CHAPTER III

RESEARCH METHOD

3.1 RESEARCH DESIGN

The type of research design is Quasi-Experimental research that is aimed to test an idea (or practice or procedure) to determine whether it influences an outcome or dependent variable (Cresswell:2008). An experiment is the quantitative approach that provides the greatest degree of control over the research procedures (Gay:2000). In this research, the writer used quasi-experimental design with nonequivalent control group which is an appropriate one to this research in order to find out the significant effect of using Summarization technique, reading comprehension and students' motivation at the Eighth grade of SMP An Namiroh Pekabaru

In this research, two classes are used; one class as experimental group, which is treated by Summarization technique and another one as a control group is taught by using non Summarization technique or taught without using summarization technique. For both experimental and control groups, pre-test and post-test are administered to the students. Pre-test is given at the beginning of the teaching learning in order to identify the Reading comprehension and the Students' Motivation. Then, the experimental group is given a treatment by using Summarization technique and the control group using non summarization technique. During the treatment, the writer accompanies by an observer, and at last, both groups are given post-test at the end of the teaching learning processes

in order to determine the effect of using Summarization technique toward students' Reading Comprehension. The model of the research design is illustrated as follows (Cresswell: 2008):

TABLE III.I

The Research Design

Group	Pre-test	Treatment	Post-test
Experimental group	Test 1	X	Test 2
Control Group	Test 1	_	Test 2

Moreover, to measure students' motivation after being treated by using summarization technique, questionnaire is administered.

3.2 The Population and the Sample of the Research

3.2.1 Population

The population of this research is the Eighth grade students of SMP An Namiroh Pekanbaru in the academic year 2017/2018. It consisted of three classes and the number of students of each class are 28,26,29 students. The total number of the Eighth grade of SMP An Namiroh Pekanbaru is 83 students.

Table III.2

The Total Population of the Eighth Grade Students of SMP An NAMIROH PEKANBARU

No	Class	Number of Students
1	VIII As Salam	28
2	VIII Al Qudus	26
3	VIIII As Syakur	30
Total		84

Therefore, from the table above, the researcher takes two classes as sample by using cluster-sampling technique. The classes are VIII As Salam and VIII Al Qudus.

3.2.2 Sample

Sampling is the process of selecting a number of individuals for a study in such a way that the individuals represent the larger group from which they are selected. The purpose of sampling is to gain information about the population by using the sample (Gay, 2000: 123). The sample of this research has taken by cluster-sampling technique by choosing two classes as sample. According to Gay (2000: 129) cluster sampling is sampling in which groups, not individuals are randomly selected. The writer choose class VIII As Salam as experimental group and VIII Al Qudus as control group by using lottery.

Table III.3

The Total Sample of the Research

No	Class	Female & Male	Total Number of Student
1	VIII As Salam	28	28
2	VIII Al Qudus	26	26
	Total	54	54

3. 3 Instrumentation

There are 2 instruments used in this research, they are test and questionnaire.

1. Observation Sheet

Table III.4
Blue print for Summarization Observation sheet

NO	INDICATORS	YES	NO
1.	Teacher ask students to preview the passage	✓	
2.	Teacher ask students to think about what they expect the passage to read	✓	
3.	Teacher ask students to read the text until they know what the text about	✓	
4.	Teacher ask students to ask themselves what the hole article is about	✓	
5.	Teacher ask students to identify the author's message about the topic	✓	
6.	Teacher ask students generate the main idea in their own words	✓	
7.	Teacher ask students find the major detail of the text more specific	✓	
8.	Teacher ask students to consider any notes that were taken during the reading of article	✓	
9.	Teacher ask students take time to review their summary	✓	
10.	Teacher polish students thoughts after they do summary time	✓	
11.	Teacher check students summary to make sure complete sentences are used	✓	
12.	Teacher check students use their own words in their summary because are extremely important	✓	
	Total	100%	

2. Test

The test consists of 25 questions . Test used to know students' reading comprehension using narrative text; it conducted in two times, pretest and posttest. Pretest to know the students' reading comprehension before giving the treatment and posttest conducted to know the students' reading comprehension after giving treatment. The Blue Print of reading comprehension was shown below:

Table III.5

Blue print for reading comprehension

NO	Indicators objective reading part	Number of question
1	Students are able to indentify main idea	6, 9, 10, 11, 17, 20
2	Students are able to identify supporting detail	1, 7, 14, 16, 22
3.	Students are able to identify reference pronoun	2, 8, 12, 18, 24
4.	Students are able to identify vocabulary	3, 5, 13, 23
5.	Students are able to identify inference	15, 19, 21, 25

Table III.6

No.	Score	Categories
1.	80 – 100	Very Good
1.	66 – 79	Good
3.	56 – 65	Sufficient
4.	0 – 55	Poor

3. Questionnaire

Questionnaire consists of 20 items. Questionnaire used to know the students' motivation; it also conducted in two times, pretest and posttest. Pretest to know the students' motivation before giving the treatment and post test conducted to know the students' motivation after giving treatment. The Blue Print of Students' motivation was shown below:

Table III.7

No	Indicators of Motivation
1	Reason Underlying behavior
2	Stimulant for Achieving
3	The attribute that move us to do or not to do something
4	A factor that encourages taking action and being active
5	Psychological mechanisms
6	Intensity
7	Persistence of action
8	Excitement
9	Interest
10	Keenness
11	Enthusiasm towards learning
12	Learner's orientation with regard to the goal
13	Admire the culture

3.4 Data Collection Technique

In this research, the data was collected by distributing test to the students and questionnaire to the students. Hughes (2003: 43) says that there are many techniques than can assess the students' reading comprehension; one of them is multiple choice techniques. In line with this statement, multiple choices will be used by the researcher and it is designed by using four choices and the students choose one of the correct answer. The test consisted of five passages where each of the passage consists of five questions related to the passages of reading comprehension test. The duration of time was 90 minutes. The tests were taken from the students' textbook and internet materials.

3.4.1 Validity and Reliability Test

A. Test Validity

Before collecting the data, Each item of question was tested in order to be ideally to try out. The purpose of the try out is to find out the quality of the test items. Brown (2000;22) states that a test is method of a measuring a person's ability, knowledge, or performance in a given domain. Validity is the extent to which inferences make from assessment results which are appropriate, meaningful, and useful in terms of the purpose of the assessment.

To find out the validity of the items of test, it will use Split-Half formula by using SPSS 20 version by looking at the corrected item - total correlation (correlation between score item and score total item = $r_{counted}$) in table Item-Total Statistics.

To know whether the test valid or not, the value of $r_{counted}$ must be compared with r_{table}.

If the value of $r_{counted} > r_{table}$ = valid,

If the value of $r_{counted} < r_{table}$ = invalid.

The result as below:

Table III.8
Validity of the Reading Test

Item	Corrected Item-Total Correlation	R table α=0,05; n=28	Category
1	0,445	>0,361	Valid
2	0,445	>0,361	Valid
3	0,445	>0,361	Valid
4	0,445	>0,361	Valid
5	0,377	>0,361	Valid
6	0,580	>0,361	Valid
7	0,580	>0,361	Valid
8	0,580	>0,361	Valid
9	0,033	>0,361	Invalid
10	0,221	>0,361	Invalid
11	0,221	>0,361	Invalid
12	0,071	>0,361	Valid
13	0,553	>0,361	Valid
14	0,339	>0,361	Invalid
15	0,580	>0,361	Valid
16	0,445	>0,361	Valid
17	0,211	>0,361	Invalid
18	0,555	>0,361	Valid
19	0,565	>0,361	Valid
20	0,445	>0,361	Valid
21	0,339	>0,361	Invalid
22	0,445	>0,361	Valid
23	0,680	>0,361	Valid
24	0,736	>0,361	Valid
25	0,580	>0,361	Valid
26	0,204	>0,361	Invalid
27	0,564	>0,361	Valid
28	0,514	>0,361	Valid
29	0,142	>0,361	Invalid
30	0,655	>0,361	Valid
31	0,204	>0,361	Invalid
32	0,680	>0,361	Valid
33	0,339	>0,361	Invalid
34	0,527	>0,361	Valid
35	0,481	>0,361	Valid

Table III.8 indicates that there are ten items that the Pearson correlation < 0,361. It means that the ten items are not valid. Finally, the valid items are tabulated as follows;

Table III.9
Validity of the Reading Test

Item	Corrected Item-Total Correlation	R table α=0,05; n=28	Category
1	0,445	>0,361	Valid
2	0,445	>0,361	Valid
3	0,445	>0,361	Valid
4	0,445	>0,361	Valid
5	0,377	>0,361	Valid
6	0,580	>0,361	Valid
7	0,580	>0,361	Valid
8	0,580	>0,361	Valid
9	0,071	>0,361	Valid
10	0,553	>0,361	Valid
11	0,580	>0,361	Valid
12	0,445	>0,361	Valid
13	0,555	>0,361	Valid
14	0,565	>0,361	Valid
15	0,445	>0,361	Valid
16	0,445	>0,361	Valid
17	0,680	>0,361	Valid
18	0,736	>0,361	Valid
19	0,580	>0,361	Valid
20	0,564	>0,361	Valid
21	0,514	>0,361	Valid
22	0,655	>0,361	Valid
23	0,680	>0,361	Valid
24	0,527	>0,361	Valid
25	0,481	>0,361	Valid

It can be seen and concluded after removed the invalid items, the result of all items' calculation are valid. So, in this research, the item for the test is 25 questions.

B. Questionnaire Validity

Before collecting the data, Each item of question was tested in order to be ideally to try out. The purpose of the try out is to find out the quality of the test

items. Brown (2000;22) states that a test is method of a measuring a person's ability, knowledge, or performance in a given domain. Validity is the extent to which inferences make from assessment results which are appropriate, meaningful, and useful in terms of the purpose of the assessment.

To find out the validity of the items of test, it will use Split-Half formula by using SPSS 20 version by looking at the corrected item - total correlation (correlation between score item and score total item = $r_{counted}$) in table Item-Total Statistics.

To know whether the test valid or not, the value of $r_{counted}$ must be compared with r_{table}.

If the value of $r_{counted} > r_{table}$ = valid,

If the value of $r_{counted} < r_{table}$ = invalid.

The result as below:

	Corrected Item-Total Correlation	R Table **α = 0, 05 ; n= 28**	Categories
ITEM1	,821	> 0,361	Valid
ITEM2	,821	> 0,361	Valid
ITEM3	,917	> 0,361	Valid
ITEM4	,821	> 0,361	Valid
ITEM5	,768	> 0,361	Valid
ITEM6	,505	> 0,361	Valid
ITEM7	,760	> 0,361	Valid
ITEM8	,755	> 0,361	Valid
ITEM9	,760	> 0,361	Valid
ITEM10	,335	> 0,361	Valid
ITEM11	,743	> 0,361	Valid
ITEM12	,821	> 0,361	Valid
ITEM13	,768	> 0,361	Valid
ITEM14	,761	> 0,361	Valid

It can be seen and concluded after removed the invalid items, the result of all items' calculation are valid. So, in this research, the item for the questionnaire is 14 questionnaires.

3.4.2 The reliability of Instrument

A. Realibility test

Reliability is an important characteristic of a good test. In order to calculate the reliability of the test, the mean of the students' scores the standard deviation were sought. In finding reliability of instruments, there are several formulas can be used such as Split-Half formula, Spearmen-Brown formula, Flanagan formula, Rulon formula, Hoyt formula, Alpha formula, Kuder-Richardson 20 (K-R 20) formula and Kuder- Richardson 21 (K-R 21) formula (Arikunto, 2006: 223). From these formulas, the writer used Slit-Half formula by using SPSS and result of reliability can be seen through Guttman Split-Half Coefficient in reliability statistics on output of SPSS.

Table III.8

Ccriteria Coefisien of Reliability

Coefisien Reliability	Criteria
$0{,}80 \leq r_{11} \leq 1{,}00$	Highest reliability
$0{,}60 \leq r_{11} \leq 0{,}79$	High reliability
$0{,}40 \leq r_{11} \leq 0{,}59$	Middle reliability
$0{,}20 \leq r_{11} \leq 0{,}39$	Low reliability
$0{,}00 \leq r_{11} \leq 0{,}19$	Lowest reliability

The result of test realiblity can be seen as follow:

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,922	,924	25

From the results of calculation by using SPSS, it can be seen that the value of Cronbach's Alpha Based on Standardized Items (r_{11}) for test is 0,924. So, 0,80 ≤ 0,924 ≤ 1,00. It means that the instrument is highest realibility.

B. Reliability Questionnaire

Reliability is an important characteristic of a good test. In order to calculate the reliability of the test, the mean of the students' scores the standard deviation wewr sought. In finding reliability of instruments, there are several formulas can be used such as Split-Half formula, Spearmen-Brown formula, Flanagan formula, Rulon formula, Hoyt formula, Alpha formula, Kuder-Richardson 20 (K-R 20) formula and Kuder- Richardson 21 (K-R 21) formula (Arikunto, 2006: 223). From these formulas, the writer used Slit-Half formula by using SPSS and result of reliability can be seen through Guttman Split-Half Coefficient in reliability statistics on output of SPSS.

Table III.11

Ccriteria Coefisien of Reliability

Coefisien Reliability	Criteria
$0,80 \leq r_{11} \leq 1,00$	Highest reliability
$0,60 \leq r_{11} \leq 0,79$	High reliability
$0,40 \leq r_{11} \leq 0,59$	Middle reliability
$0,20 \leq r_{11} \leq 0,39$	Low reliability
$0,00 \leq r_{11} \leq 0,19$	Lowest reliability

The result of test realiblity can be seen as follow:

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,942	,951	14

From the results of calculation by using SPSS, it can be seen that the value of Cronbach's Alpha Based on Standardized Items (r_{11}) for test is 0,951 So, $0,80 \leq 0,951 \leq 1,00$. It means that the instrument is highest realibility.

3.5 The Technique of Data Analysis

In order to analyze the students' reading comprehension, the writer wiil be use minimum standard score of English subject in SMP An Namiroh Pekanbaru that is 78. It means, for those who obtain the English score < 78, meaning that they do not pass the minimum standard score, while for those who obtain score ≥ 78, they pass minimum graduated score.

In analyzing the data, this study used scores of pre-test and post-test of experimental and control groups. This score analyzed statistically. Both descriptive and inferential statistic. In this research, the researcher used these formulas:

1. Independent sample t-test

To find out whether there is significant difference or there is no significant difference between two or more variables can be analysed by using Independent Sample t_{test} (Hartono: 2010) . Gay (2009: 484) adds that the t-test for independent sample is used to determine whether there is probably a significant difference between the means of two independent samples. Independent sample t-test is used to find out the results of the first and second hypotheses. They are as follow:

a. To find out whether there is significant difference of students' reading comprehension before giving the treatment by using Summarization technique for experimental class and non treatment for control class.

b. To find out whether there is significant difference of students' reading comprehension after giving the treatment by using Summarization technique for experimental class and non treatment for control class.

In this research, SPSS 20 will be used to analyze the data.

The formula is as follows:

$$t_o = \frac{M_x - M_y}{\sqrt{\left(\frac{SD_x}{\sqrt{N-1}}\right)^2 + \left(\frac{SD_y}{\sqrt{N-1}}\right)^2}}$$

Where:

t_0 = Table Observation

SD = Standard Deviation

M_x = Mean of variable x and

M_y = Mean of variable y

SD_x = Standard deviation of experimental group

SD_y = Standard deviation of control group

N = The Number of respondent

The t-table has the function to see if there is a significant difference among the mean of the score of both experimental and control group. The t-obtained value is consulted with the value of t-table at the degree of freedom (df) = (N1+N2)-2 which is statistically hypothesis:

Ha: to > t-table

Ho: to < t-table

Ha is accepted if to > t-table or there is effect after giving the treatment of Summarization technique toward students' reading comprehension.

Ho is accepted if to< t-table or there is no effect after giving the treatment of Summarization technique toward students' reading comprehension.

2. Paired sample t-test or Non-independent Sample t- t_{test}

Non-independent sample t- t_{test} is known also as Paired-Sample t_{test}. This formula is used to obtain the result of the third hypothesis that is to find out whether there is significant effect of using Summarization technique toward students' reading comprehension at the eighth grade students of SMP An Namiroh Pekanbaru. L.R Gay (2009) states that t test for non-independent samples is used to compare groups that are formed by some type of matching or to compare a single group's performance on a pre- and posttest or on two different treatments.

In this time, pre-test and post-test score of the experimental class will be used in order to find the significant effect of Summarization technique toward students' reading comprehension. To obtain the data, SPSS 20 will be used. The formula of paired-sample t_{test}:

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

D: Gain Score (D=X2-X1)

The t-table has the function to see if there is a significant difference among the mean of the score of both pretest and posttest. The t-obtained value is

consulted with the value of t-table at the degree of freedom (df) = N-1 which is statistically hypothesis:

Ha: to > t-table

Ho: to < t-table

Ha is accepted if to > t-table or there is significant effect after giving the treatment summarization technique toward Students' reading comprehension.

Ho is accepted if to< t-table or there is no significant effect after giving treatment of Summarization technique toward Students' reading comprehension.

Afterward, it is better to find the coefficient effect of T-test by following formula (Ridwan: 2008) :

$$r^2 = \frac{t^2}{t^2+n-1}$$

$$kp = r^2 \ x \ 100\%$$

Where:

kp : Coefficient effect

r^2 : Coefficien