

CHAPTER III

RESEARCH METHOD

Research is an important way to get fact of a problem. Research methodology, moreover, is the most significant aspect in conducting a research. In a research, it does not only follow some kinds of the step but also a certain requirement. In this chapter, the writer discusses the description of the procedures in this research. They are research design, subject of the study, research instrument, validity and reliability, normality testing, data collecting method and data analysis.

A. Research Design

Research design is defined as the strategy or the way how the researcher gets the valid data, analyze them, and finally come to the answers of the research problem. This study used quantitative approach. The research design that used in this study was correlative research design. Creswell (2012:619) said that correlational research design are quantitative designs in which investigators use a correlation statistical technique to describe and measure the degree of association (or relationship) between two or more variables or sets of scores. The resulting the data is numeric data.

According to Ary (2010:22) Quantitative research uses objective measurement to gather numeric data that are used to answer questions or test predetermined hypotheses. It generally requires a well-controlled setting. Furthermore, in this study, the researcher used quantitative research to obtain

the significance of the relationship between two variables that are students' attitude toward English and the students' achievement in English.

Because one of the use of correlational research is to assess the relationship among two or more variables in a single group as cited in Ary (2010:349) and the researcher want to describe the positive correlation between students' attitude and their English achievement for first grade at SMA Negeri 01 Rejotangan, the researcher used the correlational research in order to get the data.

B. Subject of the Study

1. Population

Population is the large group to which one hopes to apply the results. Ary (2010:148) says that the population is defined as all members of any well or the larger group which the generalization is made. In addition, population is the whole of research subject consist of human, things, animals, plants, symptom, test value, or event as the data source that have characteristic of the research (Hadari Nawawi in Margono, 2010:118).

According to the explanation above, the population in this research was all of first grade students on first semester at SMA Negeri 01 Rejotangan, academic year 2015/2016. The total numbers of population was 315 students who divided into ten class for first grade students on first semester, they are A class, B class, C class, D class, E class, F class, G class, H class, I class and J class.

Table 3.1 Population

Class	Students
X-A	30
X-B	32
X-C	33
X-D	25
X-E	34
X-F	33
X-G	32
X-H	31
X-I	32
X-J	33
Total	315

Meanwhile, according to its characteristic (Margono, 2010:120), the population is divided into homogeneous and heterogeneous population. In this study, these students include a heterogeneous population. Overall this is because individuals in this population have traits that differ from one students to another students.

2. Sampling

To determine the sample, this research use sampling. Sampling is a technique to take sample. Margono (2010:125) says sampling is way of taking sample that the total appropriate with the portion of sample as the

data source, which shows the characteristics and spreading population to get the representative sample. By sampling, the researcher enables to study a portion of population rather than the entire of population. The sampling in this study used random sampling. According to Choyimah (2014:2) random sampling is a sampling technique in which each subject has a chance to be selected because of chance methods or random numbers.

The sampling technique that used in this study was probably simple random sampling technique. The researcher used random sampling because whole of students can have a chance as the sample in this research. Sampling was done by randomized process. To determine the subjects as the sample, firstly the researcher created a lottery numbering 1-315. 1-315 are an order of the students in population of X-A Class through X-J Class. This lottery was inserted into the bowl then shake thoroughly. After the researcher took a paper and wrote down what the number was stamp on the paper. This activity continue until get 63 number because of the total subject of this study was 63 students.

3. Sample

Sample are part of the population (Supranto, 2001:87). As criterion, the researcher has several hundred subjects in the population, they can determine approximately 20-25% of the subject. On the basis of the population and sampling used in this study, the researcher did not involve all of them because it was a big number. If the subject in population <100

is better to take it all, so the research about the population research. But, if the population is big number can take between 10-15% or 20-25% or more (Arikunto, 2006:134). In consequence, the researcher took sample approximately 20% from the population. The total of samples in this study were 63 students that consist about 22 male and 41 female.

C. Research Instrument

In order to collect the data for research, the researcher used some instruments. In this case, the instruments were questionnaire and documentation.

1. Questionnaire

Questionnaire is either based on a set of structured item (in which the respondent choose from a limited number of responses) or unstructured (in which open-ended question are given that a respondent can answer as he or she chooses) (Richards, 2001:60). Through questionnaire, the researcher gets all information that she wants to know. The researcher uses questionnaire in order to know the students' opinion related to their attitude.

The type of questionnaire by Arikunto (2006:152) are closed questionnaire, provided answer so the respondents only choose one of it and open questionnaire, give a chance for respondents to answer with their own words.

Form of the questionnaire used in this study was closed questionnaire. This means that the questionnaire was a list of questions provided by the researcher to the students as research subject. In term of answer, this questionnaire was a questionnaire directly because the students can answer directly filled by the students themselves on subject attitudes toward the English language. The researcher developed the questionnaire by adopted from Kurnia Rian R. (2013) as the previous researcher. The questionnaire in this study used Likert scale with 4 answer choices that answer choice strongly agree the worth 4 points, agree has 3 points, disagree has 2 points and strongly disagree has 1 point. Totally about 25 questions. The questionnaire was on appendix 1.

2. Documentation

Documentation which comes from word “document”, means written objects. Document in this data is such kind of written data that will help much and also as strengthen data in doing this study. Ary (2010:442) says that documents here refers to a wide range of written, physical, and visual materials. Moreover Sukardi (2003:206) states that documentation is used to collect data from written thing such as books, magazine, document, notable, memo, etc.

The document that the writer needed in doing this method was list of English score in all subject from the teacher, because the data has function to look for whether any correlation between students' attitude and

their English achievement. The English scores were taken from a good process actually from the teacher itself. Moreover, students' English score was the new English score and it can be said as the authentic score of English. Therefore, the researcher can know about students' English achievement.

D. Validity and Reliability

Validity is a measurement that shows the validity levels of an instrument. According to Brown (2000:387) by far the most complex criterion of a good test is validity. A valid instrument has a high validity. In this study, the researcher used an authentic instrument from the previous researcher that has been available. The instrument to be valid because the previous researcher use formula from *Cronbach's Alpha* and count it by using SPSS 16.00 for windows. It has been tested by Kurnia Rian Rachmasari (2013:44)

Reliability is consistent and dependable. A test must be reliable as a measuring instrument. It means that a reliability is the test can be used to know that test is consistent and dependable. Reliability is necessary characteristic of any good test for it to be valid at all. An instrument that has reliable will produce the reliable data too. Reliability means that individual scores from an instrument should be nearly the same or stable on repeated administrations of the instrument and that they should be free from sources of measurement error and consistent (Creswell, 2012:627). In this research, the questionnaire, the previous researcher counted the value of Cronbach's Alpha $0.875 > r$ table. The

reliability is measured by SPSS 16.0 level to know the reliability of test instrument that is questionnaire. Overall questionnaire is reliable. It has been tested by Kurnia Rian Rachmasari (2013:44). Thus, the researcher here use the available instrument for testing students' attitude that have been absolutely valid.

E. Normality Testing

Normality test is used to test whether a variable is normal or not. Normal here means if the data has a 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 normality distributed. If the value is smaller than 0.05 indicated that the data are not normal. If the value is higher than 0.05 indicated that the data are vividly normal. In this case, the normality using SPSS (Statistical Product and Service Solution) 16.0 for windows.

Table 3.2 One Sample Kolmogorov-Smirnov test

		questionnaire	score
N		63	63
Normal Parameters^a	Mean	71.86	60.41
	Std. Deviation	7.112	10.947
Most Extreme Differences	Absolute	.119	.152
	Positive	.119	.079
	Negative	-.060	-.152
Kolmogorov-Smirnov Z		.948	1.208
Asymp. Sig. (2-tailed)		.330	.108

a. Test distribution is Normal

Based on the normality result on table 3.2 above, output *One Sample Kolmogorov-Smirnov* test show that the subjects are 63 students. The value of Kolmogorov-Smirnov Z is 0.948 and 1.208. The Asymp. Sig (2-tailed) from the table obtained by questionnaire is 0.330 and the English score is 0.108. The significant of both values is higher than 0.05, it can be concluded that the data were normally distributed.

F. Data Collecting Method

Data collecting method was the technique used by the researcher to obtain the data. This data gathering took place in SMA Negeri 01 Rejotangan especially for first grade students. Methods of collecting data in this study were:

1. Step and technique to collect data:

a. Distributing questionnaire

Questionnaire is one of ways to gather the data regarding learning style. Through questionnaire, the researcher got all information that she wants to know. The researcher used questionnaire in order to know the students' opinion related to their attitude. Here, the researcher showed the lattice work that included in the questionnaire. In this study, the questionnaire used to get the data about students' attitude towards cognitive component, students' attitude towards affective component, and students' attitude towards behavioral or conative component. It is easy for the reader because the reader know what the indicator included in the questionnaire that used by the researcher.

Table 3.3 Lattice work

NO.	Variables	Indicators	Item Numbers
1.	Attitudes toward cognitive component	Understand and convinced of the importance of the purpose and content of the English language	2, 3, 13, 14, 16, 22
2.	Attitudes toward affective component	Seriousness in learning	1, 4, 6, 7, 9, 10, 12, 15, 19, 20, 21, 23, 24, 25
3.	Attitudes toward behavioral or conative component	Effort to deepen the subject of English	5, 8, 11, 17, 18

In this research, the questionnaire written in Indonesian. It mean that the questionnaire made in order to make easier the respondent answer the questions. The questionnaire consist of twenty five questions. In this part, the researcher asked the students to choose one option that they want. It mean that the answer have to reflect their personality or their real life.

In distributing questionnaire, the researcher shared it to the all sample in a week. The questionnaire was completed of class time. The students required to respond the questions freely without limited time. Before that, the students asked to give the immediate response than they should not hesitate and change their answers. The questionnaire collected and the respond computed into computer for data analyses. The questionnaire distributed in a week.

b. Documentation

Beside the questionnaire, the researcher also used documentation. Documentation come from the word document, which has a meaning something written. The document that the researcher needed in doing this method was list of students' name and their English score in all subject from the teacher, because the data has function to look for whether any correlation between students' attitude and their English achievement, as strengthen the questionnaire.

G. Data Analysis

The researcher used statistical method as a technique to analyze the data, because the purpose of this research was to measure the correlation between students' attitude and their English achievement. A research which used statistical technique definitely uses quantitative analysis. Quantitative data analysis called statistical analysis. It means that the result of the data served up in numerical form.

In this research, all data gained from the result of the questionnaire and the list of English score which was in the forms of number. All the data, therefore, analyzed quantitatively. This research aimed at finding the correlation between two variable. Variable was any entity that can take on different values. Margono (2010:133) variable is concept that has variation values (for example model work variable, profit, promotion fee, sale volume, manager of education level, and so on). In this study, there were two variables inside, they were students' attitude and English achievement. The both of them are as independent variables.

The researcher applied Bivariate Correlation Analysis by using Spearman Correlation Coefficient Technique. The researcher used Spearman Correlation Coefficient Technique because the data obtain from interval that was Students' attitude and ordinal data that was their English achievement. Here, the researcher used SPSS 16.0, whether the researcher mentioned the formula below that can be use for counting the manual way.

The formula to get the coefficient is as follow:

$$r_s = 1 - \frac{6\sum d^2}{n(n^2 - 1)}$$

Where d = different in rank

n = number of data pairs

And standard of scoring the questionnaire was all the answer of questionnaires change to be score and the score of each student to be mark as follow:

Score 4, for item strongly agree

Score 3, for item agree

Score 2, for item disagree

Score 1, for item strongly disagree

The step of the data analysis are:

1. Determine the formulation of hypothesis

H₀ : there is no significant correlation between students' attitude and their English achievement for X grade at SMA Negeri 01 Rejotangan

H_a : there is significant correlation between students' attitude and their English achievement for X grade at SMA Negeri 01 Rejotangan

2. Determine the basis for decision making

Based on the significance

- a. If $\text{sig} < 0.05$, then H_0 is rejected
- b. If $\text{sig} > 0.05$, then H_a is accepted

3. Make a conclusion

- a. If $\text{sig} < 0.05$, then H_0 is rejected and automatically H_a is accepted. Thus the hypothesis which says “there is significant correlation between students’ attitude and their English achievement for X grade at SMA Negeri 01 Rejotangan” is significant.
- b. If $\text{sig} > 0.05$, then H_0 is accepted and automatically H_a is rejected. Thus the hypothesis which says “there is no significant correlation between students’ attitude and their English achievement for X grade at SMA Negeri 01 Rejotangan” is not significant.

In this case, the researcher used formula of Spearman Rank technique.

Table 3.4 The interpretation coefficient correlation (r)

Interval coefficient	Interpretation
0,00-0,20	The correlation is very low
0,20-0,40	The correlation is low
0,40-0,70	The correlation is moderate
0,70-0,90	The correlation is high
0,90-1,00	The correlation is very high

Source: Nana Sudjana (2007:78)

If the correlation coefficient (r) obtain is smaller than or equal to the “r”, H_a is rejected. It means that there is no positive correlation between students’ attitude and their English achievement for first grade at SMA Negeri 01 Rejotangan. Conversely, if the correlation coefficient (r) obtain is greater than or equal to the “r”, H_a is accepted or H_0 is rejected. It means that there is positive correlation between students’ attitude and their English achievement for first grade at SMA Negeri 01 Rejotangan.

In quantitative research, data processing is generally carried out through checking stage (editing), scoring (scoring), the process of identity (coding), and the process of disclosure (tabulating).

1. Editing

Editing is an activity that is performed after the investigators finished collecting data in the field. This process begins by giving the identity of the questionnaire and the learning achievement that have been missed. Then check out one by one the sheet of data collection instrument, and then check the points and answers available.

2. Scoring

Scoring is providing value to the questionnaire statement by converting the answer in the form of letters converted into numbers. The highest value is 4 and the lowest value is 1.

3. Coding

After editing the questionnaire, the next step is coding. That is the data that has been edited so that the identity is given a particular meaning when analyzed. Coding system for each variable displayed in Chapter IV.

4. Tabulating

Tabulating is entering data in a certain table and arranges the numbers and counts them by formula.

5. Writing Research Report

In the end a study should be conducted data analysis process written and recorded to be used as a report. This report is very important because it is the beginning for the quality of research evidence to assess its accuracy in solving real problems.