## CHAPTER III

## METHOD OF THE RESEARCH

## A. The Research Design

The type of this research was an experimental research. According to Creswell (2008:299) 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, nonequivalent group design. Thus, this research used experimental and control group. Gay, L.R and Peter Airasian (2000: 389) stated that Quasi-experiment is a research design having some but not all of the characteristics of a true experiment. The element most frequently missing is random assignment of subjects to the control and experimental conditions. The design of the research was pretest and posttest design, which used two groups as a sample.

In conducting this research, two classes of eight grade of students at State Junior High School 23 Pekanbaru were participated in. One class was an experimental and the other was a control class. The students were by given pre-test at the beginning in order to know their abilities in vocabulary mastery. After that they were given the treatment in the middle.At the end, they were given post-test. The pretest and posttest results were compared in order to determine the effect of the treatment. According to Creswell (2012: 310), the quasi-experimental design: the pretest-post-test, non-equivalent group design can be presented as follows:

Table III. 1
The Research Design

| Group | Pre-Test | Treatment | Post-Test |
| :---: | :---: | :---: | :---: |
| Experimental | O1 | X | O 2 |
| Control | O3 | - | O4 |

Where:

$$
\begin{array}{ll}
\mathrm{O} 1 & =\text { Pre-test in experimental group } \\
\mathrm{O} 2 & =\text { Post-test in experimental group } \\
\mathrm{X} & =\text { Treatment }
\end{array}
$$

## B. Location and Time of the Research

The location of this research is at the State Junior High School 23
Pekanbaru. This research was be conducted from August to September 2016.

## C. The Subject and Object of the Research

1. The subject of the research

The subject of this research was the eighth grade students at State Junior High School 23 Pekanbaru, in the academic year of 2015/2016.
2. The object of the research

The object of this research was List-Group-Label strategy and vocabulary mastery.

## D. The Population and Sample of the Research

The population of the research was the eighth grade students at State Junior High School 23 Pekanbaru. They consisted of nine classes. The total number of population was 360 students. The specification of the population can be seen in the table III. 2 below:

TableIII. 2
Total Population of the Eight Grade Students at State Junior High School 23 Pekanbaru

| No | Classes | Population |  | Total |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Female | Male |  |
| 1 | VIII A | 17 | 23 | 40 |
| 2 | VIII B | 24 | 16 | 40 |
| 3 | VIII C | 22 | 18 | 40 |
| 4 | VIII D | 19 | 21 | 40 |
| 5 | VIII E | 19 | 21 | 40 |
| 6 | VIII F | 23 | 17 | 40 |
| 7 | VIII G | 20 | 20 | 40 |
| 8 | VIII H | 18 | 22 | 40 |
| 9 | VIII I | 18 | 22 | 40 |
| Total Population |  |  |  | 360 |

Considering that the population was large, thus, the researcher picked up the sample of the population. The researcher used cluster random sampling technique in determining the sample of the research. According to Gay and Petter Airasian (2000:389), cluster sampling is sampling in which group, not
individually; it can be communities, school district, and so on. The researcher gave name card to the classes based on every eight grade class in State Junior High School 23 Pekanbaru, they were VIII A, VIII B, VIII C, VIII D, VIII E, VIII F, VIII G, VIII Hand VIII I. The researcher mixed these cards then took two cards randomly as the sample of the research. The chosen classes were VIII D and VIII E. Class VIII E was an experimental class, and class VIII D was a control class. So the total number of sample was 80 students. The spesification of the research sample can be seen in the table below:

Table III. 3
Total Sample of the Eight Grade Students at State Junior High School 23 Pekanbaru

| No | Classes | Sample |  | Total |
| :--- | :---: | :---: | :---: | :---: |
|  |  | Female | Male |  |
| 1 | VIIID | 17 | 23 | 40 |
| 2 | VIIIE | 24 | 16 | 40 |
| Total Sample |  |  |  | 80 |

## E. The Technique of Data Collecting

In this research, the writer used an observation and a test to collect the data. The observation was done in purposing of getting the data about the implementation List, Group, label strategy on students' vocabulary mastery. Then, the observational list can be seen in the table below:

Table III. 4
The Observational List of Using List, Group, Label Strategy on Students' Vocabulary Mastery

| No | Procedures | Alternative <br> Answers |  |
| :---: | :--- | :---: | :---: |
|  | Yes | No |  |
| 1 | The teacher introduces the selected topic to students. |  |  |
| 2 | The teacher asks students to brainstorm words related to the topic. |  |  |
| 3 | The teacher records the words in a manner that can be displayed <br> to everyone. |  |  |
| 4 | The teacher asks students to individually determine ways the <br> words that can be grouped together. |  |  |
| 5 | The teacher explains that they will be asked to share their reasons <br> for the grouping with classmates. |  |  |
| 6 | The teacher places students in groups of two to four. |  |  |
| 7 | The teacher asks them to review the words. They should reach <br> consensus as to how best to place the words into groupings. |  |  |
| 8 | The teacher instructs students to label each listing of words, and <br> indicate how the words are related. |  |  |
| 9 | After categories and labels have been assigned, the teacher <br> facilitates a class discussion of the terms and words. |  |  |
| 10 | The teacher directs students to read the assignment. |  |  |

Therefore, the English teacher observed the writer for four meetings in experimental class. It could be described in the tables presenting frequency distribution of each observation. Furthermore, the writer used the following formula to get the percentage of the observation (Sudijono, 2007: 43):

$$
P=\frac{F}{N} \times 100 \%
$$

Where: P : Percentage
F : Frequency of the score
N : Number of Case

Then, the test was used to find out the students' vocabulary mastery. The test that was given was multiple choice questions. The data of this research were the score of the students' vocabulary mastery obtained by using test. As stated by Brown (2007: 3) test means that a method of measuring of a person's ability, knowledge or performance in given domain. In this research, test was divided into two ways, the pre-test was given at the beginning of the research or before the treatment. Whereas, post-test was given at the end of the research or after the treatment conducted.

Before doing pre-test and post-test in experimental and control class, the questions were given to the class chosen as try-out class in order to check whether the test is valid and reliable or not in the questions that were used as instrument.

The blueprint that was used in test could be seen as follows:
Table III. 5
The Blue Print of Vocabulary Test

| No | Indicators | Items Of Number |
| :---: | :--- | :---: |
| 1. | The students' ability to know the meaning <br> of word. | $5,10,15,20$ |
| 2. | The students' ability to spell the spelling <br> of word correctly in English. | $3,8,13,18$ |
| 3. | The students' ability to determine the <br> synonym or antonym of the word. | $1,6,11,16$ |
| 4. | The students' ability to use good word <br> grammatically. | $2,7,12,17$ |
| 5. | The students' ability to know about the <br> word formation of word (noun, verb, <br> adverb, adjective). | $4,9,14,19$ |

Then, the researcher took the total score from the result of the vocabulary mastery test. KKM (standard passing grade) for English subject is 75 at State Junior High School Pekanbaru. Based on Arikunto (2009:245), the interpretation of students score is classified as follows:

Table III. 6 The Classification of Students Score

| THE SCORE LEVEL | CATEGORY |
| :---: | :---: |
| $80-100$ | VERY GOOD |
| $66-79$ | GOOD |
| $56-65$ | ENOUGH |
| $40-55$ | LESS |
| $30-39$ | FAIL |

## F. Validity and Reliability

The quality of instrument is very crucial. It should be valid and reliable. Thus, the writer used a number of procedures to measure the instrument use.

## 1. Validity of the Instrument

Every test, whether it is short, informal classroom test or a public examination should be as valid as the test constructor can make it. The test aims at providing a true measure of the particular skill in which it is intended to measure. Brown (2003: 3) stated that a test is a method of measuring a person's ability, knowledge, or performance in a given domain. The purpose of try out is to obtain validity and reliability of the test.

According to Sugiyono (2013: 352), there are three kinds of validity, namely Construct Validity, Content Validity, and External Validity. Here the researcher used content validity to compare between content of instrument and material taught. Hughes (2003: 26) states that a test is said to have content validity if its content constitutes a representative sample of the language skills, structure, etc. with which it is meant to be concerned. According to Arikunto (2009: 209), the formula for item of difficulty is as follows:

$$
\mathbf{P}=\frac{\mathbf{B}}{\mathbf{J S}}
$$

Where:
P : Index of difficulty or facility value
B : the number of correct answers
JS : the number of examines or students taking the test
The formula above is used to find out easy or difficult test items that researcher gives to the respondents. Arikunto (2009: 209) also added the standard value of the proportion of correct can be seen in the table below:

Table III. 7
Index Difficulty Level of Instruments

| Proportion correct (p) | Item category |
| :--- | :--- |
| $\mathrm{P}>0.70$ | Easy |
| $0.30 \leq \mathrm{P} \leq 0.70$ | Average |
| $\mathrm{P}<0.30$ | Difficult |

p : The proportion of the students making correct answers divided by the total number of the students
q : The proportion of the students making incorrect answers divided by the total number of the students.

The facility value under 0.30 is considered difficult and above 0.70 is considered easy. The items categorized in the level of easy or difficult ( $\mathrm{p}<0.30$ or $\mathrm{p}>0.70$ ) should be modified. Therefore, the standard value of the proportion of correct is between 0.30 and 0.70 .

TABLE III. 8 The Students' Ability To Know The Meaning Of Word.

| Variable | Ability To Know The Meaning Of Word |  |  | N |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item no. | 5 | 10 | 15 | 20 |  |
| Correct | 16 | 16 | 20 | 23 | 40 |
| P | $\mathbf{0 . 4 0}$ | $\mathbf{0 . 4 0}$ | $\mathbf{0 . 5 0}$ | $\mathbf{0 . 5 8}$ |  |
| Q | 0.60 | 0.60 | 0.50 | 0.43 |  |

Based on the table III.8, the proportion of correct answer for item number $\mathbf{5}$ shows the proportion of correct $\mathbf{0 . 4 0}$, item number $\mathbf{1 0}$ shows the proportion of correct $\mathbf{0 . 4 0}$, item number $\mathbf{1 5}$ shows the proportion of correct $\mathbf{0 . 5 0}$, and item number $\mathbf{1 6}$ shows the proportion of correct 0.58. Based on the standard level of difficulty "p" $<0.30$ and $>0.70$, it is pointed out that item difficulties in average of each item number to know the meaning of word are accepted.

TABLE III. 9
The Students' Ability To Spell The Spelling
Of Word Correctly In English.

| Variable | Ability To Spell The Spelling Of Word Correctly |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| Item no. | 3 | 8 | 13 | 18 |  |
| Correct | 18 | 23 | 15 | 21 | 40 |
| P | $\mathbf{0 . 4 5}$ | $\mathbf{0 . 5 8}$ | $\mathbf{0 . 3 8}$ | $\mathbf{0 . 5 3}$ |  |
| Q | 0.55 | 0.43 | 0.63 | 0.48 |  |

Based on the table III.9, the proportion of correct answer for item number $\mathbf{3}$ shows the proportion of correct $\mathbf{0 . 4 5}$, item number $\mathbf{8}$ shows the proportion of correct $\mathbf{0 . 5 8}$, item number $\mathbf{1 3}$ shows the proportion of correct $\mathbf{0 . 3 8}$, and item number $\mathbf{1 8}$ shows the proportion of correct 0.53. Based on the standard level of difficulty "p" $<0.30$ and $>0.70$, it is pointed out that item difficulties in average of each item number to spell the spelling of word correctly in English are accepted.

TABLE III. 10
The Students' Ability To Determine The Synonym Or Antonym Of The Word.

| Variable | Ability to Determine The Synonym Or Antonym |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 11 |  |  |  |  |
| Item no. | 1 | 6 | 11 |  |  |
| Correct | 26 | 16 | 19 | 23 | 40 |
| P | $\mathbf{0 . 6 3}$ | $\mathbf{0 . 4 0}$ | $\mathbf{0 . 4 8}$ | $\mathbf{0 . 5 8}$ |  |
| Q | 0.38 | 0.60 | 0.53 | 0.43 |  |

Based on the table III.10, the proportion of correct answer for item number $\mathbf{1}$ shows the proportion of correct $\mathbf{0 . 6 3}$, item number $\mathbf{6}$ shows the proportion of correct $\mathbf{0 . 4 0}$, item number 11shows the proportion of correct $\mathbf{0 . 4 8}$, and item number $\mathbf{1 6}$ shows the proportion of correct 0.58. Based on the standard level of difficulty "p" $<0.30$ and $>0.70$, it is pointed out that item difficulties in average of each item number to determine the synonym or antonym of the word are accepted.

TABLE III. 11
The Students' Ability To Use Good Word Grammatically

| Variable | Ability To Use Good Word Grammatically |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Item no. | 2 | 7 | 12 | 17 |  |
| Correct | 25 | 16 | 23 | 23 | 40 |
| P | $\mathbf{0 . 6 3}$ | $\mathbf{0 . 4 0}$ | $\mathbf{0 . 5 8}$ | $\mathbf{0 . 5 8}$ |  |
| Q | 0.38 | 0.60 | 0.43 | 0.43 |  |

Based on the table III.11, the proportion of correct answer for item number $\mathbf{2}$ shows the proportion of correct $\mathbf{0 . 6 3}$, item number $\mathbf{7}$ shows the proportion of correct $\mathbf{0 . 4 0}$, item number $\mathbf{1 2}$ shows the proportion of correct $\mathbf{0 . 5 8}$, and item number $\mathbf{1 7}$ shows the proportion of correct 0.58. Based on the standard level of difficulty "p" $<0.30$ and $>0.70$, it is pointed out that item difficulties in average of each item number to use good word grammatically are accepted.

TABLE III. 12
The Students' Ability To Know About The Word Formation Of Word

| Variable | Ability To Know About The Word Formation Of |  |  |  | N |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Word |  |  |  |  |  |
| Item no. | 4 | 9 | 14 | 19 |  |
| Correct | 15 | 23 | 22 | 20 | 40 |
| P | $\mathbf{0 . 3 8}$ | $\mathbf{0 . 5 8}$ | $\mathbf{0 . 5 5}$ | $\mathbf{0 . 5 0}$ |  |
| Q | 0.63 | 0.43 | 0.45 | 0.50 |  |

Based on the table III.12, the proportion of correct answer for item number 4shows the proportion of correct $\mathbf{0 . 3 8}$, item number 9shows the proportion of correct $\mathbf{0 . 5 8}$, item number 14shows the proportion of correct $\mathbf{0 . 5 5}$, and item number $\mathbf{1 9}$ shows the proportion of correct $\mathbf{0 . 5 0}$. Based on the standard level of difficulty "p" $<0.30$ and $>0.70$, it is pointed out that item difficulties in average of each items number to know about the word formation of word are accepted.

## 2. Reliability of the Instrument

Reliability is the other important thing in measuring the instrument. Brown (2003: 20) has stated that a reliable test is consistent and dependable. Reliability is used to measure the quality of the tests score and a test is consistent. It focuses on how many
items are given to respondents. Reliability is related to validity. Even validity is more important, but it supports the validity.

Heaton (1988:16) states that the reliability of the test is considered as follows:

1. $\mathbf{0 . 0} \mathbf{- 0 . 2 0}=$ Reliability is low
2. $\mathbf{0 . 2 1} \mathbf{- 0 . 4 0}=$ Reliability is sufficient
3. $0.41-\mathbf{0 . 7 0}=$ Reliability is high
4. $\mathbf{0 . 7 1} \mathbf{- 1 . 0}=$ Reliability is very high

To obtain the reliability of the test given, the researcher used SPSS 16.00 to find out whether the test was reliable or not.

Table III. 13
Case Processing Summary

|  |  |  |  |  | N | $\%$ |
| :--- | :--- | ---: | ---: | :---: | :---: | :---: |
| Cases | Valid | 40 | 100.0 |  |  |  |
|  | Excluded $^{\mathrm{a}}$ | 0 | .0 |  |  |  |
|  | Total | 40 | 100.0 |  |  |  |

a. Listwise deletion based on all variables in the procedure.

## Table III. 14

## Reliability Statistics

| Cronbach's <br> Alpha | N of Items |
| :---: | ---: |
| .886 | 2 |

From the table III. 14 above, it can be seen that the value of Cronbach's Alpha is 0.886 . From level above, it can be said that reliability was accepted which was $0.71<0.886<1.0$ or higher than 0.71 and lower than 1.0. It also can be stated that reliability is very high.

## G. The Technique of Data Analysis

1. Normality of the test

Assessing normality of data is used to describe a symmetrical, bell shaped curve, which has the greatest frequency of score in the middle with smaller frequency towards the extremes. In this research, the researcher assessed the normality of data by using Kolmogorov Simonov test from SPSS 16 version. The result of the test can be seen as follows:

Table III. 15
One-Sample Kolmogorov-Smirnov Test

|  |  | pretest | posttest |
| :---: | :---: | :---: | :---: |
| N |  | 40 | 40 |
| Normal Parameters ${ }^{\text {a }}$ | Mean | 54.0000 | 78.2500 |
|  | Std. Deviation | 1.18862 E | 8.12956 |
| Most Extreme | Absolute | . 151 | . 170 |
| Differences | Positive | . 151 | . 130 |
|  | Negative | -. 119 | -. 170 |
| Kolmogorov-Smirnov Z |  | . 952 | 1.073 |
| Asymp. Sig. (2-tailed) |  | . 325 | . 200 |
| a. Test distribution is Normal. |  |  |  |
|  |  |  |  |

From the table III. 15 above, the value (asymp.sig 2-tailed) in pretest and posttest are 0.325 and 0.200 higher than 0.05 . It can be concluded that the test distribution is normal.
2. Independent sample t-test

To find out whether there is a significant difference or there is no significant effect between two or more variables can be analyzed by using independent sample t-test. Gay and Airasian (2000: 484) adds that the $t$-test for independent sample is used to determine whether there is probably a significant effect between the means of two independent samples. Independent sample t-test was used to find out the results of the first and second hypotheses. They are as follows:
a. To find out whether there is a significant effect of students' vocabulary mastery before giving the treatment by using List, Group, Label Strategy for experimental class and non-treatment for control class.
b. To find out whether there is a significant effect of students' vocabulary mastery after giving the treatment by using List, Group, Label Strategy for experimental class and non-treatment for control class.
3. To analyze the final-test scores of the experimental group and control group. The $t$-table had the function to see if there is a significant effect among the mean of the score of both experimental and control groups. The $t$-obtained value is consulted with the value of $t$-table at the degree of freedom $(\mathrm{df})=(\mathrm{N} 1+\mathrm{N} 2)-2$ which is statistically hypothesis:
$H_{a}: t_{0}>t$-table
$H_{0}: t_{0}<t$-table
$\quad H_{a}$ is accepted if $t_{0}>t$-table or there is effect after giving the
treatment using List, Group, Label Strategy on students' vocabulary
mastery.
$H_{0}$ is accepted if $t_{0}<t$-table or there is no effect after giving the treatment using List, Group, Label Strategy on students' vocabulary mastery.
4. Paired sample $t$-test or Non-independent Sample $t$-test

Non-independent sample t-test is known also as paired-sample ttest. The researcher used this formula to obtain the result of the three hypotheses. It was used to find out whether there is significant effect of using List, Group, Label Strategy on students' vocabulary mastery of the eight grade at State Junior High School 23 Pekanbaru. Gay (2000: 488) stated that t -test for non independent samples is used to compare groups that are formed by some types of matching or to compare a single groups' performance on a pre- and post-test or on two different treatments.

In pre-test and post-test score of the experimental class was used in order to find the significant effect of using List, Group, Label Strategy on students' vocabulary mastery of the eight grade at State Junior High School 23 Pekanbaru. To obtain the data, the write used SPSS 16.0.

The t -table has the function to see if there is a significant effect among the means of the score of both pre-test and post-test. The tobtained value is consulted with the value of t-table at the degree of freedom $(\mathrm{df})=\mathrm{N}-1$ which is statistically hypothesis:

Ha: $\mathrm{t}_{\mathrm{o}}>\mathrm{t}$-table
$\mathrm{H}_{0}$ : $\mathrm{t}_{\mathrm{o}}<\mathrm{t}$-table
Ha is accepted if to $>\mathrm{t}$-table or there is significant effect after giving the treatment usingList, Group, Label Strategy on students' vocabulary mastery.

Ho is accepted if to < t-table or there is no significant effect after giving treatment using List, Group, Label Strategy on students’ vocabulary mastery.

Afterwards, it is better to find the magnitude of the effect. One way to do this is that calculating the effect size statistic. According to Cohen in Cohen (2007: 522), said that the effect size is a measure of the effectiveness of the treatment. The formula is as follows:

$$
\text { Eta squared }=\frac{\mathrm{t}^{2}}{\mathrm{t}^{2}+(\mathrm{N}-1)}
$$

Where: t : value of t test
$\mathrm{N} \quad$ : number of students

Then, according to Cohen (1988 in pallant, 2005:209). The guidlines for interpreting the value of eta sequare are as follow:

## Table III. 16 Effect Size Guidelines

| $0.01=$ Small Effect |
| :---: |
| $0.06=$ Moderate Effect |
| $0.14=$ Large Effect |

