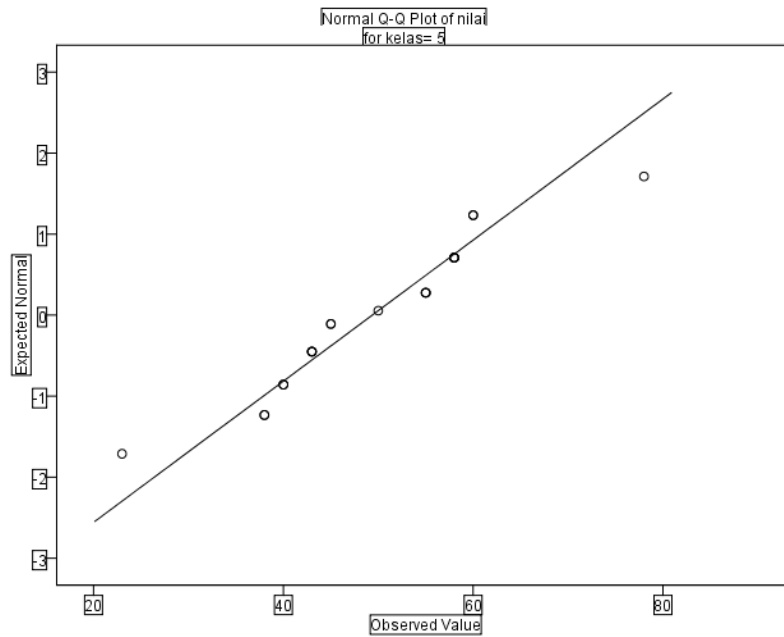
Tests of Normality							
	kelas	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
nilai	8.1	.169	20	.104	.948	20	.284
	8.2	.187	21	.055	.901	21	.037
	8.3	.209	21	.017	.847	21	.004
	8.4	.127	20	.200*	.935	20	.158
	8.5	.148	22	.200*	.938	22	.179
	8.6	.111	22	.200*	.979	22	.899

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

Source: SPSS Application







c. Test of Homogeneous Variances

After done the normality test and got the normal data. Then the writer did the homogeneous variation test. This test had an objective as to know the sample homogeneity or not. This test used SPSS with

Levene test, if the data were significant or the data were more than 0.05 it meant the data was homogeneous.

Table 3.4
Test of Homogeneity

Test of Homogeneity of Variance					
		Levene Statistic	df1	df2	Sig.
Nilai	Based on Mean	.688	5	124	.634
	Based on Median	.571	5	124	.722
	Based on Median and with adjusted df	.571	5	98.672	.722
	Based on trimmed mean	.662	5	124	.653

Source: SPSS Application

After knew normality and homogeneity tests by using SPSS, The researcher found all classes that normal and homogenous. Next, the researcher took a piece of paper and split it in to four parts. Then the researcher counted the four parts of paper with the classes in normal and homogeneity and rolls them. The result was VIII.1 as control class and VIII.4 as experimental class.

Table 3.5
Sample of the Research

No.	Class	Description
1.	VIII-4	Experimental class
2.	VIII-1	Control Class

C. Instrumentation

Instrument is a tool to collect data from the sample. This instrument which was used in this research focused on the data that needed to be collected. The collecting data was used to explain the application of this research. The instrument for this research is the form of written test. The researcher used the Curriculum or Syllabus and teaching material to construct the test. This instrument was used to collect the data about students' writing skill before and after using clustering technique. The score of students' writing was calculated by using Jacob's theory (1981: 90). The blueprint of writing test could be seen table 3.6.

Table 3.6
Blueprint of Writing Test

No	Component of Writing Test	Indicator	Topics	Number
1	Content	Write short simple text in form of recount text /narrative text by using correct rhetoric	1. First day in Junior High School	1
2	Organization		2. Holiday	1
3	Vocabulary		3. Experience at My School	1
4	Language use		4. Unforgettable Experience	1
5	Mechanic		5. Terrible Experience	1
			6. My Last Birthday	1

D. Place and time

This research carried out at SMPN 5 Payakumbuh; the treatment was conducted for grade eight of second semester in academic year 2017/2018. The research carried out based on the teaching schedule of SMPN 5 Payakumbuh.

E. Technique of Collecting Data

The data would come from test. Data of the test consisted of students' scores in post-test. Post-test was provided at the end of the research or after finishing the treatment for six meetings. To collect data by using test, the researcher was guided with Jacob's criteria in writing. Those criteria could be seen from table below:

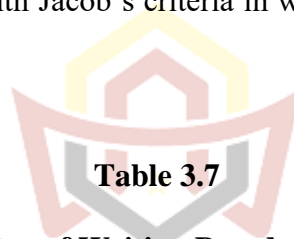


Table 3.7

Indicator of Writing Based on Jacob

Aspects	Score	Criteria
Content	27 – 30	Very good to excellent
	22 – 26	Average to good
	17 – 21	Poor to fair
	13 – 16	Very poor
Organization	18 – 20	Very good to excellent
	14 – 17	Average to good
	10 – 13	Poor to fair
	7 – 9	Very poor
Vocabulary	18 – 20	Very good to excellent
	14 – 17	Average to good
	10 – 13	Poor to fair
	7 – 9	Very poor
Language use	22 – 25	Very good to excellent
	18 – 21	Average to good
	11 – 17	Poor to fair
	5 – 10	Very poor
Mechanic	5	Very good to excellent

	4	Average to good
	3	Poor to fair
	2	Very poor

F. Procedure of The Research

To obtain the achievement in this research, the researcher divided the procedure of this research into three points, as following:

1. Preparation Steps

The researcher collected the data that relate with preparation steps:

- a. Planning learning in experimental class and control class
- b. Determining learning material
- c. Determining population and sample
- d. Preparing learning design
- e. Preparing research instrument

2. Application Steps

Teaching and learning process that the researcher did during this research:

a Giving the treatment

In this session, the experimental class received treatment for six meetings using clustering technique in the teaching writing recount text, but the control group did not get the treatment in the teaching writing recount text for six meetings.

b Giving post- test

The researcher gave post-test for both oh groups to know the score of the students after giving the treatment for six meetings with different topics and it is based on the syllabus.

3. Finishing Steps

a. Processing data

b. Taking conclusion from technique of data collection

G. Technique of Analyzing Data

The data was described quantitatively. Technique also was used to analyze the data statistical procedures by using a set of test. It was used to see the different progress of the student's writing who taught with clustering technique and who taught with conventional technique.

1. Normality Testing

This test was used to know whether the distribution of each variable was normal or not. Testing normality was done by applying kolmogorof-sminov and shapiro-wilk test by using computer program called SPSS (statistical product and service solution) version 20. The criteria of normality test are significance, if the score analysis is biggest than standard significant 5 percent (0.05). If the score analysis is biggest than standard significant, the data distribution is normal.

2. Homogeneity Testing

This test was used to see whether the sample which sample from population had the same characteristic as population or not. The formula which is used in this test is levene statistic by using SPSS (statistical product and service solution).

3. Hypothesis Testing

The data was analyzed by using T- test formula as suggested by Sudjana (2005: 239). And the formula of T-test is:

$$T = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

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

Where:

\bar{X}_1 = Mean score of post-test

\bar{X}_2 = Mean score of pre-test

S_1^2 = Standard deviation of pre-test

S_2^2 = Standard deviation of post-test

n_1 = Number of samples in pre-test

n_2 = Number of samples in post-test

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

using simple regression for hypothesis with 5 % (0.05) of significance level and the value of t-table of the level of freedom $(N_1-1) + (N_2-1)$

If the value t-obtained was bigger than the value of t-table, the null hypothesis was accepted. On the contrary, if the value of the t-obtained was equal, or smaller than the value t-table, the alternative one was not accepted (t-table) t-obtained.

