CHAPTER III
RESEARCH METHOD

In this chapter, the writer presents discussion about research design, population and sample, research instrument, validity and reliability testing, normality testing, data collecting method, and data analysis.

3.1 Research Design

In this research, a researcher uses quantitative research approach to analyze the data. Quantitative research is defined as a systematic investigation of phenomena by gathering quantifiable data and performing statistical, mathematical, or computational techniques. It is quantitative study because it is aimed to confirm the prior knowledge or theory. Besides, the data of this research is numerical data. In quantitative research there are experimental and non-experimental research design. Then, this research uses kind of non-experimental research design.

The research design that is used is correlational research design. Hallonen and Santrock, (1999: 20) states that correlation method whose goal is to describe the relation between two or more events or characteristics. According to Ary (2010: 351) correlational research is research used to assess relationships and patterns of relationships between variables in one subject group. The reason of choosing correlational research is the researcher wants to know the strengh of the relation of two or more variables based on correlation coeficient.

There are three possible result of a correlation study: a positive correlation, a negative correlation, and no correlation. The correlation coefficient is a measure of correlation strength and can range from -1.00 to +1.00. Perfect positive correlation would result in a score of +1. Perfect negative correlation would result in –1 (Nunan, 1992: 39).

3.2 Population And Sample

Singh (2006) states "Population or universe means, the entire mass of the observations, which is the parent group which a sample is to be formed." It can be concluded that population is group of people who become concern of the writer in conducting the study. The population of this study is the second grade students of SMPN 1 Sumbergempol in the academic year of 2019/2020 who enrolled English subject. There were eleven classes in the second grade of SMPN 1 Sumbergempol.

After determining the population, the writer took the samples from the population. In this study, the researcher using purposive sampling technique. According to Donald Ary (2006), purposive sampling will provide the best information to succeed for the objectives study. J.W Creswell (2009:146), purposive sampling techniques that have also been referred to as nonprobability sampling techniques, involved selecting certain units or cases based on a specific purpose rather than randomly. Purposive sampling technique is a type of nonprobability sampling technique where it doesn't provide equal opportunity/ opportunity on each element or member

of the population. The sample is some students of second grade at SMPN 1 Sumbergempol. It consists of 51 students of two classes.

3.3 Research Instrument

The successful of the research is much decided by used of instrument, because data which is need to answer research questions and examine the hypothesis gained through instrument itself. In order to collect the data, the researcher develops tests taken from other researchers who have conducted validity and reliability tests. This research used two kinds of instruments, they are questionnaire to get data of listening to English song and test to get data of students' vocabulary mastery.

1. Questionnaire

Questionnaire is used to get the data of listening to English songs. More (1999: 24) says that questionnaire is a mean of collecting the data in which the researcher call on students to examine themselves and react to series of statement about their attitudes, feeling and opinions. A questionnaire is a self-report data-collection instrument that each research participant fills out as part of a research study (Johnson & Larry, 2000). Researchers used questionnaires so that they could obtain information about the thoughts, feelings, perceptions, personality, and behavioral intentions of research participants. In this research, the questionnaire is about students' activity in listening to the English song, which includes the students' habit of listening to the song and also information about students' understanding of the vocabulary meaning of the song.

2. Test

In this study, test is used as the instrument to measure students' ability in their vocabulary mastery. Brown (2001: 384) defines a test as "a method of measuring a person's ability or knowledge in a given domain." It means that test is used to measure the students' ability. To collect the data of students' vocabulary mastery the researcher uses an objective test. The objective test is a test that has right or wrong answers and so can be marked objectively.

These instruments are taken from research conducted by Sarining Setyo. The researcher developed test by himself. The steps for developing vocabulary test they are:

1. Reviewing literature

2. Drafting instrument

3. Conducting try out

4. Revising

5. Finalization draft instrument

3.4 Validity And Reliability Testing

1. Validity testing

In language testing, Brown (2004) defines validity as the extent to which inference made from assessment results are appropriate, meaningful, and useful in terms of the purpose of assessment.

In this study, the instrument is taken from other researchers. The questionnaire and the test are quoted from research conducted by Sarining

Setyo that has been tested for validity and reliability. The result for validity test is out of the items of questionnaire of listening to English songs, 24 items are valid and 6 items are invalid and out of the 50 items of vocabulary mastery test, 40 items are valid and 10 items are invalid.

2. Reliability testing

According to Gay (1992:161) reliability was the degree to which a test consistently measured whatever it measure, an absolute requirement to determine one variable effect to another. Reliability was also requirement for validating a test. It means that the test which was not reliable, it cannot be valid automatically. Reliability was expressed numerically, usually as a coefficient. A high coefficient indicated high reliability and a low coefficient indicated low reliability (Gay, 1992:162). Reliability test instrument can be done by using Cronbach's Alpha. The instrument has a high degree of reliability if the value of Cronbach's Alpha obtained as follows:

Table 3.1 Cronbach's Alpha Interpretation

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

The result of reliability testing by the other researcher can be seen from the table:

Table 3.2 Result of Reliability of Questionnaire
Reliability Statistics

Cronbach's Alpha	N of Items
.937	50

From the result of reliability testing the results obtained 0.929 which means that the questionnaire is very reliable.

Table 3.3 Result of Reliability Test
Reliability Statistics

Cronbach's Alpha	N of Items
.929	30

From the result of reliability testing the results obtained 0.937 which means that the test is very reliable.

3.5 Data Collecting Method

In order to collect the data, the researcher uses two kinds of instrument, they are questionnaire and test.

1. Distributing questionnaire

The questionnaire is used to find out the data concerning the students' activity in listening English song. The questionnaire has been distributed to the students of second grade of SMPN 1 Sumbergempol. The researcher uses google form to distribute the questionnaire.

2. Collecting student's test score

The test was used to measure students' vocabulary mastery. According to Ary (2010:201) test itself is a set of stimuli presented to an individual in order to elicit responses on the basis of which a numerical score can be assigned. The form of the test is multiple choice questions. This test was done only once and the researcher get the score to complete the data.

3.6 Data Analysis

Data from this research has been analyzed quantitatively. Quantitative analysis was done by using statistic which is called statistical analysis or inferential statistic. Statistic technique for determining relationship between pairs of score known as correlative procedures (Ary, 2002:143). The purpose of this research was to measure the correlation between listening to English song and students' vocabulary mastery. The data has been analyzed by using Pearson Product Moment Correlation (PPMC). The researcher uses PPMC because the data is interval.

In analyzing this data, the reearcher took the following steps.

1. Tabulation of the data

After gettting data from questionnaire and test, the writer gives score for the students' questionnaire and test and arranges the scores into the rank order.

2. Test the hypothesis

Steps in testing hypothesis they are:

a. State hypothesis.

H_0: $\rho = 0$ (there is no correlation between listening to English song and students' vocabulary mastery).

H1: $\rho \neq 0$ (there is a significant correlation between listening to English song and students' vocabulary mastery).

b. Find the critical value in t table

c. Compute the test value. First, find out the value of r. Second, test the significance of the correlation coefficient.

d. Make a decision

- If P-value lower than α (0.01), the null hypothesis was rejected and the alternative hypothesis was accepted.

- If P-value higher than α (0.01), the null hypothesis was accepted and the alternative hypothesis was rejected.