

CHAPTER III

RESEARCH METHOD

In this chapter the researcher describes about the research method that used in conducting the research. It consists of research design, subject of the study, variable of the study, research instrument, validity and reliability testing, normality and homogeneity testing, data collection method, techniques of data analysis.

A. Research design

The research approach used by researcher was the quantitative approach. Where quantitative approach was research data in the form of figures and analyzed with analysis statistics to seek answer from the formulation of a research problem. As for the methods used by researcher was the experimental method.

The Experimental research is a scientific investigation in which an investigator manipulates and controls one or more independent variables and observes the dependent variable or variable for variation concomitant to the manipulation of the independent variables (Ary, 2002:26). Experimental research is classified into: pre-experimental design, true experimental design and quasi experimental design. Pre-experimental designs do not have random assignment of subjects to groups or other strategies to control extraneous variables. True experimental designs (also called randomized designs) use randomization and provide maximum control of extraneous

variables. Quasi-experimental designs lack randomization but employ other strategies to provide some control over extraneous variables.

This study employed pre experimental research design in the form of pre-test and post-test design with quantitative approach. This study was classified as pre experimental design because it had not a control variable. In this study, the researcher just put one group and used pre-test and post-test to see the result of the test. The subject was not randomized, and there was no pre-treatment. The researcher used pre- experimental design with one group pre-test and post-test-design that usually involves three steps as follow:

1. Administering a pretest measuring the dependent variable.
2. Applying the experimental treatment X to the subject.
3. Administering a posttest measuring the dependent variable.

One Group Pretest- Posttest Design as follows:

Table 3.1 Diagram of one-group pre-test post-test design

Pre-test (Dependent Variable)	Treatment (Independent Variable)	Post-test (Dependent Variable)
Y_1	X	Y_2

The procedure of pre-experimental design that used one group pre-test and post-test:

1. Administering pre-test with the purpose of measuring vocabulary mastery at seventh grade students of SMPN 1 Sumbergempol Tulungagung.
2. Applying the experimental teaching vocabulary by using English video conversation technique to the subject in the seventh grade students at SMPN 1 Sumbergempol Tulungagung.
3. Administering a post-test with a purpose of measuring vocabulary mastery at seventh grade students of SMPN 1 Sumbergempol Tulungagung.

This research intended to investigate the effectiveness of using English video conversation towards the student's vocabulary mastery of the seventh grade at SMPN 1 Sumbergempol Tulungagung. The use of the treatment is aimed at proving whether the increase scores possibly get by the researcher. Thus, the effectiveness of that treatment is known the any significant score when the students taught using English video conversation technique.

B. Subject of the Study

1. Population

Population is the larger group about the generalization. Gay (1992:124) stated population is the group of interest to the researcher, the group to which she or he would like the result of the study to be generalizable. On other hand, population is defined as all members of any well-defined class of people, event, or objects. (Ary, et al 2010: 148)

The population of this study was class VII at SMPN 1 Sumbergempol Tulungagung in which the total of class VII are eleven classes. The quantity of students in each class of the population is as follow:

Table 3.2 Population of the Research

Class X	(Total of students)
VII A	32
VII B	32
VII C	32
VII D	32
VII E	32
VII F	32
VII G	31
VII H	32
VII I	32
VII J	32
VII K	35
ΣX	354

2. Sampling

Sampling is the process of selecting a number of individuals for a study in such as a way that the individuals represent the large group from which they were selected (Gay, 1992:123). This technique sample of this research use purposive sampling. Purposive sampling is a technique to determine sample with a particular consideration. This research chooses to research of class VII-G because the researcher consideration that according to the teacher, the students from those class is spirit to learning

English but their vocabulary are limited, so need to give action in improving their English especially vocabulary. So, the teacher suggested to choice class VII-G in conducting research.

3. Sample

Sample is part of population that is being studied. Sample called for in quantitative research if the population is very large. In consequence, this research takes only certain amount of them. Ary et al (2010: 649) explains that sample is a group selected from a population for observation in a research. In this case, purposive sampling was chosen as a technique of choosing. The sample in this research is the students of VII-G in SMPN 1 Sumbergempol. It consists of 17 male and 14 female students.

C. Variable of the Study

According to Fraenkel (1996:61) a variable is any characteristic or quality that varies among the members of particular group. In experimental research, there are two variables: independent variables and dependent variables.

1. Independent variable (X)

Independent variable is variable that consequence of or upon antecedent variables. In this study the independent variable is the vocabulary by using English video conversation.

2. Dependent variable (Y)

Dependent variable is the response on the criterion variable that is presumed to be caused by or influenced by the independent treatment conditions and any other independent variables. In this study the dependent variable is students' vocabulary mastery.

D. Research Instrument

In this study, the instrument used by researcher to collect data is a test. Ary (2002: 210) states the test is a stimulus given to the individual to get a response on the basis that a numerical score can be assigned. In this study, the tests were given twice they are pre-test and post-test. Pre-test was given to measure students' vocabulary mastery before treatment, and post-test was given to measure students' vocabulary mastery after treatment.

The researcher presents several steps in developing the test. The first step was to study the syllabus and the material. Then, the researcher identified the syllabus and materials to find out the competency of standard, basic competency, and topics used in the seventh grade of SMPN 1 Sumbergempol Tulungagung. After that, the researcher determined the topic or material that was appropriate with this research was about adjectives to describe people, animals, and things. Then, the researcher determined the purpose of this test to measure students' vocabulary mastery and followed by the preparation. In designing researcher designing tests such as the number of tests including pre-test and post-test consist of each 25 numbers. The type of test was multiple choices.

The next step was to validate. In this study, researcher consulted an English teacher from SMPN 1 Sumbergempol and an English lecturer. They are expert validity, to check content, type of testing, and more. After validating the test was completed, the researcher gave a try out to find out what the test was reliable. Try out was conducted on 31th March 2018 from 25 students of seventh grade in different class with sample. And the final step in developing the test is to write the final draft.

This test was made by researcher containing 25 items the type of multiple choices. The topic of this test was about adjectives to describe people, animals, and things based on the seventh grade student syllabus.

In this study, data was the value of students taken from pretest and post-test. Since the data was in the form of numbers, the data was entered into quantitative data.

The same pretest and posttest assessment techniques are the same. There was only one correct answer for each item because the test form is an objective test. Formulation scores as follows:

$$\text{Score} = \frac{\text{obtained scores}}{\text{total scores}} \times 100$$

E. Validity and Reliability testing

In quantitative research is always depends on measuring instrument that used in research, to measure the instrument through two concepts that must

understands when the researcher measuring test. They are validity and reliability.

The validity and reliability is important part or the research in measuring instrument. In this research, the researcher need valid and reliable instrument. In this research, the researcher used test as instrument to collect the data.

1. Validity

Validity is one of characteristics of a good test. The concept refers to the appropriateness, meaningfulness, and usefulness of the specific inferences from the test scores. Ary *et al* (2010: 224-225) states that validity is the most important consideration in developing and evaluating measuring instruments. Test validation is the process of accumulating evidence to support such inferences. it mean that a valid test of vocabulary mastery actually have to measure vocabulary mastery, not measure other outside of vocabulary.

There are four types of validity that provide evidence to achieve the validity of the test (Isnawati 2012:27), they are content validity, criterion related validity, construct validity and face validity. In this research, the researcher used content validity and face validity.

a. Content validity

The content validity of the test is showed with relevancy of the objective of the test and the content of the items. According to Ary *et al* (2010:225) states that validity is to have teachers examine the

test and judge whether the test is adequate sample of the content and objective to be measures. The test was said have content validity if its contents constitute a representative sample of language skills, structures, etc, being tested. In this research the test had content validity because the researcher discussed with the teacher to make the test appropriate with the students and this test based on the competency of standard and basic competency of school based curriculum in seventh grade English subject of SMPN 1 Sumbergempol Tulungagung Therefore this test is valid in term of content validity.

The Blueprint of pre-test and post-test were presented in appendix 4.

b. Face validity

According to Ary et al (2010:225) who states that face validity refers to the extent to which examines believe the instrument is measuring what it is supposed to measure. Face validity refers to the degree to which a test looks right, and appears to measure the knowledge or abilities it claims to measure based on subjective judgment or the examines who take it, the administrative personnel who decide on its use, and other psychometrically unsophisticated observers (Brown, 2004). The test in this research was designed to measure student's vocabulary mastery. Thus, to achieve face validity, the researcher provided the instructions to ask students to

test vocabulary. The researcher uses face validity in this research by consulting with expert and lecturer.

2. Reliability

The way to know a good test is by reliability. Reliability is a necessary characteristic of any good test for it to be valid at all and test must be reliable as measuring instruments. According Ary (2002:250) states that reliability is concerned with the effect of such a random errors of measurement on the consistency of the scores. Reliability is the consistency of the scores. Reliability is the consistency of the measurement, or degree to which an instrument the same way each time it is used under the same condition with the same subject. To measure that reliability of test item, the researcher firstly gained try-out. The try-out was tested in 25 students of VII-H grade. It was done on Saturday, 31th March 2018. The try-out was held to know how far the reliability of test. So, after the researcher got the score from the try-out, the researcher analyzed each item of the test and computed it by using SPSS 16.0 version to know the reliability of test instruments. Then the result of computing can be seen below:

Table 3.3: Result of Reliability

Reliability Statistics

Cronbach's Alpha	N of Items
.772	25

Based on the table above, it showed that the reliability of Cronbach's alpha is 0,772. According to Triton in Sujianto (2009:97) the value of Cronbach's alpha can be interpreted as follow:

Table 3.4: Cronbach's Alpha Interpretation Based on Triton

Cronbach's Alpha	Interpretation
0,00 – 0,20	Less Reliable
0,21 – 0,40	Rather Reliable
0,41 – 0,60	Quite Reliable
0,61 – 0,80	Reliable
0,81 – 1,00	Very Reliable

Based on the table above, it can be concluded that the instrument of this research was in the category reliable because $0,61 < 0,772 < 0,80$.

F. Normality and Homogeneity Testing

1. Normality Testing

Normality test is used to test whether a variable is normal or not. Normal here means if the data have a normal distribution. The main reasons of conducting normality testing in a research in order to the researcher know that the population or data involved in the research is in normal distribution. To test the normality of the data can use the *One-Sample Kolmogorov-Smirnov Test* with the provision that if $\text{Asymp. Sig} > 0.05$, the data were normally distributed. In this research, the normality testing used SPSS 16.0 version. The normality testing is

done towards both pre-test and post-test score. The hypotheses for testing normality are that H_0 (null hypothesis) is accepted and H_a (alternative hypothesis) is rejected. It was also can be concluded as follows:

- a. H_0 : Data is in normal distribution
- b. H_a : Data is not in normal distribution

2. Homogeneity Testing

Homogeneity test intended to show two or more group of data sample come from population having the same variance. Homogeneity testing is conducted to know whether the gotten data has a homogeneous variance or not. The computation of homogeneity testing using SPSS 16.0 version is Test of Homogeneity of Variances by the value of significance 0.05. before doing homogeneity testing, the researcher decides hypothesis in this homogeneity as follow:

- a. H_0 : If the value of significance > 0.05 , it means the data is homogeny.
- b. H_a : If the value of significance < 0.05 , it means that the data is not homogeny.

G. Data Collection Method

In this research the data collection is administering test that consist of pretest and posttest. the procedures of administering test was clarified as follow:

1. Pre test

Pre-test was needed to know the basic competence for student and how far the students know about the subject that will be taught. Pre-test of one group was conducted before giving the treatment or before teaching English vocabulary by using English video conversation. The material of test is adjectives to describe people, animals, and thing. The researcher gave the test that contains 25 items, the types of test is multiple-choice. The purpose of pre-test was to know the student vocabulary knowledge and student's scores before the treatment. The pre-test was administered on Friday, 6th April 2018.

3. Post-test

Post-test was done after the students got treatment was taught by using English video conversation. It was aimed to assess their mastery on vocabulary. The researcher gave the post-test that contains 25 items, the types of test is multiple-choice. From the scores of this test, the researcher was intended to find out the effectiveness of using English video conversation towards students' vocabulary. The result of the score then was compared with pre-test. In this case, the researcher knows how far is the effectiveness of using English video conversation towards students' vocabulary mastery. The post-test was administered on Friday, 2nd May 2018.

H. The Step of Treatment

The researcher gave the treatment to the students after administering the pre-test. The purpose of treatment is to help students in understanding English vocabulary. The researcher applied the treatment of English video conversation technique on 18th April 2018, 20th April 2018 and 27th April 2018. The materials gave were adjectives to describe people, animals, and thing.

NO	STEPS	ACTIVITES
1	Opening	<ul style="list-style-type: none"> • Teacher greeting to the student when she enter in the classroom “Good morning student” • Students respondent the greeting from the teacher “Good morning, Teacher/Sir/Ma’am” • Teacher checks student attendance list • Teacher deliver learning objectives to the students
2	Main Teaching	<ul style="list-style-type: none"> • Introduction the material about adjective to describe people, animals, and thing. • Teacher asks all students about students' knowledge of adjectives and descriptive text. • Teacher giving explanation about the material first. • Teacher gave the English video conversation as media of teaching and learning proses. • Teacher asked the students to watch and pay attention on the video. • After the video was played, teacher ask the student divide group for discussion. • Teacher asked each group to write down the adjective they got from video and discussed together.
3	Closing	<ul style="list-style-type: none"> • Asking the students about the material. • Giving evaluation/feedback about students’ errors.

I. Techniques of Data Analysis

In this research the researcher used a quantitative data analysis technique. The quantitative data of the research is analyzed by using statistical method. The data collected was processed by comparing with the first data (pre-test) and the second data (post-test) to see whether there will be significant difference after give by treatment.

The researcher used the application SPSS Statistics 16.0 version to analyzed Paired Sample Test. There are some steps in analyzing data in SPSS 16.0 version. Firstly, the researcher input the data in SPSS Statistics to know the frequency of pre-test and post test score. After that, by using this application the researcher know the mean, median, mode. Then, from the compare of the data the researcher know the paired sample statistics and the researcher find pair sample correlation from two kind of the test. The researcher can be analysis about the result of significant two tail. This research the researcher also find normality and homogeneity from the pre-test and post-test data to know the normal distribution dan homogeneity.

After the researcher knows the result of significant two tails from SPSS Statistics, the researcher can give the conclusion about the effectiveness or not about using English video conversation in students vocabulary mastery of seventh grade of SMPN 1 Sumbergempol Tulungagung. This technique is used to find the significant different on the student vocabulary mastery by using English video conversation if the Sig. (significant) $< 0,05$ then the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted.

It means there is any significant different of students' vocabulary mastery before and after being taught by using English video conversation. If the Sig. (significant) $> 0,05$ then the alternative hypothesis (H_a) is rejected and the null hypothesis (H_o) is accepted. It means that there is no any significant different score of students' vocabulary mastery before and after being taught by using English video conversation.