CHAPTER III

RESEARCH METHODOLOGY

3.1. Research Design

The method used in this research is quantitative method. Quantitative research is research collecting data using statistical data calculations. The design in this quantitative method is a research with experimental design. This study analyzes the effect of the independent variable and the dependent variable. The dependent variable is the experimental research class that gets treatment from the research. In this study, the writer wanted to see whether the treatment will be significant or not. There is a pre-test and post-test to measure students' abilities. There are two classes in this research, namely the experimental class and the control class. The experimental class was treated by using to the method to be taught and the control class used conventional methods. This study aims to determine the effect of using the Example non Example learning model on vocabulary mastery of class VII students of SMP Al-Washliyah Sukoharjo Medan.

Table 3.1 Research Design

Pre-Test	Treatment	Post-Test
Experimental Group	By using Example Non Example Learning Model	Experimental Group
Control Group	Without using Example Non Example Learning Model	Control Group

3.2. Population and Sample

3.2.1. Population

Corperetall in Sugiyono (2018: 130) states that, "Population is the total collection of elements about which we wish to make some inference. A population element is the subject on which the measurement is being taken. It is the unit of study". In this case, the population is a generalization area consisting of objects/subjects that have certain quantities and characteristics that are determined by the researcher to be studied and then draw conclusions. The population of this research is the seventh grade students of SMP Al-washliyah Sukoharjo Medan. Located on Jl. Pancing I No.2 Kel.Besar- Medan Labuhan 20251.

Table 3.2 Population of the Study

No	Class	Population
1	VII-1	32
2	VII-2	32
3	VII-3	32
4	VII-4	32
5	VII-5	32
Total Number of Students		160

3.2.2. Sample

According to Sugiyono (2018: 131) in quantitative research, the sample is part of the number and characteristics of the population. According to sugiyono (2018: 134), simple random sampling is a method conducted by taking the sample randomly

from the population without further classification. The samples in this research are two classes, one as the experimental class and the other one as the control class. They were class VII-3 and class VII-4 which consist of 32 students. Therefore, there was 64 students in the sample.

Table 3.3The Samples of the Study

No	Class	Sample
1	VII-3	32
2	VII-4	32
Total Number of Students		64

3.3. Treatment

In this study, students were given different treatments. There are 8 meetings for each group and each group consists of 32 students. The control group will be taught in the conventional way, the researcher was write vocabulary lists on the whiteboard, they were asked to memorize vocabulary about animals and test students' vocabulary mastery. Meanwhile, the experimental group learned using the Example non Example Learning Model. This learning model uses pictures. Researcher was explain the material and show pictures to students. This technique is uses ad a treatment to see the difference in scores between the experimental class and the control group. Steps in applying the Example non Example learning model:

Table 3.4The Treatment In The Experimental Class

First Meeting
• **Opening** The teacher was given greeting to the students.
• **Main Activity** Stimulation • The teacher asked students to introduce themselves. • The students introduced themselves one by one. Problem Statement • Students were difficulty pronouncing vocabulary in English. Data Collection • Student was asked to write their name, address, age and hobbies on paper.
• **Closing** - The teacher was asked students if they have difficulty learning English. - The teacher was ended the first meeting.

Second Meeting
• **Opening** The teacher was given greeting to the students.
• **Main Activity** Data Processing - The teacher was wrote and delivers material to students. - Students was asked to read the material provided. Verification - The teacher was given directions about the vocabulary of animals starting from their characteristics, types and places of life. Generalization

- Students were asked to write about the types, characteristics and places of life of animals.
• **Closing** - The teacher was ended the second meeting.

Third Meeting
• **Opening** The teacher was given greeting to the students.
• **Main Activity** Explanation - The teacher was provided an explanation of the vocabulary of animals and the teacher explains their characteristics, types and places of life. - The teacher was applied the Example non Example learning model in learning vocabulary in animals using pictures.
• **Closing** The teacher was ended the third meeting.

Fourth Meeting
• **Opening** The teacher was given greeting to the students.
• **Main Activity** Creating - Students were asked to answer the question sheets given by the teacher. Share - Students was wrote their answers related to vocabulary.
• **Closing** The teacher was ended the fourth meeting.

Table 3.5 The Treatment In The Control Class

Meeting	Teacher's Activity	Student's Activity
I	**Opening** • The teacher greets students. • The teacher asks students to introduce themselves. **Main Activity** • The teacher asks the students for vocabulary about animals. **Closing** The teacher ends the lesson and tells the next meeting activity.	• Students answer greetings. • Students introduce themselves. • Students mention some animal vocabulary in English.
II	**Opening** • The teacher greets students. • The teacher asks students to understand the previous material. **Main Activity** • The teacher asks students to write a list of vocabulary words about animals they know on the whiteboard. • The teacher asks students to write it in a book. **Closing** The teacher ends the lesson and tells the	• Students answer greetings. • Students answer teacher questions. • Students write vocabulary lists on the white board as well as in books.

	next meeting activity.	
III	**Opening** • The teacher greets students. • The teacher asks about the previous lesson. **Main Activity** • The teacher asks students to memorize the vocabulary they write. • The teacher asks the students to memorize them one by one in front of the class. **Closing** The teacher ends the lesson and tells the next meeting activity.	• Students answer greetings • Students tell what difficulties were learned before. • Students pay attention to the teacher's explanation and students start memorizing it in front of the class.
IV	**Opening** • The teacher greets students. • The teacher asks about difficulties when memorizing vocabulary. **Main Activity** • The teacher gives the question sheets to the students. • The teacher asks students to answer	• Students answer greetings. • Students tell difficulties in memorizing vocabulary. • Students understand the question sheet given.

	it. **Closing** The teacher ends the lesson.	• Students began to answer.

3.4. Research Instruments

In this study, the data collection instrument used two tests, namely pre-test and post-test. The instrument was a multiple choice test of 20 items (the score was 5). To get the final score is 10 x 5 = 100. So, if students can answer all the questions correctly the value is 100. Data from the control and experimental classes are measured using statistical data. The scores from the pre-test and post-test were uses to see the increase in the vocabulary skills of the two classes. These results are also used to see whether the learning model used is going well or not.

3.5. Reliability and Validity of Instruments

3.5.1. Realibility

According to Sugiyono (2018: 174), instrument reliability is a requirement for testing the validity of the instrument. Therefore, although a valid instrument is generally definitely reliable, testing the reliability of the instrument needs to be done. A reliable instrument is an instrument that, when used several times to measure the same object, will produce the same data. To find out which test is reliable and valid, the reliability test is analyzed using the Kuder Richardson 20 formula proposed by Sugiyono (2018: 186) as follows:

$$ri = \frac{k}{(k-1)}\left\{\frac{st2 - \sum piqi}{st2}\right\}$$

Where:

k : the number of item in the instrument

pi : proportion of the number of subject who answer item 1

qi : 1-pi

St^2 : the number of variant

The value of realibility coefficient (Guilford, 1956: 145) in Indar (2016: 41) as he following:

0,80 – 1,0 : the realibility is excellent

0,60 – 0,80 : the realibility is good

0,40 – 0,60 : the realibility is statisfaction

0,20 – 0,40 : the realibility is poor

-1,00 – 0,20 : the realibility is very poor (Not reliable)

3.5.2. Validity

According to Sugiyono (2018: 173), a valid instrument means the measuring instrument used to obtain data (measure) is valid. Valid means that the instrument can be used to measure what should be measured. In this study, the validity test aims to determine the accuracy of the items to measure the social environment, organizational activeness and social competence of students.

The SPSS testing technique was often used to test the validity using the correlation formula proposed by Pearson in Arikunto (2013: 213), which is known as the product moment correlation formula as follows:

$$r_{xy} = \frac{n\Sigma xy - (\Sigma x)(\Sigma y)}{\sqrt{[n\Sigma x^2 - (\Sigma x)^2][n\Sigma y^2 - (\Sigma y)^2]}}$$

Pearson Moment Products formula:

r_{xy} = Is the product of the total amount of variable x and the total amount of variable y

N = Is the number of data pairs X and Y

ΣX = Is total of the variable X

ΣY = Is total of the variable Y

ΣX2 = Is squared total amount of variable X

ΣY2 = Is squared total amount of variable Y

3.6. Technique of Data Collection

Data collection is an important part of conducting research. To collect data, this study used a pre-test and post-test given to the experimental group and the control group.

3.6.1. Pre-test

The experimental and control groups was given a pre-test before treatment. The pre-test is used to determine the average value of the experimental group and the control group.

3.6.2. Post-test

The post-test was given to students after conducting treatment using the example non example learning model. It aims to find out the difference in their average score.

3.7. Technique of Data Analysis

The data analysis procedure was to determine the average difference between the two classes, namely the experimental class and the control class. The writer used the t-test formula, the results of the data were used for higher difference between the t-test results. And t-table to find out whether the non-Example Example Learning Model has a positive or negative effect on students' vocabulary mastery. In analyzing the data, this following formula oft–test is :

$$t = \frac{\mathrm{Ma} - \mathrm{Mb}}{\left[\frac{\mathrm{da2} + \mathrm{db2}}{\mathrm{Na} + \mathrm{Nb} - 2}\right]\left[\frac{1}{\mathrm{Na}} + \frac{1}{\mathrm{Nb}}\right]}$$

Where:

t : total score

Ma : the mean of experimental group

Mb : the mean of control group

da : the standart deviation of experiment group

db : thestandart deviation of control group

Na : the total number sample of experiment group

Nb : the total number sample of control group (Ariyani, 2019: 29)

The statistical hypothesis was applied in order to know the results of the observation about the sample quantitatively and also to know the relationship between one or more variables. This hypothesis was tested as follow :

$$Ho : u.X1 = u.X2$$

$$Ha : u.X1 > u.X2$$

Where :

Ho = Null hypothesis

Ha = Alternative hypothesis

u = The means of all students

X1 = The mean of the students taught by using Example non Example Learning Model

X2 = The mean of the students taught by using Conventional Technique (Ariyani, 2019: 29).