CHAPTER III

RESEARCH METHOD

A. The Research Design

The type of this research is experimental research. According to Creswell (2008,p.299), "experiment is you test an idea (or practice procedures) to determine whether it influences an outcome or dependent variables". This research used a quasi-experimental design: the pretest-post-test, non- equivalent group design. Thus, this research used experimental and control group.

The design of this research is quasi-experimental design, which used Pre-test and Post-test non equivalent control group design. It means that this research involves two group; they are experimental and a control group. This research tried to find out the effect that is given by the variable x on y.

In addition, there were two variables in this research, the first was using Skill-Grouping Strategy as the variable X and the second was students' reading comprehension as the variable Y. Before doing the experiment, the researcher administered pre-test, then the experimental group had the treatment and the control group did not have the treatment. It can be seen in the ilustration (Muijs, 2004, p. 18):

Table III. 1
The Research Design

Group	Pre-Test	Treatment	Post-Test
Experimental	O_1	X	O_3
Control	O_2	-	O_4

Where:

O$_1$: Pre-Test of experimental group

O$_2$: Pre-Test of control group

O$_3$: Post-Test of experimental group

O$_4$: Post-Test of control group

X   : Treatment

B. The Location and the Time of the Research

This research was conducted at Senior High School 04 Pinggir, Kabupaten Bengkalis it is located in Tasik Serai, Sebanga. This research was carried out from July to August 2017.

A. The Subject and Object of the Research

The subject of the research was the second years at senior high school 04 pinggir. Object of the research was using skill - grouping strategy to improve reading comprehension the at the second grade students of state seniorhigh school 04 pinggir.

B. The Population and Sample of the Research

1. Population

The population of this research was the eleventh grade students at SMAN 04 Pinggir in 2017/2018 academic year. The students were divided into 3 classes; they were XI-IPS 1, XI-IPS 2, XI-IPS 3. Each class was about 30students. In short, the total number of population was 90

Student. The specification of the population can be seen in the table below:

Table III.2
The Total Population of the Eleven GradeStudents

No	Classes	Population
1	XI-IPS 1	30 Students
2	XI-IPS 2	30 Students
3	XI-IPS 3	30 Students
Total		**90 Students**

2. Sample

The writer took two classes as sample by using cluster random sampling technique. According to Gay (2000:135), cluster random sampling is sampling in which groups, not individuals, are randomly selected. In this research, the researcher took the groups by using lottery. Based on the lottery, the researcher used class XI-IPS 2 and XI-IPS 3 as the sample of this research. XI-IPS 2 was as a experimental class and XI-IPS 3 was as an control class, each class consisted of 30 students. So, the total sample was 60 Students. The specification of the sample can be seen in the table below:

Table III.3
The Sample of the Eleven Grade Students

No	Group	Class	Sample
1	Control class	XI-IPS 3	30 students
2	Experiment class	XI-IPS 2	30 Students
Total			**60 students**

C. The Technique of Collecting Data

In collecting the data needed, the researcher used tests.

1. Test

According to Douglas (2010:3), test is an instrument for measuring language ability. Hughes (2003:8) stated that the purposes of testing are: (1) to measure language proficiency,(2) to discover how successful students have been in achieving the objectives of a course of study,(3) to diagnose students' strengths and weaknesses, to identify what they know and what they doesn't know.

In this research, test was divided into two ways; pre-test and post-test. Pre-test was given before treatment. According to Creswell (2012:297), pre test provides a measure on some attribute or characteristic that you asses for participant in an experiment before they receive the treatment. Post-test was given after doing treatment.

The writer had done pretest and post-test to experiment class and control class in order to know the use of skills – grouping: its effect on student's reading comprehension at state senior high school 04 pinggir. Before doing the test, the writer tried out the test items before students were given the test of this research. According to Huges (2003,P. 143), there are many techniques that can assess the students' comprehension but the writer used one technique called: Multiple Choice techniques are a technique. This technique can assess the student's reading comprehension. The tests were taken from the indicators of reading

comprehension and each indicator hadfive questions. It can be seen from the blue print test below:

Table III.4
The Blue Print of Test

No	Indicators	Item of Questions
1	Students find main idea from the text	1,4,8, 13, 19,
2	Students understand vocabulary from the text	2.10,12.18,20
3	Students identify the generic structure of the text	5,7,11,15,17
4	Students find synonym/antonym of words	3,6,9,14,16

D. The Validity and the Reliability of the Instrument

1. Validity of the Instrument

Before carrying out a test, it is necessary to know the validity of instruments. According to Hughes (2003:22), a test is said to be valid if it measures accurately what it is intended to measure. It means that a test is valid if it really measures what we actually want to be measured.

In this research, the researcher used all items in try out.Try out given to the other class that was not as sampling and try outgiven to the students was based on the material that they had learned.Try out was intended to know the value of the test. The value itself was used to find out the level of difficulties of each item. The standard of value was ≥ 0.30 and ≤ 0.70. The items that could not fulfill the standard value were replaced. The facility under 0.30 is considered difficult and above 0.70 is considered easy.

The level of difficulty was used to show how easy and difficult an item was. It was calculated by using the formula adopted in Heaton (1998:208)

$$FV = \frac{R}{N}$$

Where:

FV = Facility Value (Difficulty Level)

R = The Number of Correct Answer

N = The Number of the Students

The formula above was used to find out whether each item of the test is easy. The items that do not reach the standard level of difficulty are revised and they are edited or changed with the new items that are appropriate. The accepted items are the ones which has facility values between 0.30 and 0.70. The index difficulty level of instruments is represented in the following table:

Table III.5
Index Difficulty Level of Instruments

Proportion Correct (p)	Items Category
0.00 – 0.30	Difficult
0.30-0.70	Average
0.70-1.00	Easy

The standard level of difficulty used is >0.30 and <0.70. It means that an item is accepted if the level of difficulty is between 0.30-0.70 and it is rejected if the level of difficulty is less than 0.30 (the item is too difficult), thus, if it is over than 0.70 (the item is too easy). On the other hand, the proposition of correct is represented by "p", whereas the proposition of incorrect is represented by "q". To find out the validity of test, the researcher calculated it by using Ms. Excel 2010 version and the try out result, it was determined that all of the items were valid.Thus, the calculation of item difficulty can be seen in the following tables:

Table III.6
Students Find Main Idea From The Text

Variable	Find Main Idea					N
Item	1	4	8	13	19	
Correct answer	15	11	12	13	12	
P	0.55	0.40	0.44	0.48	0.44	30
Q	0.37	0.51	0.48	0.44	0.48	

From the table III 5 above the item numbers of question for find main idea from the text is there were 5 items (1,4, 8, 13 and 19). Item 1 obtained 0.55, item 4 obtained 0.40, item 8 obtained 0.44, item 13 obtained 0.48 and item 19 obtained 0.44. The descriptions show that there was no item having index of difficulty which was lower than 0.3 and higher than 0.7. It could be said that the items of find the main idea were accepted.

Table III.7
Students Understand Vocabulary from the Text

Variable	Understand Vocabulary					N
Item	2	10	12	18	20	
Correct answer	13	9	12	9	11	
P	0.48	0.33	0.44	0.33	0.40	30
Q	0.44	0.59	0.48	0.31	0.51	

Referring table III.6, there were 5 items (2, 10, 12, 18 and 20). Item 2 obtained 0.48, item 10 obtained 0.33, item 12 obtained0.44, item 18 obtained correct 0.33 and item 20 obtained 0.40. Since there was no item having index of difficulty which was lower than 0.3 and higher than 0.7; meaning that the items of understanding vocabulary from the text were valid to be used.

Table III.8
Students Identify the Generic Structure of the Text

Variable	Identify the Generic Structure					N
Item	5	7	11	15	17	
Correct answer	15	10	10	13	11	
P	0.55	0.37	0.37	0.48	0.40	30
Q	0.37	0.55	0.55	0.44	0.51	

From the table III.7, there were 5 items (5, 7, 11, 15 and 17). Item 5 obtained 0.55, item 7 obtained 0.37, item 11 obtained 0.37, item 15 obtained 0.48, and item 17 obtained 0.40. Since there was no item having index of difficulty which was lower than 0.3 and higher than 0.7. It could be concluded that the items identifying generic structure of the text were accepted to be used.

Table III.9
Students Find Synonym/ Antonym of Word

Variable	Find Synonim/Antonym					N
Item	3	6	9	14	16	
Correct answer	12	12	10	11	11	
P	0.44	0.44	0.37	0.40	0.40	30
Q	0.48	0.48	0.55	0.51	0.51	

For the last table III.8, there were 5 items (3, 6, 9,14 and 16). Item 3 obtained 0.44, item 6 obtained 0.44, item 9 obtained 0.37, item 14obtained 0.40 and item 16 obtained 0.40. Since there was no item having index of difficulty which was lower than 0.3 and higher than 0.7. It could be concluded that the items of identifying synonym/antonym of word were accepted to be used.

2. Reliability of the Instrument

According to Gay (2000:164-165), reliability is the degree to which a test consistently measures whatever it is measuring. The more reliable a test is the more confidence we can have that the scores obtained from the test are essentially the same scores that would be obtained if the test were readministered to the same test takers at another time or by a different person. Brown (2003:21) mentioned that reliability test is consistent and dependable. It means that reliability is about the consistency of the scores produced. Cohen (2007: 506) said that the classification of reliability test was considered as follow:

Table III.10
Table of Croncbach Alpha

Croncbach Alpha	Internal Consistency
>0.90	Very highly reliable
0.80-0.90	Highly reliable
0.70-0.79	Reliable
0.60-0.69	Minimally reliable
<0.60	Unacceptably low reliability

To know whether the test is reliable or not, the researcher calculated the data obtained by using Statistical Product and Service Solution 17.0 version. The test reliability can be analyzed as follows:

Cronbach's Alpha	N of items
.880	20

The reliability of test was 0.880. Based on the table of Croncbach Alpha 0.880 was categorized into *Highly reliable* level.

E. The Technique of Data Analysis

There were two types of data that were analyzed test data.

1. Test Data

In order to find out whether there was or not a significant effect of using Skills-Grouping strategy on improving students' reading comprehension, the data of this researchwere analyzed statistically. In analyzing the data, the researcher used statistical method that was independent samples t-test formula by using SPSS.17.0version.

According to Pallant (2010:105), an independent samples t-test is used when you want to compare the mean score, on some continuousvariable, for two different groups of participants. So, the researcher used independent samples t-test to compare the mean score in two different groups; control class and experimental class.

After finding the difference, the researcher found the effect size of the phenomenon. Cohen (2007:521-522) stated that effect size issimply a way of quantifying the difference between two groups.The effect size statistic was used in this research was eta squared. For t-test, SPSS does not provide eta squared values. The formula of eta squared is as follows:

$$\eta^2 = \frac{t^2}{t^2 + (n_1 + n_2 - 2)}$$

Where:
η^2 : Eta Square
t : t obtained
n_1 : The number of experimental class
n_2 : The number of control class