CHAPTER III

RESEARCH METHOD

In this chapter the researcher describes the research method that used in this research. It consists of research design, population and sample, research instrument, validity and reliability testing, normality testing, data collection method and data analysis.

A. Research Design

This research was conducted through a quantitative approach. According to Muijs (2004:1), quantitative research is 'Explaining phenomena by collecting numerical data that are analysed using mathematically based methods (in particular statistics). In another definition according According Tanzeh (2011: 63) Quantitative research is research which basically uses deductive-inductive approach, meaning that departs from a theoretical framework, the notion of experts,

This research include in correlation design. According to Lodico *et al* (2006: 14), correlational research was a quantitative method designed to show the relationships between two or more variables. Another opinion from Sukardi (2003), correlation research is to investigate the extent to which variations in one factor correspond with variations in one or more other factor based on correlation coefficients.

The purpose of correlational research may be to determine relationship between variables or to use relationship in making predictions. Here, the researcher wants to find whether there is any positive correlation between students' grammar mastery and students' achievement in writing descriptive text by describing and interpreting the data.

Correlation design is quantitative research in which investigators measure the degree of relation between two or more variables use the statistical procedure of correlation analysis. This degree of association, expressed as a number, indicates whether the two variables are related or whether one can predict another. In this research, the researcher uses correlation between two variables.

Thus, the most appropriate research design used in order to answer whether or not students' grammar mastery had correlation to students' achievement in writing descriptive text of the first grade students of SMKN 1 Bandung Tulungagung.

B. Population and Sample

1. Population

Arikunto (2010: 72) said the overall population is the subject of research. Agreeing with this notion, Sugiyono (2010:117) states that population is a generalization region involves an object or a subject that has quality and special characteristics in which chosen by the researcher to investigate and make-conclusion. It means that population refers to large group. In this research the

population was all students come from the first grade AK about 190 students' of SMKN 1 Bandung Tulungagung in academic year 2016/2017.

2. **Sample**

In this research, it was necessary for the researcher to gather the data take from part of the population involving in this research. According to Lodico *et al* (2006: 143), "A sample is a smaller group selected from a larger population. Data is take from students among the population, which was then considered as sample. (Arikunto, 2010: 174), Sample is a part of the population which is investigated. It means that sample was a representative part of population that taken to represent the research. The data was taken from students among the population, which was considered as sample. The researcher was conducting a sample by using a purposive sampling technique. According to Cohen et al., (2007) in purposive sampling technique, sample is satisfactory to specific needs. The researcher used purposive sampling because the sample has been chosen for a specific purpose. The researcher took AK 4 as the sample because it suggested from English teacher in there and the researcher believe that they give sufficient information. The number of the sample for this research would automatically be less than the population, because it from 37 students from class X AK-4 as the sample who were widely spread from the 5 classes of first grade students. It consisted of 1 male and 36 female.

C. Research Instrument

After the design of the research was designed, the next step was to draw up the instrument. Research instrument occupies the most important position on the field to obtain the data. Research instrument was defined as tool to measure the nature or social phenomena being observed (Sugiyono, 2014:148). Here, it is purpose as a tool to get the data. It is used to measure the students' grammar mastery and their achievement in writing descriptive text for getting the data to prove the theory.

This research used a test as instrument for grammar and writing. According to Ary *et al* (2010: 201), "Test 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" . In this case, the researcher gave two kinds of tests namely grammar test and writing test to get the data or information. The form grammar test is objective test and the writing test is subjective test.

The grammar test consist of 25 multiple choice. The allocation of time is for about 35 minutes. To give the score for the answer, every numbers have same score i.e. 4 points. So every correct answer gets four points to each number and gets zero for incorrect answer. For writing test, the researcher required the students to describe their idol into a good writing construction. The writing should be consisted of 10 sentences. The students have to finish their work in 35 minutes. The grammar requested to be used was present tense include simple present tense, adjective, action verb, thinking verb and feeling verb.

By using, instrument the researcher obtained a value of the data or the results of student achievement, that these data will be processed to determine the relationship of grammar mastery to the achievement of writing descriptive text in class X SMKN 1 Bandung Tulungagung.

D. Validity and Reliability Testing

Validity and reliability are the two criteria used to judge the quality of all pre-established quantitative measures. Before using these test, a tried out to 20 students to find out the validity and reliability of the test.

1. Validity Testing

Validity is a measurement that shows the validity levels of an instrument. A valid instrument has high validity. The other way, the fewer instruments mean it has low validity (Arikunto, 2010: 168). In addition, Lodico *et al* (2006: 87-88) presented, "Validity focuses on ensuring that what the instrument "claims" to measure is truly what is measuring". It can be concluded that validity was usefulness instrument that shows the degree of truly.

In this research the researcher used content validity. The researcher makes a written test consist of an item question in a form of text. The test is made up to testing the students' achievement in writing descriptive text. Content validity is a kind of validity which depends on careful analysis of the language being tested and of the particular test. A test is said to have content validity if its contents constitutes a representative sample of the language skill, structures, etc. being tested (Isnawati,2014:27). The test must be appropriate with the lesson material be taught.

In this research, the content validity refers the Curriculum of 2013 as the school has implemented.

Based on the basic competence in syllabus of Curriculum 2013, it is stated that the first grade students of Vocational High School are taught about descriptive text. Moreover, the basic competence mentions that the students are expected be able to composing recount text by concerning on the social function, text structure, and language features correctly according to its context. The instrument of the test can be said have content validity because the test has equal purpose with the core competence in syllabus of Curriculum of 2013, which is testing the students' achievement in writing descriptive text with the correct structures.

Beside the writing test, in this research has also grammar test. The researcher are made by herself aimed to measure the students' grammar mastery. In this test, the researcher provided the multiple-choice test which consulted or validated with advisor (Dr. Nurul Chojimah, M. Pd). After the instrument has been validated by the advisor, the researcher began to try out it to the participants.

2. Reliability Testing

An instrument that has reliable will produce the reliable data too. If the data related with the fact, so how many time the data taken, it will be same. The reliability shows the consistency and stability the measurement score (Sarwono, 2006: 219). It means that reliability of 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. To gain the reliable the researcher use test retest. The researcher do try out done Thursday, 9 February 2017 and it done again on Thursday, 2

March 2017. To calculate reliability for grammar test the researcher use test retest

by using SPSS 16.0. the table of data and the calculation are showed below:

Table 3.1 Score of Test Retest

Subject	First score	Second score
A	52	48
B	32	32
C	36	36
D	32	28
E	52	44
F	44	44
G	36	36
H	36	40
I	32	36
J	40	40
K	40	40
L	52	48
M	40	40
N	52	56
O	44	40
P	36	40
Q	56	48
R	40	44
S	36	40
T	36	36

Based on the data above, the result of SPSS version 16.0 for windows is showed below:

Table 3.2 Test Retest Reliability

Correlations

		First	Second
First	Pearson Correlation	1	.865**
	Sig. (2-tailed)		.000
	N	20	20
Second	Pearson Correlation	.865**	1
	Sig. (2-tailed)	.000	
	N	20	20

The result of calculation showed reliability coefficient was 0.865 and the ideal reliability coefficient is 1. In this research the calculation was near to 1, it means the instruments of this research was reliable because 0.865 closer the reliability coefficient to 1.

E. 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 reason of conducting normality testing in a research is that it is necessary for the researcher to 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 Asymp. Sig > 0,05, the data were normally distributed (Asmarani, 2008:234).

F. Data Collecting Method

In conducting this research, the researcher used test to get scores of students' grammar mastery and students' achievement in writing descriptive text. The grammar test consists of 25 items which were served in multiple choice forms. After the students finished the grammar test, the students continued to do writing test. The researcher allowed the students complete the test in seventy minutes.

By this method the researcher obtained a value of the data or the results of student learning outcomes, that these data will be processed to determine the relationship of students' grammar mastery with their achievement in writing descriptive text outcomes. This data gathering took place in SMKN 1 Bandung Tulungagung especially for students of first grade.

The test consisted of two sets namely grammar test and writing descriptive test which was held at the same time. It was held on March 4th 2017. These tests contained of 25 multiple choices items for grammar tests and writing descriptive text. The students had 70 minutes to finish the test, so each test had 35 minutes. It was given to 37 students of AK 4 class at first grade students of SMKN 1 BANDUNG Tulungagung who as the sample of this research.

G. Data Analysis

The purpose of this research was to measure the correlation between students' grammar mastery and students' achievement in writing descriptive text. The data of this research were analyzed by using statistical analysis. Statistic technique for determines relation between pairs of score known as correlative procedure (Arikunto, 2010:143).

To measured the relation between two variables, the researcher use bivariate correlation by using Pearson Product Moment formula. The researcher used it because the data obtained from two variables was exposed in terms of quantitative scores and the data was using interval scale. The variable of this research were students' grammar mastery and their achievement in writing descriptive text. It meant that this research was for identifying the correlation between students' grammar mastery and their achievement in writing descriptive text. For the nature of a correlation study is association, were independent variables. However, to make easy in calculating the data, the researcher used SPSS 16.0 in processing the data to get the correlation both of the variable. Correlation can result in positive or negative numbers. If the coefficient correlations is closed to 1, it means the relation between the two variables is stronger. Whereas, if the correlation number is closed to 0, it means that the relationship between two variables is weaker. The researcher determined the table interpretation of product moment scales, as follow:

Table 3.3 Interpretation correlation by Arikunto

Correlation value (r)	Interpretation
0,000 – 0,200	Very low correlation
0,200 – 0,400	Low
0,400 – 0,600	Moderate
0,600 – 0,800	Enough
0,800 – 1,000	High correlation

From this formula, it could be gotten the correlation coefficient value (r) of the two variables. By the interpretation table, the researcher can conclude the strength of the correlation.