

CHAPTER III

RESEARCH METHOD

In this chapter the researcher giving explanation about the research method used in this study which covers: research design, population, sampling, sample, variable of study, data and data sources, data collection method and instrument, technique of data analysis.

A. Research Design

Based on Saebani (2008:128) Quantitative research is the research that uses numbers in data presentation and analysis using statistical test. Quantitative research is research that is guided by a particular hypothesis, which is one of the goals of the research is to test the hypothesis that predetermined. In the study the researchers were not only concerned with what will we analyze but researchers should pay attention to the research designs to be used, in which the research model should match the characteristics, objectives, and issues. Considering the research of the problems and the purposes of the research, this research conducted in pre-experimental using quantitative approach with one group pretest – posttest design without control variabel. One group pre-test and post-test design means that this design gives pre-test before treatment and post-test after treatment.

Consequently, according Sugiyono in Fuad's thesis (2012:27) states thats the result of treatment can be known accurately, when it is compared to the condition before getting treatment. It means in this study the researcher want to see the result of the treatment using audio-visual as media toward vocabulary

mastery of VII^C grades students of SMPN 3 Kedungwaru Tulungagung in academic year 2014/2015.

According to Cresswell (2013:241) The design of the research is presented as follows:

Table 3.1 One Group Pretest-Posttest Design

Pretest	Independent Variable	Posttest
01	Treatment (Audio Visual as Media)	02

From the table above, it can be described that the first step the researcher organized a pretest (01) with a purpose of measuring the students' vocabulary mastery of VII^C grades of SMPN 3 Kedungwaru. Then, the researcher applied the experimental treatment of teaching vocabulary using short video by the theme describing people, animal, and thing as audio-visual as media to the subjects. The Last, the researcher administered a posttest (02) with a purpose of measuring the students' vocabulary mastery of VII^C grades of SMPN 3 Kedungwaru after conducting the treatment. Differences attributed to application of the experimental treatment are then evaluated by comparing the pretest and posttest scores.

In this study, the researcher uses experimental design using quantitative approach with One-Group Pretest-Posttest design because this study about the effectiveness of using audio-visual as media toward the students' vocabulary mastery by comparing pre-test and post-test as instrument of collecting data.

B. Population, Sampling, and Sample

1. Population

The explanation of population proposed by Gay L. R(1992:124) on his book states that 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 a generalizable. It means population has at least one characteristic that differentiates it from other groups. According to Saebani (2008:165) states that population is the whole of a sample.

In this study, the population was all the seventh grades students of SMPN 3 Kedungwaru in academic year 2014/2015. The seventh grade students of SMPN 3 Kedungwaru in academic year 2014/2015 consists of nine 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	28
VII B	27
VII C	26
VII D	25
VII E	26
VII F	28
VII G	28
VII H	30
VII I	25
ΣX	243

2. Sampling

Selecting sample is a very important step in conducting a research study. Margono (2003:103) given the definition of sampling is technique to choose

sample that the number of sample is appropriate to collect the data source by considering the nature and the distribution of population so that gotten the representative sample. Sugiyono (2007:73) also states “sampling is technique to take sample”. Thus, In selecting the sample in this study, the researcher chose one kind of non probability sampling that is purposive sampling. Purposive sampling is a technique of taking sample by some considerations (Sugiyono, 2012:124). In purposive sampling, also referred to as judgment sampling, sample elements judged to be typical or representative are chosen from the population (Ary et al, 2006:156). In other words, the researcher should be sure that the sample is representative and suitable with the purpose of research since it was impossible to take the sample randomly. The researcher decided to choose VII C class that consists of 26 students as the sample. The consideration of choosing VII^C as the sample was because in applying the experimental design, the samples must not be too “good” and too “bad” in their English achievement. It’s intended to reduce the extraneous variable may appears since the design is pre-experimental research without control group. And also, according to the English teacher, the VII^C class was was taken because among other classes the students of the VII^C class had average capability.

3. Sample

According to Sugiyono (2007:73) states that the sample is part of the total and characteristics possessed by the population. It means if the population is very large, it is unlikely that the researchers learn all that exists in the population. Therefore, researchers can use the sample taken from the population. And then,

the sample has to be representative of the population. The sample of this study was the VII^C grades students of SMPN 3 Kedungwaru in academic year 2014/2015 which consists of 26 students.

C. Variable of the study

Variable is research object or something that becomes view point of research. This study has two variables, they are independent variable and dependent variable. The first is *Independent Variable*. Independent variable is a variable which is observed. The side effect of independent variable can appear and exist by itself without any other supported. It influences and gives special effects in dependent variable. In this study, the researcher gave statement that the independent variable was the treatment of using video as audio-visual media in the seventh grade students of SMPN 3 Kedungwaru in C class. The second is *Dependent Variable*. Based on Arikunto (2006:107) Dependent variable is a variable that emerges because the response or the criterion variable that is presumed to be caused by or influenced by the independent variable. The dependent variable in this study is the students' vocabulary mastery that is showed by the students' score.

D. Data Collection Method and Instrument

The definition of the data collection method is the way used by researcher to collect the data. There are some methods in collecting the data to complete the researcher design. In this study the researcher used test organizingly. According to Djihadono (2008:12) states that a test is a tool or procedure used to measure the

students' language proficiency. The test which is given is vocabulary testing in the form of pre test and post test. The pre test is given to the students before the researcher do a treatment. While post test is given to the students after the researcher do a post test and get the treatment. The treatment is taught vocabulary to the student by using video as media.

In this study the researcher used a descriptive text in the form video. For pre test the researcher gave 30 questions to the students. The kinds of questions are 10 gap filling (missing words) and 20 matching words. For post test the researcher also gave 30 questions to the students. The kinds of questions are 10 gap filling (missing words) and 20 matching words. The qualification of pre test and post test, the students got 2 (Two) point in one number in gap filling for correct answer and in matching words the students got 1 (One) point for correct answer and the student got 0 (Zero) for incorrect answer for matching questions.

1. Procedure in Conducting the Research

The schedule of the data collected can be seen in the table 3.3 below:

Table 3.3 The Schedule of The Test and Treatment

NO.	Activity	Date
1.	Pretest	April 22 nd 2015
2.	Treatment	April 22 nd 2015
3.	Treatment	April 23 rd 2015
4.	Treatment	April 29 th 2015
5.	Treatment	April 30 th 2015
6.	Posttest	April 30 th 2015

2. The description of the schedule above

In this study the researcher as a teacher taught the students twice week in four meeting. In this time the researcher described in each meeting:

2.1. The process of Pre Test

For the first meeting on April 22nd 2015, the researcher gave pre test to the students in the form of vocabulary testing. The text in the form of descriptive text and the kinds of test are 10 gap filling (missing word) and 20 matching the words, and the qualification of pre test and post test, the students got 2 (Two) point in one number in gap filling for correct answer and in matching words the students got 1 (One) point for correct answer and got 0 (Zero) for incorrect answer for matching questions.

2.2. The Process of Treatment

a) After the students given the pre test in second time on April 22nd 2015, Researchers start giving treatment to students with little introduction of media and materials to be taught to the students of class VII ^C.

b) The second meeting is the second treatment on April 23rd 2015, in this meeting the researcher gave the video in the form of descriptive text and inviting the students to watched the video with the theme “Describing People”. By watching the video the researcher taught the vocabulary, especially gave the example of noun, verb and adjective, so that they could differentiated all of them. And then The researcher asked the students to found some vocabulary such as verb, noun, adjective from the video. Then, students wrote in their books. After

that the students describe their family or their friends based on vocabulary has been obtained.

c) In the third meeting the researcher held the third treatment on April 29th 2015, in this second treatment the researcher gave the video in the form of descriptive text and invited the students to watched the video with the theme “Describing Animal & Things”. The first activity after viewed the video, the teacher told the students to pronounce some vocabulary that is contained in video. Then, the researcher gave correction in pronunciation. After that, the researcher asked the students to mention 5 vocabularies with the meaning, the vocabulary should be different from the previous students. After this step, the researcher repeated all of vocabularies which mentioned from the students, and asked them to mention the meaning.

d) Before the researchers provide post test. In the fourth meeting the researcher held the last treatment on April 30th 2015. The researcher reviewed the lessons that have been discussed in previous meetings by providing a few questions to the students.

2.3. The Process of Post Test

In this section is last activity on April 30th 2015, the researcher gave post test to measure the students vocabulary mastery after they are taught by using video. For post test the researcher also gave 30 questions to the students. Kind of the test is 10 gap filling (missing word) and 20 matching the words, and the qualification of pre test and post test, the students got 2 (Two) point in one number in gap filling for correct answer and in matching words the students got 1

(One) point for correct answer and got 0 (Zero) for incorrect answer for matching questions.

In this study, the researcher was always dependent upon measurement. There are two important characteristics to measure instrument. The instrument should get validity and reliability.

a) Validity

Validity is concerned with how accurate the test measure and the appropriate of the test for the subjects. It 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. Test validation is the process of accumulating evidence to support such inferences.

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

1. Content Validity

Content validity is a kind of validity which depends on careful analysis of the language being tested and of particular test. The try out test of this study had content validity because the items were taken from sources for the fifth year students. And The researcher made a test based on the objectives of syllabus so that it was not out of contents. The researcher also discussed with the teacher to make the test appropriate with the students.

Table 3.4 Content Validity

No.	Test	Materials	Standard Competence	Test item
1.	Pre test	Nouns, adjectives, Verbs	1. Students are able to complete the missing word	10
			2. Students are able to complete the sentences then translate it into good Indonesian.	20
2.	Post test	Nouns, adjectives, Verbs	1. Students are able to complete the missing word	10
			2. Students are able to complete the sentences then translate it into good Indonesian.	20

2. Construct Validity

Based on Heaton (1989:161) if a test has construct validity, it is capable of measuring certain specific characteristic in accordance with a theory of language behavior and learning. A test is said to have construct validity if it can be demonstrated that it measures just the ability which is supposed to measure. The word “construct” refers to any underlying ability which is hypothesized in a theory of language ability. Brown (2003:256) stated that a construct is any theory, hypothesis or model that attempts to explain observed phenomena in our universe of perception.

Based on the theory that has been described in previous chapters explained that the gap filling, matching the word that can be used to test for the ability of students. In this study included vocabulary test consisting of 30 questions, which

are given by researchers. The kinds of test were 10 questions for gap filling test, 20 for matching the word meaning.

b) Reliability

Furthermore, reliability is a necessary characteristic of any good test for it to be valid at all and a test must be reliable as measuring instrument. Frankle (1990) stated that reliability is the consistency of score obtained. A reliable test is consistent and dependable. Thus, if the students are given the same test on two different occasions, the test should yield similar result and the more similar the scores are, the more reliable the test is.

The computation of this reliability used IBM SPSS Statistics 16 with reliability analysis. The criteria of reliability's degree can be seen on table below, whereas the reliability's result can be seen in appendix.

According to Triton in Sujianto (2009:97) the value of cronbach's alpha can be interpreted as follow:

Table 3.5 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 computation the result of reliability testing by using SPSS program 16.0 version showed that the Cronbach's Alpha score in try out of ten students was 0.656. Related with the categories of reliability testing stated by

Sujianto, the result of computation of both groups was categorized into reliable test.

E. Technique of Data Analysis

Quantitative data analysis is also called statistical analysis. It means that the result of the data served up in numerical form. The researcher in this study used the formula of t-test to analyze the data to know the students' test results which were conducted before and after getting treatment.

According Fauziyah's thesis in Arikunto book (2002:275) the formula of T-test one group Pretest and Posttest design as follow:

$$t = \frac{Md}{\sqrt{\frac{\sum X^2 d}{N(N-1)}}}$$

Note:

T : the value which is found

Md : mean of the different between pretest and posttest

Xd : deviation of every subject (d-Md)

$\sum X^2 d$: total of quadrate deviation

N : subject on the sample

db : N-1