CHAPTER III

Research Metodhology

3.1. Setting of the Research

The research is conducted in the second grade of SMPN 2 Bangsri Jepara. This school is located on Raya Jepara Bangsri street KM 05 Guyangan Bangsri Jepara. There are eight classes for eight grade and each class consist of 30 students. The researcher conducts this research in the second grade students of SMPN 2 Bangsri Jepara in the academic year 2018/2019.

3.2. Subject of the Research

In this research, the researcher discussed about the students' vocabularies such as noun, verb and adjectives. The population and samples as below :

3.2.1. Population

The population of this research is the eight grade students of SMPN 2 Bangsri. Actually, eight grade of SMPN 2 Bangsri consist of eight classes. They are VIII A, VIII B, VIII C, VIII D, VIII E, VIII F, VIII G, VIII H. Total numbers of eight grade students are 240.

3.2.2. Sample and Sampling Technique

The writer took the class VIII A and VIII F as the sample. The students of VIII A as the Experimental group and the students

of VIII F as the control group. Every class consist of 31 students which total number of the sample are 62 students.

The writer will use pretest-posttest control group design which there are two groups of randomly selected, then given a pretest to determine the initial state is there any difference between the experimental group and the control group. The design of the research as below :

R	O^1	X	O^2
R	O^3		O^4

Picture 1.3 Design of the Research (Mubarok, 2015 : 101)

Where,

R : Random sample as an Experimental group

R : Random sample as Control Group

O1 : Pretest for Experimental group

O2 : Post-test for Experimental group

O3 : Pretest for control group

O4 : post-Test for control group

X : Treatment Using Hangman Game

2.3 Instruments

Test was the instrument used in collecting the data of this research. The test was used to find out there was an effectiveness of using Hangman Game towards, the students' vocabulary mastery. The test was given in the begining and in the end of treatments. The test consist of pre-test, treatment, and post-test.

The indicator on the first material, the students would be able to mention things around us and the meaning correctly. The materials would use Hangman Game to help student improve their vocabularies.

This research used test as the instrument of the study to gather the data to know students' vocabulary mastery. The test in form of multiple choices consist of 15 questions. The tests were used to measures students' achievement and progress in their vocabularies.

The pre-test was given in the begining of collecting data. It was given to measure how far students' understand the English vocabulary. The test conducted in a class that students were not allowed to use any dictionary.

Table 1. 3
The Blue Print of The Questions

No	Indicators	Kind of Question	Questions' Number	Answer Key
1	The students are able to mention the verb apprropriate with sentence and	Multiple choice	1,2,3,4,5,6,7,8,9,10 ,15,18,19,20,22,23, 27,28,29,30	B,A.C,B,A,C B,C,C,B,A,D ,C,B,B,C,C,C ,A,D,A

No	Indicators	Kind of Question	Questions' Number	Answer Key
	subject.			
3	Students are able to mention adjectives appropriate with the text.	Multiple choice	11,12,13,14,17,21	C,A,B,C,C,A
4	Students are able to mention auxiliary verb(tobe) appropriate with the subject.	Multiple choice	24,25,26	A,A,A

3.4. Source of Data

The source of the data was primary and will be taken by the researcher.

Table 2.3
Data Source

No.	**Data**	**Source**	**sum of items**
1	try-out test	students	30 numbers
2	pre test	students	15 numbers
3	post test	students	15 numbers

3.5 Method of Data Collection

In this reseach, the writer used pretest-post test control group design. So, the pretest and post test have given for control group and experiment group to know the different between two groups. To provide more accurate data, photographs are also taken during the implementation of the research. The procedure of data collection as below :

Tabel 3.3
Procedures of Data Collection

No.	Activities	Activities							
		Agustus				September			
		1	2	3	4	1	2	3	4
1	Preparation								
3	Try-out								
5	pre-test for control Group								
7	Pre-test for Experimental group								
8	Post-test for Experimental group								
9	Post-test for Control group								
10	Data processing								
11	Report								

3.6 Method of Data Analysis

The tryout was given to the students to know the validity and reliability of test instrument and will be analyzed by the following formula :

1. Validity

   According to Arikunto (2013:211) validity is the degree to show the validity of test instrument. Test instrument is said valid

if can reveal the data from variable that researched appropriately

To examine the validitas of test instrument

$$r_{xy} = \frac{\sum xy}{\sqrt{(\sum x^2)((\sum y^2)}}$$

Where :

$X = X - \overline{X}$

$Y = Y - \overline{Y}$

Y = sum of individual score

X = sum of item's score

2. Reability

To show that instrument is believable to use as a cellecting data instrument K.R 21 (Arikunt0, 2013 : 232)

$$r_{11} = \left(\frac{K}{K-1}\right)\left(1 - \frac{M\,(k-M)}{KV_t}\right)$$

Where :

r_{11} = instrument reability

k = Sum of items

M = mean

V_t = varian of Sum score

3.7 Technique of Analyzing Data

After the researcher getting the students' score of vocabulary pre-test and post-test between experimental and control group, the researcher analyzes the data by using SPSS and also manual formula.

The formula of t-test is expressed as follows:

$$t = \frac{X_1 - X_2}{\sqrt{\left(\frac{SS_1 + SS_2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

Sukardi (2008: 90)

Where:

t = t-Value

X_1 = the average score of experimental class.

X_2 = the average score of control class.

SS_1 = standard deviation of experimental class

SS_2 = standard deviation of control class

n_1 = the number of students in the test in experimental class

In order to get the calculation of t-test, there are some of steps to be taken. The steps are:

a. Determining the average score of experimental class.

$$X_1 = \frac{\sum X_1}{n_1}$$

b. Determining the average score of control class.

$$X_2 = \frac{\sum X_2}{n_2}$$

c. Determining the standard deviation of experimental class.

$$SS_1 = \sum X_1^2 - \frac{(\sum X_1)^2}{n_1}$$

d. Determining the standard deviation of control class.

$$SS_2 = \sum X_2^2 - \frac{(\sum X_2)^2}{n_2}$$

e. Finding the t-value using t-test.

$$t = \frac{X_1 - X_2}{\sqrt{\left(\frac{SS_1 + SS_2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$