CHAPTER III

RESEARCH METHOD

A. Research Design

This study uses the experimental design which belongs to the quantitative approach. According to Sukardi (2009: 54), experimental research attempts to determine the influence of one or more variables to other variables. This research used pre-experimental design with one group pre-test and post-test. According to Gay (1992:298) defines that the experimental method is the only method of research that can truly test hypotheses concerning cause and effect relationships. It means that the researcher used only one class in this research. The researcher had two tests, those are before being thaught claymation video and after being taught claymation video. The researcher used pre-experimental design because the researcher wants to established possible cause and effect between the dependent and independent variable, the reason why the researcher chose one group pre-test and post-test are because the researcher wanted focus conducted research on one class.

A pre-test provided to measure on some attribute or characteristic that the researcher asses for participants in an experiment before group receive treatment, while, a post-test measured on some attribute or characteristic that is assessed for participants in an experiment after a treatment (Cresweel, 2008:301). Here is the design of experimental design are represented in the table below:

Table 3.1 Design of one-group pretest and one posttest

Pre-test	Treatments	Post-test
Y1	X (Independent Variable)	Y2 (Dependent Variable)

X: Claymation Video

Y: Students' achievement on vocabulary mastery about the narrative text before thought by using Claymation video

Y2: Students' achievement on vocabulary mastery about narrative text after thought by using Claymation video

B. Description of the treatment

In this research, the researcher used claymation video in teaching vocabulary mastery in the form of narrative text as the treatment of this research. The researcher used claymation video in teaching vocabulary because it is the best way to teach vocabulary by applying claymation video to make the students more interest and enthusiast. The step in teaching vocabulary by using claymation video in this research as below:

1. Before the researcher gives the treatment, the researcher gave the pre-test to know students' vocabulary mastery before applying claymation video.

2. After knowing the students' ability of vocabulary mastery the researcher asked the students to watch the vocabulary on claymation

video about narrative text, after the students watch the video, the teacher asks the students to complete the text, classified into noun and verb and give the meaning of each word from the text that has given by the teacher.

3. At the end of the meeting, the writer gave post-test to measure students' achievement in vocabulary mastery after teaching them through claymation video to know the result of the treatment.

The researcher intended to investigate the effectiveness of using claymation video on students' vocabulary mastery at eight grade of junior high school. By applying the treatment was to know whether the scores are increasing or not. Pre-test and post-test were given to measure if there were significant difference scores before and after the students being taught by using claymation video. So, the researcher knows about the effectiveness when the students' get scores.

C. Population and sample of the study

Arikunto (2006:130) a population can be defined as the subject of research including all people or items. While Gay (1992:124) population is the group of interest to the researcher, the group which she or he would like the result of the study to realizable. The population can be said as subject or objects that have character and quality. Based on the title, the population of this research is the eighth-grade students of MTSN 2 Tulungagung academic year 2018/2019.

From the previous study mentioned used different kinds of the sample, and this study was chosen randomly through sampling for analysis. In simple random, each population has the same opportunity to be chosen. The way to choosing the researcher make lottery until 2 numbers then the researcher chose 1 for one group pre and post-test   This research, the researcher took VIII B as a sample of the experimental group. There are 38 students in VIII B, which consist of 20 male and 18 female.

D. Research instrument

An instrument is a tool which uses many kinds of methods at the time of the research. An instrument is a tool for measuring, observing, or documenting quantitative data (Creswell, 2012: 151). Generally, there are two kinds of instruments namely test and non-test.

According to Arikunto (2013: 192), there are some instruments of collecting data, such as test, questionnaire, interview, observation, and documentation. In this research, the researcher used a test that consists of pre-test and post-test in getting data. The test in the form of 20 multiple choice and 20 essays. The test is intended to know how effective Claymation video for teaching vocabulary.

There are four steps that carried out by the researcher to collect the data:

1. Preparing the research instrument

   The researcher prepared the research instrument to collect the data and to analyze them. This test is designed to measure students' language and skill progress in relation to the syllabus they follow.

2. Giving pre-test

   This test is conducted at the beginning of the experiment. It is done to know the students' ability before getting treatment. The test contains 20 multiple choices, 20 classified and gives the meaning of the vocabulary.

3. Conducting the treatment

   In this step, the researcher gives treatment to the students. The treatment is given to the experimental group. In the treatment of the experimental group, the researcher used Claymation video in teaching vocabulary. During the treatment, the researcher gives the material by using narrative text.

4. Post-test

   Post-test is given after learning has been occurred or is supposed to have occurred in teaching. This test is conducted after giving treatment to the students. It is done to know the mastery of vocabulary. So the researcher will use quantitative data analysis, and the researcher will

analyze the data by using the statistical technique. In this research, the researcher used T-test. It is one of the statistical tests used to know "there is/there is no" different from two variable.

E. Validity and Reliability

1. Validity

Validity refers to the precise measurements of the test. Validity is defined as the extent to which the instrument measures what it supposes to measure. It means that a valid test of the subject would measure the subject itself. For instance, the validation of the dialogue will measure pronunciation, grammar, and vocabulary, but more attention to pronunciation and fluency in English. According to Gay (1992:154), validity is totally indispensable; there is no quality or virtue of a test that can compensate for inadequate validity. Another definition, Gay (1992) explains validity is the degree to which a test measures, what it is supposed to measure. It means using the valid instrument is very supposed to determine the validity of data. According to Isnawati there are four types of validity: 1) Content validity, 2) Criterion-Related Validity and 3) construct validity 4) Face Validity.

In this research, the researcher made a test based on the objectives of syllabus so that it was not out of contents and the content validity is the degree to which a test measures an intended content area and the test must appropriate with the grade. The tryout the test of this

research had content validity because the items were taken from sources for second-grade students in MTsN 2 Tulungagung.

a. Content Validity

According to nurcahyani (2018), content validity is the congruity of the instrument between the curriculum objective and the objectives being assessed. In this research, the instrument had had content validity because the instrument was designed based on the basic competence of the curriculum of 2013.

Table 3.2 indicator of the test

Item No	Test Aspect
1-20	Accuracy to match the word into the text
21-40	Classified verb, noun, and the meaning the word

b. Construct Validity

Construct validity is to measure the instrument. It means the instrument is said to have construct validity if it can measure what to be measured. In this research, the researcher tested the students ' vocabulary mastery by giving multiple choice and writing the test to practice the vocabulary.

2. Reliability

Reliability is the consistency of the measurements or the degree to which an instrument measure the same way its time it is used under

the same condition with the same subject. Reliability shows the consistency and stability of the measurement score (Sarwono, 2006: 219). It means that the reliability of the instrument is needed to make sure that the instrument can be consistent if used in other time. Therefore, the instrument as the test was reliable. The researcher uses test-retest to gain reliable.

According to Brown (2004:22), the validity of the text refers to the extent to which inferences made from assessment result are appropriate, meaningful and useful in term of the purpose of the assessment. It means that validity is an important key to be good research. Validity in the research is showed that the research is successful. Have a good content validity, face validity, and construct validity is the part of the effective research.

Reliability tests consistent and dependable data (Brown, 2004:20). It means that reliability is consistent from a series of measurement tools. According to Cohen et al (2000: 132) suggest four main factors that might affect reliability: the range of the group that is being tested, the group's level of proficiently, the length of the measure (the longer the test the greater the chance of errors), and the way in which reliability is calculated.

To measure the reliability of the test, the researcher administered tryout to see if the result of the test was reliable or not. The tryout was done and make sure that the instrument was clear and the test was not

either too easy or too difficult and the researcher used formula Pearson-

Product Moment.

Table 3.3 The Result of Try Out Test Reliability

Correlations

		pretest	postest
pretest	Pearson Correlation	1	.837"
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	3.297E3	2.979E3
	Covariance	113.678	106.404
	N	30	29
postest	Pearson Correlation	.837"	1
	Sig. (2-tailed)	.000	
	Sum of Squares and Cross-products	2.979E3	3.855E3
	Covariance	106.404	137.685
	N	29	29

**. Correlation is significant at the 0.01 level (2-tailed).

The result of the calculation showed the reliability coefficient was 0.837. The computation of Personal Product Moment in tryout test the score is 0.837. It means that the instrument was a strong positive correlation. It can be concluded that the instrument of this research was reliable

F. Hypotheses Testing

The statistical test was intended for comparing two means, which is the means of before and after treatment. According to Braves and Caputi (2001: 40), the way to test whether the null hypothesis can be rejected is by comparing T-value of the obtained statistics is less than 0.05. The hypothesis testing of this study is as follow,

1. If the significance level is less than 0.05 the alternative hypothesis is rejected and the null hypothesis is cannot be rejected. It means that there is no different score on students' vocabulary mastery after and before being taught by using claymation video.

2. If the significant level more than 0.05 the alternative hypothesis is not rejected and the null hypothesis is rejected. It means that there is a significantly different score on students' Vocabulary mastery after and before being taught by using claymation video.

G. Data Analysis

After collecting the data of the students the researcher will review the data. The data of this research will analyze by using statistical computation. After the data of pre-tests and post-tests collected the score of the data will be analyzed by using the statistical instrument (SPSS) by comparing the students score of pre-test and post-test.

The pre-test data was the data of the students score before being thaught claymation video. The post-test data of vocabulary was the data of students score after being thaught claymation video. To analyzed the data the researcher comparing the data pre-test and post-test in order to measure the significant differences of the students' vocabulary score before and after being thaught claymation video, the researcher used formula of paired sample T-test by using SPSS 16 to analyze the data.