CHAPTER III

RESEARCH METHODOLOGY

3.1. Research Design

This study is a true experimental research. Sugiyono (2009:112-113) stated true experimental research is the researcher can control all external variables that affect the course of the experiment. Thus internal validity (the quality of the research design) can be high. The main characteristics of true experiment as well as the control group are taken randomly from certain populations. There are three variables in this study. There are independent variable (animation video & natural approach), and dependent variable (students' vocabulary mastery of eight grade students of Junior High School 1 Tahunan). Research design 'the randomized pretest-posttest Control Group Design' as follow:

Treatment Group is the group that receives an experimental procedure or a test sample. This group is exposed to changes in the independent variable being tested.

Control Group is a group separated from the rest of the experiment such that the independent variable being tested cannot influence the results.

Treatment group	**R**	**O**	**X**	**O**
Control group	**R**	**O**	**C**	**O**

R = Random

O = Post test

O = Pre test

X = Experiment/treatment group

C = Control group

(Fraenkel & Wallen, 2007:274, Sugiyono, 2009:113).

3.2. Population and Sample

Population is a generalization area consisting of: objects/subjects that have certain qualities and characteristics determined by researchers to be studied and then drawn conclusions Sugiyono (2009:117). It means that population has a very important role to help researchers in getting desired result.

The population of this research is the second year of students of SMP N 1 Tahunan. The number of the second year students of SMP N 1 Tahunan was 256 students. They were divided into eight classes' : VIII A, VIII B, VIII C, VIII D, VIII E, VIII F, VIII G, VIII H.

Table 2

The Total Population of this Research

No	Class	The Number of Students
1.	VIII A	32

2.	**VIII B**	**32**
3.	**VIII C**	**32**
4.	**VIII D**	**32**
5.	**VIII E**	**32**
6.	**VIII F**	**32**
7.	**VIII G**	**32**
8.	**VIII H**	**32**
TOTAL		**256**

Sample is part of the number and characteristic possessed by the population (Sugiyono 2008:118). Sample can also said that the sample is a small part take from a populations member based on a predetermined procedures so that, it can be used to represent the population. Samples are taken because the population is too much and it is very difficult if researchers study all of them. So, based on the statement above the writer take all of the population as the sample of this research.

In this research, the researcher was used the simple random sampling technique. According to Sugiyono (2015:120) stated that the sample random sampling is the technique of the sample from a random population without regard to strata in that population. Simple random sampling was used because the group, sample and population are taken randomly by the researcher.

English teacher suggest to conduct the research in VIII E and VIII F. The teacher said that class VIIII E and VIII F is easy to be handled so it will be easy for the researcher to do the research. The class VIII E consist of 32 students is an control class and VIII F consist of 32 students is a experimental class. The number of sample is 64 students. The researcher takes the sample 25% of population.

Table 3

The Calculating of the Sample

25% of the population =
(25 : 100) x 256 = 64

3.3. Instruments of Collecting Data

Instrument is a tool used to measure the natural and phenomena that observed (Sugiyono, 2008:148). In other word, instruments are designed tool that aid the collecion of data for the purpose of analysis. According to Widyoko (2016:113) said that by measuring the objective data will be obtained that is needed to assess student learning outcomes. In order to get some data needed to support this research, the writer applied the teachnique. The instrument used in this research is test. A test is a series of questions or exercises or other tools used to measure the skills, knowledge, intelligence, abilities, or talents of an individual or group (Arikunto, 1996). The researcher gives the oral test in pre-test and post-test. Pre-test is given to the students to measure their vocabulary skill before the treatment while the

post-test was given to the students to measure their vocabulary skill after getting the treatment. The test is given to the experimental and control class. The test that given to both is same.

3.4. Validity of the Instrument

Validity is related to accuracy with measuring instrument. Test as one of the learning outcomes can be said to be valid if the test can be measure learning outcomes that will be measured. With a valid test will produce valid data of learning outcomes (Widyoko, 2014). For example, if the test is supposed to measure the increasing vocabulary, so the test has to be in the form of vocabulary test. The validity can be known by this following equation:

$$rxy = \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{\{N\Sigma X^2 - (\Sigma X)^2\}\{N\Sigma Y^2 - (\Sigma Y)^2\}}}$$

Note:

X = item score

Y = total score

r_{xy} = correlation coefficient between variabel X and variable Y

(Widyoko, 2016:239)

3.5. Reability of the Instrument

Beside valid, test should be reliable. It means the test is consistent if tested many times (Widyoko, 2014). The equation of reliability can be known as follow:

$$r11 = \left(\frac{k}{k-1}\right)\left(1 - \frac{\Sigma\sigma_b^2}{\sigma_t^2}\right)$$

Note:

r11 = reliability of instrument

k = quantity of the questions

$\sum \sigma_b^2$ = total of variant item

σ_t^2 = variant total

(Widyoko, 2016:263-264)

3.6. Method of Data Collection

The procedure of collecting the data for experimental group can be seen as follows:

a. Pre-test

Pre-test is given to know the ability students' vocabulary. The pre-tes will be given with the aim to determine the students' vocabulary skill before the treatment. The pre-test will conduct in second semester of academic year of 2019/2020. The results of the pre-test will be used to compare the ability of students before and after treatment is given.

b. Treatment

The treatment will be conducted for experimental group through animation video that is applied for three meetings. The aim of giving treatment is to give effect or improve the students' ability. The activities that will be conducted by the researcher in experimental class and control class as follow:

Table 4

List of the Activities in the Treatment

Experimental Group	**Meeting 1:** • The teacher explains about narrative text • The students listen and pay attention to the teacher • The students observe animation video about big hero 6 and search for vocabulary in the video • The students read the vocabulary in front of the class
	Meeting 2: • The teacher plays an animation video about Cinderella • The students listen and pay attention to the teacher • The students create story by using their own words. • The students read story they have written.
	Meeting 3: • The teacher plays an animation video about Fox and A Cat

	• The students listen and pay attention to teacher • The students create story by using their own words • The students read story they have written
Control Group	**Meeting 1:** • The students understand the material by themselves by through teacher's guiding • The teacher gives the script of Big Hero 6 story to the student • The students observe about Big Hero 6 animation video and search for vocabulary in the video • The students read the vocabulary and read the meaning of the vocabulary in front of the class
	Meeting 2: • The students continue material • The teacher gives the script of Cinderella to the students • The students make summary about the story • The students present in front of the class

	Meeting 3: • The students continue material • The teacher gives the script of Fox and A Cat to the students • The students make summary about the story • The students present in front of the class

c. Post-test

Post-test is given at the last meeting after the students get the treatment in the post-test, the researcher will get the data of study result.

3.7. Method of Data Analysis

The data are analyzed using Quantitative analysis. In other words, the data analysis performed to analyze pre-test and post-test data: the objective of pre-testing to measure the initial score of vocabulary mastery, and the purpose of post-testing to measure the improvement of vocabulary mastery of students. Furthemore, the significance of the test is analyzed using Statistical Product and Service Solution (SPSS), the researcher uses one way ANOVA of analysis variance to find out the significant differences between calculating the pattern. ANOVA is one of the parametric tests that served to distinguish the average value of more than two groups of data by comparing the variations (Ghozali, 2009).