CHAPTER III
METHODOLOGY OF RESEARCH

This chapter explains about the method of this research, the design of the research, technique of collect the data, how to analyzed the data, testing hypothesis and the hypothesis verification

3.1 Method of Research

This research use Quantitative method. This method is used to find out the influence of whispering game to the students’ vocabulary.

3.2 Population and Sample

The population of this research was all the students in SD Negeri 96 Sipatana Kota Gorontalo. There were 143 students. The sample of this research was in third grade which consist of 19 students. In the taking of sample, I used purposive sampling. Purposive sampling is taking of subject as sampling not based on the stratum, random or territory but based on some purposes (Sugiyono, 2009: 85). I chose third grade in elementary and used this sampling because the students in this class still powerless in memorizing the words.

3.3 Design of Research

This research used pre-experimental design. Based on Arikunto (2009: 207) there are two kinds of experimental design. They are pre-experimental and true experimental. In the pre-experimental is the experiments that consist of three kinds there are One-Shot Case Study, One group Pretest Posttest design and Intact-Group Comparison. This research used one group pre-test posttest design. These design consist of pre-test, treatment, and post test.
(Arikunto, 2009: 212) state that the form of this method is as follow:

![Figure 1. The Design of Research](image)

Note:

- $O_1$ : Pre-Test
- $X$ : Treatment
- $O_2$ : Post-Test

There are three steps that conducted, they are as follow:

a. **Pre-Test**

In pre-test section, I used 30 items. The pre-test was given before the treatment. In this section, I used missing letter test to know the students’ basic vocabulary.

b. **Treatment**

In the treatment, I gave instruction to played whispering game to the students to mastering their vocabulary. It was useful and meaningful because the students enjoy, relax and understand the materials as long as the learning process. Also automatically the students also learn more about vocabulary.

c. **Post-Test**

After the treatment, I gave post-test to the students. The test in this part is same with in the pre-test composition. It is consist of 30 items. The goal of this
test is to know whether playing whispering game in teaching vocabulary can increase the students' vocabulary or not.

3.4 Variable of Research

Variable X is independent variable. In this case, variable X of this research is whispering game. Whispering game is the technique that can be used in teaching learning process. Actually to increase students vocabulary, it because whispering game can make the students more enjoy the learning process, also the students more easy understand the materials. And relation with this research, I used whispering game to increase students’ vocabulary.

Variable Y is dependent variable. Variable Y of this research is students' vocabulary. Students’ vocabulary means that how much the students know their level of their knowledge about vocabulary. The students must know more about vocabulary even in written or pronounce the words.

3.5 Technique of collecting the data

Data collecting of this research is test. The test instrument is missing letter test. Firstly, I gave the test to the students in SDN 97 Sipatana Kota Goronalo at the third grade. The total items are consist of 40 items. Then the result of the test analyzed quantitatively to know whether the test which valid or invalid. Then the valid test I gave to the students in pre-test and post-test. The students is the third grade in SDN 96 Sipatana Kota Gorontalo who is the object of this research.

3.5.1 Validity Testing

Sugiyono, (2009: 121) states, “Validity of an instrument is used to measure what was really to measure”. An instrument is valid if it has a high validity and on
the contrary an instrument is not valid if it has low validity. Testing validity was happened before I gave the test in the pre-test and in post-test. The test was missing letter form. The test items were about part of body, fruits and vegetables, animals and things. All the material have been taught in eight meetings. The validity test is consist of 40 items which I gave as try out. Then in fact just 30 items which valid and 10 items is invalid. There are number 6, 8, 10, 13, 19, 20, 21, 27, 32 and number 33. Those items were not valid because most of the students can answer well the question and it can show that the students know well the words. Number 21 is invalid because only 6 students can answer the test, then number 19 and 32 were invalid because most of the students can answer the test well. And for number 6, 8, 10, 13, 21, 27, and 33 also invalid because the items test were not balanced between total students answer (X), total answer by each students (Y) and the total of students answer times each answer by the students (XY).

The test which valid I gave in the pre-test and post-test. That test I gave to the object research students.

In testing validity of instrument, I used the correlation of the product moment by Pearson as follows:

\[ r_{xy} = \frac{N\sum{XY} - (\sum{X})(\sum{Y})}{\sqrt{N\sum{X}^2 - (\sum{X})^2}(N\sum{Y}^2 - (\sum{Y})^2)} \]
3.5.2 Reliability Testing

Sugiyono (2009: 130) states that “reliability refers to an understanding that an instrument is really accurate to be used as the instrument in collecting the data because that instrument has been good”. To test that instrument is reliable or not, I used Kudar and Richardson (K-R.21) formula. The formula is:

\[ r_{11} = \frac{K - \frac{1}{M} \sum x \sum x^2 - S_t}{1 - \frac{1}{M} \sum x^2} \]

Where:
\[ r_{11} = \text{Instrument Reliability} \]
\[ K = \text{Amount of item / Question} \]
\[ M = \text{Average from All Question} \]
\[ S_t = \text{Total of Varian} \]

(Sugiyono, 2009: 132)

To determine whether the test was reliable or unreliable, I used criterion by Sugiyono (2009: 184)) as follows:

0.80 – 1.000 : Reliability degree is very high
0.60 – 0.799 : Reliability degree is high
0,40 – 0,599 : Reliability degree is medium
0,20 – 0,399 : Reliability degree is low
0,00 – 0,199 : Reliability degree is very low

3.6 Technique of Analyzing the Data

The data in this research analyzed quantitatively. The purpose of this formula was to measure students’ vocabulary before and after play whispering game.

3.6.1 The Normality Analysis of the Data

The normality analysis is intended to know whether the data is normal or not. In analyzing the data, the researcher uses Liliefors method with the real stage $\alpha = 0,05$ by the following procedures:

a. Observation $X_1, X_2, X_3, \ldots, X_n$ is becoming deviation $Z_1, Z_2, Z_3, \ldots, Z_n$ by using the formula as follows:

$$Z_i = \frac{X_i - \bar{X}}{S}$$

Where:

$Z_i$ : Standard of value

$\bar{X}$ : The average of total score

$S$ : total of score deviation

b. For each deviation will use distribution of normal and then will count the deviation by using the formula as follows:

$$F(Z_i) = P (Z \leq Z_i)$$
c. The next procedures will be counting proportion $Z_1, Z_2, Z_3, \ldots, Z_n$ which is small or similar with $Z_i$. If this proportion is $S(Z_i)$, so

$$S(Z_i) = \frac{\text{amount } Z_1, Z_2, Z_3, \ldots, Z_n \leq Z_i}{N}$$

d. Count the deviation of $F(Z_i) - S(Z_i)$ and then set the absolute value
e. Take the big value among the absolute value deviation, which is called as $L_0$
f. The criterion of analysis, the data is normal distribution if $L_0 \leq L_{tist}$

(Sudjana, 2002: 466-467)

3.6.2 Testing Hypothesis

Testing hypothesis is to determine whispering game can increase students’ vocabulary. The formula of t-test as follow:

$$t = \frac{\bar{X} - \mu_0}{s/\sqrt{n}}$$

$t$ = the value t count

$\bar{X}$ = the average of total score

$\mu_0$ = The standard value of hypothesis

$s$ = Standard Deviation

$N$ = total of sample

(Sugiyono, 2009: 178-179)

3.6.3 Hypothesis Verification

Hypothesis verification is very useful for to know the result of research are rejected or received. In verifying the hypothesis of this research, I used $dk = (n_i)$ and the level significance $\alpha = 0.05$ with criteria as follow:
Receive = Ho, IF \( t \leq (1 - 1/2 \alpha) \leq t \leq (1 - 1/2 \alpha) \)

Rejected = Ho, IF \( t \geq (1 - 1/2 \alpha) \geq t \geq (1 - 1/2 \alpha) \)

(Sudjana, 2002:239)