CHAPTER III

RESEARCH METHODOLOGY

A. Design of the Research

This research was an Experimental research. According to Gay (2000), experiment is the quantitative approach that provides the greatest degree of control over the research procedure. Then Creswell (2012), states experiment is testing an idea (practice or procedure) to determine whether it influences an outcome or dependent variable. An experimental research is used to know possible cause and effect between independent and dependent variable.

The design of this research was pre-experimental research. According to Cohen *et. al* (2007: 282) Pre-experimental designs are the one group pretest-post-test design; the one group posttests only design; the post-tests only nonequivalent design. In this research, the writer used one class of the eighth grade at Junior High School telkom Pekanbaru as a sample; in the first meeting, students were given a test (pre-test) to measure the students' reading comprehension. In the last meeting they were given post-test after being taught by using list-group-label strategy. The one group pretest-post-test design can be represented as:

Table III.1

Research Design

Group	Pre-test	Treatment	Post-test
Experimental Group	O1	X	O2

Where:

O1   = Observation pre-test

X   = Treatment

O2   = Observation post-test

B. Time and Location of the Research

The research had been conducted from July to August 2016, located at Junior High School Telkom Pekanbaru.

C. Subject and Object of the Research

The subject of this research was the eighth grade students of Junior High School Telkom Pekanbaru in 2016/2017 academic year, while the object of this research was the effect of using List-Group-Label strategy on students' reading comprehension at Junior High School Telkom Pekanbaru.

D. Population and Sample of the Research

According to Gay (2000: 122) "population is the group of interest to the researcher, the group to he or she wants the results of study." The population of this research was the eighth grade students at Junior High School Telkom Pekanbaru in the academic year at 2015/2016. There were three classes VIII A, VIII B, and VIII C that consisted of 30, 24, and 31 students, so the total number of students was 85 students. It can be seen in the following table population below:

Table III.2
Population of the Research

No	Classes	Population
1	VIII A	30
2	VIII B	24
3	VIII C	31
Total		**85 students**

Based on the design of the research above, the population of this school was 85 students. Creswell (2012: 142) asserts that a sample is a subgroup of the target population that the researcher plans to study for generalizing about the target of population, in this research, the writer used cluster sampling.

The writer used cluster random sample because the population was very large and each class had similar characteristic. The writer adopted from Gay's opinion (2000: 129), he said that cluster random sample selects groups, not individuals. All members of selected groups have similar characteristics; they are teached by a same teacher and their mean score in try out are same (51,09) and this technique is most useful when the population is very large or spread out over a wide.

The process of selecting the sample by using cluster random sampling was as follows: *first*, the writer provided some small papers if the population consisted of 3 groups or classes so the small paper provided had to be 3. *Second*, the writer wrote the name of group or classes such as VIII A, VIII B, and VIII C in each small paper then rolled them. *Third,* the writer would

like to put them into a glass or box and shuffled them. Then, the writer took once the small paper to determine one group (experiment group) which became as sample of the research in the design of pre-Experiment research.

So, the writer took one of three classes as the sample. The populations of the research were 85; 24 students for experimental class. The writer used VIII B which consisted of 24 students.

Table III.3
The Sample of the Research

No	Class	Number of Students
1	VIII B	24

E. Technique of Collecting Data

The test was used to find out the students' reading comprehension. The type of the test was multiple choice items related to descriptive texts. To get the data about the students' reading comprehension, the writer used assessment based on the indicators of reading comprehension explained in the operational concept. The test was firstly tried out to find out in which the items of questions were too easy and too difficult. It was calculated by using the formula of item difficulty. The try out test consisted of 25 questions. The blue print of tryout of reading comprehension can be seen in the table below:

Table III.4
Blue Print of Reading Comprehension (Try Out)

No.	Indicators	Items Number	Number of Items
1.	The students are able to find out the main idea of descriptive text.	3, 8, 11, 16, 21	5
2.	The students are able to find out information of descriptive text.	1, 6, 15, 19, 22	5
3.	The students are able to identify the meaning of words in the descriptive text.	4, 7, 12, 18, 24	5
4.	The students are able to identify language features of the descriptive.	5, 10, 14, 20, 23	5
5.	The students are able to make inference the text read.	2, 9, 13, 17, 25	5
	Total		25 Items

After trying out the test, the writer finally could make the pre-test and gave the experiment class six meetings for the treatment then in the last meeting the writer gave post-test by omitting the items invalid. The blue print of reading comprehension after the test was tried out can be seen in the table below.

Table III.5
Blue Print of Reading Comprehension (Pre and Post-Test)

No.	Indicators	Question Number (Pre-Test)	Question Number (Post-Test)
1.	The students are able to find out the main idea of descriptive text.	3, 8, 11, 16	3, 6, 13, 16
2.	The students are able to find out information of descriptive text.	1, 6, 15, 19	1, 10, 11, 19
3.	The students are able to identify the meaning of words in the descriptive text.	4, 7, 12, 18	2, 7, 14, 18
4.	The students are able to identify language features of the descriptive.	5, 10, 14, 20	5, 9, 15, 20
5.	The students are able to make inference the text read.	2, 9, 13, 17	4, 8, 12, 17
		20 Items	20 Items

After the students were administered the test, the writer took the total score from the result of the reading comprehension test. According to Arikunto (2013: 281), there are some categories to evaluate the students' comprehension in reading text. The students' score can be seen in the table below:

Table III.6
The Classification of Students' Score

The Score of Reading Comprehension Level	Categories
80-100	Very Good
66-79	Good
56-65	Enough
40-55	Less
30-39	Fail

(Arikunto. 2013 : 281)

F. **The Validity and Reliability of Test**

1. **Validity**

Before the test was given to the sample of this research, the writer tried out the test to 31 students. The purpose of try out was to obtain validity and reliability of the test. According to Arikunto (2009:245), the test is accepted if the degree of difficulty is between 0.30-0.70, it is determined by finding difficulty of each item. According to Heaton (1998: 178), the formula for item difficulty is as follows:

$$P = \frac{B}{JS}$$

In which:

P   : Index of difficulty

B   : The number of correct answer

JS   : The number of students

The difficulty level an item shows how easy or difficult a particular item in attest. The items that do not reach the standard level of difficulty are excluding from the test and they are changed with new items that are appropriate.

The standard level of difficulty used is in the middle of 0.30 to 0.70. It means that an item is accepted if the level difficulty between 0.30-0.70 and it rejected if the level difficulty is less than 0.30 and over than 0.70, the proportion of correct is represented by "q" the calculation of item difficulty can be seen from the following table:

Table III.7
Finding out the Main Idea in Descriptive Text

Variable	Finding out the Main Idea				N
Item No	3	8	11	16	
Correct	20	18	15	21	
P	0.64	0.58	0.48	0.67	**31**
Q	0.36	0.42	0.52	0.33	

Based on the table III.7 the proportion of correct answer for item number 3 shows the proportion of correct 0.64, the item number 8 shows the proportion of correct 0.58, item number of 11 shows the proportion correct 0.48, item number 16 shows the proportion correct 0.67. Based on the standard level of difficulty "p" is in the middle 0.30 to 0.70. It is pointed out that the item difficulties in average of each number for finding the main idea are accepted.

Table III.8
Finding out Information of Descriptive Text

Variable	Finding out Information				N
Item No	1	6	15	19	
Correct	13	11	14	16	
P	0.42	0.35	0.45	0.52	31
Q	0.58	0.65	0.55	0.48	

Based on the table III.8 the proportion of correct answer for item number 1 shows the proportion of correct 0.42, the item number 6 shows the proportion of correct 0.35, item number of 15 shows the proportion correct 0.45, item number 19 shows the proportion correct 0.52. Based on the standard level of difficulty "p" is in the middle 0.30 to 0.70. It is pointed out that the item difficulties in average of each number for finding out information are accepted.

Table III.9
Identifying Meaning of the Words in Descriptive Text

Variable	Identifying Meaning of the Words				N
Item No	4	7	12	18	
Correct	15	20	12	13	
P	0.48	0.64	0.39	0.42	31
Q	0.52	0.36	0.61	0.58	

Based on the table III.9 the proportion of correct answer for item number 4 shows the proportion of correct 0.48, the item number 7 shows the proportion of correct 0.64, item number of 12 shows the proportion correct 0.39, item number 18 shows the proportion correct 0.42. Based on the standard level of difficulty "p" is in the middle 0.30 to 0.70. It is

pointed out that the item difficulties in average of each number for identifying meaning of the words are accepted.

Table III.10
Identifying Language Features of Descriptive Text

Variable	Identifying Language Features				N
Item No	5	10	14	20	
Correct	17	14	11	13	
P	0.55	0.45	0.35	0.42	31
Q	0.45	0.55	0.65	0.58	

Based on the table III.10 the proportion of correct answer for item number 5 shows the proportion of correct 0.55, the item number 10 shows the proportion of correct 0.45, item number of 14 shows the proportion correct 0.35, item number 20 shows the proportion correct 0.42. Based on the standard level of difficulty "p" is in the middle 0.30 to 0.70. It is pointed out that the item difficulties in average of each number for identifying language features are accepted.

Table III.11
Making the Inference of Descriptive Text

Variable	Making the Inference				N
Item No	2	9	13	17	
Correct	19	13	15	16	
P	0.61	0.42	0.48	0.52	31
Q	0.39	0.58	0.52	0.48	

Based on the table III.11 the proportion of correct answer for item number 2 shows the proportion of correct 0.61, the item number 9 shows the proportion of correct 0.42, item number of 13 shows the proportion correct 0.48, item number 17 shows the proportion correct 0.52. Based on the standard level of difficulty "p" is in the middle 0.30 to 0.70. It is

pointed out that the item difficulties in average of each number for making the inference are accepted.

2. Reliability

The good quality of instrument is determined by the instrument reliability. Gay and Airisian (2000: 169) said reliability is the degree to which a test consistently measure whatever it measures. In accordance with Brown (2003: 20), a reliable test is consistent and dependable. Thus, the testing of students' comprehension in reading narrative text should have reliability in order to get the same score obtained when the tests done were more than once. The reliability of the test was processed by using Kuder and Richardson (K-R 20) formula (Siregar, 2012:110). He also stated that one of criteria of instrument reliability is when the result of reliability $(r_{II}) \geq 0.7$, the research instruments is reliable.

$$r_{II} = \left(\frac{k}{k-1}\right)\left(\frac{V_t - \sum pq}{V_t}\right)$$

Where: r_{ii} = instrument reliability

k = the number of items

V_t = total variance

$\sum pq$ = the multiplication result between p and q

Before counting the reliability, firstly, the writer calculated the total variance:

$$V_t = \sum \frac{(X_i - \bar{X})}{n-1}$$

Where: X_i = total score

$\bar{X}$ = mean of total score

n = number of respondent

$$V_t = \sum \frac{X_i - \bar{X}}{n-1}$$

$$= \sum \frac{1584 - 51.10}{31 - 1} \quad = \sum \frac{1532.90}{30}$$

$$= 51.10$$

$$r_{ii} = \left(\frac{k}{k-1}\right)\left(\frac{V_t - \sum pq}{V_t}\right) = \left(\frac{25}{25-1}\right)\left(\frac{51.10 - 5.52}{51.10}\right)$$

$$= \left(\frac{25}{24}\right)\left(\frac{45.58}{51.10}\right)$$

$$= (1.04)(0.89) \quad = 0.92$$

Based on the result above, it can be concluded that the reliability was high.

3. **Normality of the Test**

In order to know whether the data had normal distribution or not, the writer used Kolmogorof-Smirnov method as the formula to analyze the data. In this research, the writer analyzed the data by using SPSS (Statistical Product and Service Solutions) 18 version program. The SPSS result for Kolmogorov-Smirnov Z test would be interpreted as follows (Pallant, 2005: 57):

p-value (Sig.) > 0.05 = the data is in normal distribution

p-value (Sig.) < 0.05 = the data is not in normal distribution

The result of normality of pre and post test scores was computed by using SPSS 18 version. It was presented in the following table:

Table III.12

The Result of Normality

One-Sample Kolmogorov-Smirnov Test

		Pretest	Posttest
N		24	24
Normal Parameters[a,b]	Mean	56,46	78,33
	Std. Deviation	11,178	5,247
Most Extreme	Absolute	,167	,237
Differences	Positive	,167	,237
	Negative	-,115	-,221
Kolmogorov-Smirnov Z		,820	1,163
Asymp. Sig. (2-tailed)		,512	,134

a. Test distribution is Normal.

b. Calculated from data.

From the table III.12 above the value (asymp.sig 2-tailed) in pretest and posttest are 0.512 and 0.134 higher than 0.05. It can be concluded that the test distribution is normal.

G. Technique of Data Analysis

In order to get students' individual score, the writer analyzed the data by using T-test formula in form of Paired or Dependent Sample T-Test. According to Gay (2000: 488), Paired or dependent sample T- test is used to compare a single group's performance on a pre- test and post-test in experimental class. Meanwhile, the writer had analyzed the collected data by using statistic software SPSS Version 18. The result of the test analysis could be seen in SPSS output.