CHAPTER III

METHOLOGY OF THE RESEARCH

3.1 The Research Design

Considering data and the aims of research the researcher used quantitative method to conduct this study. The research design was applied pre-experimental method by using pre-test, treatment and post-test. It purpose to know whether using semaphore and sandi techniques can increasing the students' vocabulary. The design was presented as follows:

O1 X O2

Where :

O1 : Pre-test

X : Treatment

O2 : Post-test

3.2 Location and Duration of the Research

The research will be done at SMPN 4 Parepare for English subject and duration is 2 month.

3.3 Population and Sample

3.3.1 Population

The population of the research is the second year students of SMPN 4 Parepare academic year 2019/2020. Ramu, Rakit, and Terap the total of population.

Table 3.1 The total students of SMPN 4 Parepare

No	Golongan	Sex		Total
		Male	Female	
1	Ramu	5	9	14
2	Rakit	11	15	26
3	Terap	4	6	10
Total Number		20	30	50

(source: Administration of scout SMPN 4 Parepare)

3.3.2 Sample

The sample will be taken by purposive sampling. Based on population table above the number of rafts is 26 students. The teacher gave 20 students to be sampled in this research, because 6 students took part in the national Jamboree selection activity.

Table 3.2 The total sample of SMPN 4 Parepare

No	Sex		Total
	Male	Female	
	8	12	20

(source: Administration of scout SMPN 4 Parepare)

3.4 Instrument and Procedure of Collecting Data

3.4.1 **Instrument**

In this research the researcher applies test to instrument of this research

3.4.1.1 Test

The test is distributed to measure the students vocabulary. The test is divide into two test. They are pre-test give before treatment and post-test gave after doing the treatment. The type of the test graphic organizer that consist 15 numbers.

3.4.1.2 Questionnaires

Questionnaires were intended to find out the students responses in learning English vocabulary after giving treatment.

3.4.2 **Procedure of Collecting Data**

The procedures of collecting data as follow.

3.4.2.1 Pre-Test

Before giving the treatment, pre-test was administrate the students by giving them some vocabulary test. After giving the pre-test the next time the researcher was gave the students treatment.

3.4.2.2 Post-Test

After giving the treatment, the researcher was gave treatment to measure students vocabulary through simple semaphore and sandi techniques, the researcher was gave some test vocabulary. The research gave the same test in pre-test and post-test.

3.5 Treatment

The research begins to stimulate students to improve their vocabulary mastery by using flipchart media. In this case, the students describe the topic with picture. The treatment was conducted four meeting which speed 80 minutes each picture meeting. The steps in teaching vocabulary using semaphore and sandi techniques are described as follow:

1. The first meeting

a. The researcher gave greeting and motivating the students then explain about improve vocabulary using semaphore and sandi technique.

b. The researcher gave vocabulary about the researcher taught vocabulary by using semaphore and sandi techniques with the name family.

c. The researcher closed the class.

2. The second meeting.

a. The researcher gave vocabulary about the researcher taught vocabulary by using semaphore and sandi techniques with the name item in the scout.

b. The researcher closed the class.

3. The third meeting

a. The researcher gave vocabulary about the researcher taught vocabulary by using semaphore and sandi techniques with the name animals.

b. The researcher closed the class.

4. The fourth meeting

a. The researcher gave vocabulary about the researcher taught vocabulary by using semaphore and sandi techniques with the name part of body.

b. The researcher closed the class.

The teaching process spent time 80 minutes each meeting, the teaching process included gave meeting and motivation to students, the explanation about the materials, gave a test of vocabulary by using semaphore and sandi techniques and concluded the materials during the teaching process.

3.6 Technique of Data Analysis

Technique of data analysis in this research the researcher applied the test analyze quantitatively. This quantitative analysis employed statically calculation to test the hypothesis. Some formulas have been applied in this research to process the data follows.

1. Scoring the students correct answer of pre-test and post-test by using this formula:

$$\text{Level Achievement} = \frac{\text{Score of The Right Answer}}{\text{Total Score}} \text{ X } 100\ \%$$

Classifying the students' score in to the following criteria:

Table 3.3 Classification score

Score	Classification
80-100	Very Good
66-79	Good
56-65	Fair
40-55	Poor
< 39	Very Poor[1]

2. Calculating the frequency and percentage of the students

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

[1]Suharsimi Arkunto. *Dasar-dasar Evaluasi Pendidikan*. Edisirevisi (Jakarta: Bumi Aksara), p. 236.

Where:

P: Percentage

F: Frequency

N: Total Number of Sample[2]

3. Finding out the mean score of the students' pre-test and post-test using this formula:

$$\bar{X} = \frac{\sum x}{N}$$

Where:

$\bar{X}$ = mean score

$\sum x$ = the sum of the all score

N = total number of sample[3]

4. Finding out the standard deviation by using the following formula:

$$SD = \sqrt{\frac{\sum x^2 - \frac{(\sum x)^2}{N}}{N-1}}$$

Where :

SD = Standard deviation

$\sum x^2$ = The sum all square

N = The total number of students

$(\sum x)^2$ = The sum square of the sum of square[4]

[2]Gay.L.R. *Educational Research Competences for Analisis and Application. Second Edition* (Columbus: Charles E. Merill Publishing Company, 1981), p. 298.

[3]Suharsimi Arkunto. *Dasar-dasar Evaluasi Pendidikan*.Edisirevisi (Jakarta: BumiAksara), p. 298.

[4]Gay.L.R. *Educational Research Competences for Analisis and Application. Second Edition* (Columbus: Charles E. Merill Publishing Company, 1981), p. 298.

5. Finding the significant difference between the mean score pre-test and post-test by calculating the value of the test using the following.

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

Where:

D = The means score of different

$\sum D$ = The difference score of the two test (pre-test and post-test)

$\sum D^2$ = The sum of the differences score of the two tests

N = The total sample.[5]

3.7 To Analyze the Students' Interest the Researcher Gave the Questionnaire to the Students

The questionnaire of this research employs 15 questions which consist positive statements. The researcher used a liker scale that can be seen on the following table:

Table 3.4 liker scale

Positive statement score	Category	Negative statement score
5	Strongly agree	1
4	Agree	2
3	Undecided	3
2	Disagree	4
1	Strongly disagree	5[6]

If a respondent answer all the positive statements with strongly agree along with all the one who answers all the positive statements with strongly disagree along with all 5 negative ones with strongly agree get 10 score. So the mating score ranges

[5]Gay L.R. *Educational Research, Competencies for Analysis and Application second edition*, p. 331.

[6]Sugyono. *Metode Penelitian Pendidikan* (Bandung: Penerbit Alfabeta, 2010), p. 135.

from 10 to 15 (interval 40). Since the questionnaire employs 5 level/ category, the interval which all be used to determine the level/ category of respondents in 40:5 =8

According the rating score for each category ranges as shown in the table as follow :

Table 3.5 The rating score of interest category

Score	Category
43-50	Very interested
35-42	Interested
27-34	Undecided
19-26	Uninterested
10-18	Very uninterested

Table 3.6 The rating percentage of the students' interest score

Score	Category
81-100	Very strong
61-80	Strong
41-60	Enough
21-40	Low
0-20	Very low

The able above means that the student was said to have strongly interested if the mean score is 81 up to 100; they were said to have interested if the mean score is between 61-80; they said to have moderate interested if the mean score is between 41-60; they were said to have uninterested if the mean score 21- 40 and they were said to have strongly uninterested if the mean score between 0-20.[7]

[7]Ridwan, dkk. *Rumus dan Data Dalam Analisis Statika* (Bandung : Alfabeta. 2005), p. 245.

The calculating the rate percentage of the students' interest score:

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

Where:

P: Percentage

F: Frequency

N: Total Number of Sample[8]

[8]Gay.L.R. *Educational Research Competences for Analisis and Application. Second Edition* (Columbus: Charles E. Merill Publishing Company, 1981), p. 298.