CHAPTER III

RESEARCH METHOD

This chapter presents the research methodology used in this study. It discusses about research design, population, sampling and sample, research instrument, validity and reliability testing, normality testing, data collecting method, and data analysis method.

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 will use quantitative approach. The research design that used in this study was correlational 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 result of the data is numeric data.

Ary (1979) explain that statistical techniques for determining relationship between pairs of scores are known as correlation procedures. Typically, measurements of two variable for each member of a group and one determine if there is a relationship is concisely described by statistical indices known as correlation coefficients. These coefficients show the

extent to which change in one variable is associated with change in another variable, Ary (1979 : 113).

In addition, correlational research involves the calculation of a *correlation coefficient* which is a measure of the extent to which variables vary in the same way (Anderson & Arsenault, 1998). Correlation coefficients range from - 1.0 to +1.0 with 0 meaning no relationship between the variables, and 1.0 meaning a perfect relationship, one to the other. A positive correlation is one in which a higher score on one variable is related to a higher score on the other. This is expressed by a positive value for the correlation coefficient. When there is a negative sign, as one variable increases, scores on the other decrease.

B. Population and Sample

1. Population

Population can be defined as the entire group of people or set of objects, including those not in the study (Anderson, 1998:262). 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. 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

The population in this research were all of second grade students at MAN Trenggalek, academic year 2017/2018. Therefore, 389 second grade students belonged to the population in this research.

2. Sampling

To determine the sample, this study use sampling. Sampling is a technique to take sample. There are a lot of technique which can be use to take a sample. In this research, The sampling technique used in this research purposive sampling. Purposive sampling is the process of selecting a sample by taking the subject that is not based on level area, but it is taken based on the specific purpose (Arikunto, 2010: 183).

In this study, the process of taking subject is purposive sampling where the purpose of research was to know the correlation between students' academic self efficacy and their english achivement for 11th grade students of MAN 1 Trenggalek. In purposive sampling technique, sample is satisfactory to specific needs. The researcher used purposive sampling because the sample has been choosen for a specific purpose. The main characteristic in Purposive sampling is that there is typical characteristic that must be owned by the sample involved in the research. As this research so much concern with academic self efficacy and english achievement, the sample was taken from 11th grade who has good achievement in English. The sample that has been took was sugested by the English teacher in MAN 1 Trenggalek and researcher believe that they give sufficient

information. Therefore, the researcher chooses three groups among the population.

From the total students of 11th grade in MAN Trenggalek, the researcher chooses three class from 12 classes that is XI MIPA 4, XI MIPA 6 and XI MIPA 7.

3. Sample

Sample is part of population which wants to be analyzed. According to Suharsimi Arikunto, (2002 : 109) " sample is a part of population of representative of it''. As criterion, the researcher has several hundred subjects in the population, they can determine approximately 20-25% of the subject. 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 this research, the amount of population were 389. So, the researchers take 25% from population to be sample in this research equals the amount of three classes. Since the purposive sampling was used, the researcher chooses 3 class XI MIPA 4, XI MIPA 6 and XI MIPA 7 to be sample. So, The total sample of this research is 97 students.

C. Variable

Variable is a characteristic that can take on different value and scores. Variable can be some factors that are considered as the object of this study. In this research, all of them are independent variable, but one of the can be said as predictor variable.

In this research there are two variables. The predictor variable is academic self efficay and independent variable is students' English achievement

D. 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 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 got all information related with self efficacy. The researcher used questionnaire in order to know the students' opinion related to their academic self efficacy.

The form of the questionnaire used in this study was closed questionnaire. This means that the questionnaire was in the form of 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 self efficacy toward the English language.

The researcher distributed Academic Self Efficacy Questionnaire from The Morgan-Jinks Students Efficacy Scale (MJSES) (Jink& Morgan, 1999). The MJSES is an inventory designed for middle school students to gain information about student efficacy beliefs that are related to school success or academic self efficacy. The MJSES is comprised of 30 items to which participants respond using Likert Scale ranging from “really agree” to “really disagree”. Of these 30 items, nine are reverse scored. The responses were designed in the student friendly language to ensure student comfort and ease in responding to the statements. The MJSES yields an overall Academic Self Efficacy score as well as scores on three sub-scales. The sub-scales measure a studentss’ self efficacy with respect to context, talent, and effort. Context refers to how the students feel about school in general. Talent refers to how they feel about their academic performance. Effort refers to how they feel about their work ethic in school. All scales have shown to have reliability coefficients greater than 0.66 (Jinks & Morgan, 1999)

Here, the reseacher present some sub-scale in Morgan Jinks Self Efficacy Questionnaire:

Table 3.1.

MJSES Scale

NO	Sub-Scale	Item Numbers
1.	Context	7, 8, 12, 13, 15, 17, 19, 20, 24, 29
2.	Talent	3, 6, 11, 14, 16, 18, 21, 22, 25, 27
3.	Efort	1, 2, 5, 9, 23, 26, 28, 4, 30, 10

As the instrument was developed with respect to western culture, each item was examined carefully concerning its adequacy for western culture. As a result of this examination, it was found that the items were valid across different cultures and that no changes were necessary on the MJSES, because the literature review suggested that it was administered to students from many different nationalities. For example, the instrument was administered to Turkish, Iranian, and Indonesian as well. In indonesian, this instrument was use in research entitled "*Hubungan self-efficacy, self-esteem dan perilaku prokrastinasi siswa madrasah aliyah negeri di Malang Raya*" by Putrisari, Hambali, and Handarini (2017). Another previous research used this questionnaire was entitled "*Self-efficacy and Anxiety of National Examination among High School Students*" by Qudsyi and Putri (2016).

2. English Achievement Test

The researcher provides an English Achievement Test. The test is in the form of multiple choices consist of 25 questions. Each question has 4 choice , those are A, B, C, and D. Every true answer was scored 4. So, the maximum score will be 25 x 4 = 100.

The English Achievement Test was developed by the researcher form the 11th grade class basic competence in the first semester (see apendix). Therefore, the test was considered to be suitable to measure the students' English Achievement.

E. Validity and Reliability Testing

1. Validity Testing

Validity is defined as the extent to which scores on a test enable one to make meaningful and appropriate interpretation (Ary, 2010:224). It means that validity is the used of instrument to measure everything should be measure in the research. There are so many ways to reach the validity of the instrument used to gather the data. There are face validity and construct validity.

a. Face Validity

Mousavi in Brown (2004:26) stated that face validity refers to which a test looks right and appears to measure the knowledge or abilities it claims to measure, based on the subjective judgement of the examinees who take it, the administrative personnel who decide on

its use and other psycometrically unsophisticated observers. In this research, the researcher used face validity by consulting with the expert as a validator. The result of the validator, there were some correction in the instrument like misstyping and grammar. Overall the instruction was very clear. (see appendix 1)

b. Construct Validity

Construct validity is a slightly more complex issue relating to the internal structure of an instrument and the concept it is measuring. The test were given to students in the form of multiple choice questions and based on English material they have learned in first semester. They are suggestion and offer, asking and giving opinion, formal invitation, analytical exposition text, and passive voice. The detail of English achievement test on appendix 2.

2. Reliability

After knowing the validity of the intrument and every items, the researcher go to the next step that was measure the reliability of the instrument. The researcher used SPSS computation to check the reliability. The result was written in the table below:

Table 3.2.

Reliability of The English Achievement Test

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.821	.821	25

Based on the table 3.3, the cronbach's alpha of the instrument is 0.821. It is higher than r_{table}, 0.361. It can be concluded that the instrument is reliable.

F. Try Out

Validity and reliability are the two criteria used to judge the quality of all pre-established quantitative measures. Before using these test, the researcher conducts try out test to 30 students to find out the validity and reliability of every items in the English Achievement Test and to measure whether the instrument appropriate to measure students English Achievement and academic self efficay (see appendix). Then, the researcher processes the data gained from the try out by using SPSS 16.0 to check its validity.

Table 3.3.

Items' Describtion of English Achievement Test

$R_{count} > R_{table}$ = Valid

$R_{count} < R_{table}$ = Not Valid

No.	Items	R_{table} 5% (N=30)	R_{count}	Criteria
1.	Item 1	0.361	.438	Valid
2.	Item 2	0.361	.438	Valid
3.	Item 3	0.361	.488	Valid
4.	Item 4	0.361	.379	Valid
5.	Item 5	0.361	.437	Valid
6.	Item 6	0.361	.472	Valid
7.	Item 7	0.361	.439	Valid
8.	Item 8	0.361	.409	Valid
9.	Item 9	0.361	.451	Valid
10.	Item 10	0.361	.454	Valid
11.	Item 11	0.361	.472	Valid
12.	Item 12	0.361	.454	Valid
13.	Item 13	0.361	.434	Valid
14.	Item 14	0.361	.413	Valid
15.	Item 15	0.361	.425	Valid
16.	Item 16	0.361	.478	Valid
17.	Item 17	0.361	.429	Valid
18.	Item 18	0.361	.409	Valid
19.	Item 19	0.361	.414	Valid
20.	Item 20	0.361	.447	Valid
21.	Item 21	0.361	.438	Valid
22.	Item 22	0.361	.396	Valid
23.	Item 23	0.361	.366	Valid
24.	Item 24	0.361	.414	Valid
25	Item 25	0.361	.464	Valid

G. Normality Testing

The researcher uses *One-Sample Kolmogorv-Smirnov test.* This can be done by using SPSS 16.0 program. Normality test is done towards the Students' English Achievement Test score and Academic Self Efficacy score

Table 3.4.

Normality of Testing by One-Sample Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test

		Self Efficacy	English Achievement
N		97	97
Normal Parameters[a]	Mean	84.97	61.53
	Std. Deviation	6.812	18.452
Most Extreme Differences	Absolute	.083	.086
	Positive	.047	.059
	Negative	-.083	-.086
Kolmogorov-Smirnov Z		.814	.850
Asymp. Sig. (2-tailed)		.522	.465

a. Test distribution is Normal.

The table of One-Sample Kolmogorov-Smirnov Test was obtained probability number/Asym. Sig.(2-tailed). This percentage will be compared with 0.05 (a=5%) to take the decision based on:

a. The percentage of the significance (Sig.)/probality >0.05 it means the distribution data is normal.
b. The percentage of the significance (Sig.)/probality <0.05 it means the distribution data is not normal

As the table show above, the probability number/Asym. Sig. (2-Tailed) for Self Efficacy score is 0.522 , bigger than 0,05. Therefore, the data distribution is normal. While the probility number/Asym. Sig. (2 Tailed) for English score is 0.465, bigger than 0,05. Therefore, the data distribution is normal.

H. Data Collecting Method

Data collecting method is the technique used by the researcher to obtain the data. This data gathering took place in MAN Trenggalek especially for second grade students. Methods of collecting data in this study will be:

a. Distributing questionnaire

Questionnaire is one of ways to gather the data regarding academic self efficacy. Through questionnaire, the researcher got all information that the researcher wants to know. The researcher use questionnaire in order to know the students' opinion related to their academic self efficacy.

The questionnaire is distributed to XI MIPA 4, XI MIPA 6 and XI MIPA 7 students. The proccess of collecting data was on Thursday, February 22nd, 2018 for XI MIPA 7. Then, for XI MIPA 4 and XI MIPA 6 was on Saturday, February 24th, 2018. They were instructed to read each statement and respond according to how they felt about the statement. They were directed not to talk each other.

b. Conducting English Achievement Test

The subject is given an English Achievement Test and were asked to answer it in the answer sheet. Before the test conducted, students were informed that their score would not influence their academic score. The researcher conducted English Achievement Test at the same day after distributing questionnaire, that was on Thursday,

February 22nd, 2018 for XI MIPA 7. Then, for XI MIPA 4 and XI MIPA 6 was on Saturday, February 24th, 2018.

I. Data Analysis

The researcher used statistical method as a technique to analyze the data, because the purpose of this research is to measure the correlation between students' self efficacy and their English achievement. The result of the data served up in numerical form.

To analyze the data of questionnaire, the researcher used Likert scale. There are 30 question of frequency with and has options *Really Disagree, Kind of Dissagree, Kind of Agree, Really Agree* suitable with options A, B, C, D. *Rank* is score of answer column, A=1, B=2, C=3, D=4. *Count* is earned by summing up the scores of rank. The maximal count is 4 x 30 = 120 and the minimal count is 1 x 30 = 30.

After gathering data, the researcher goes through steps on analyzing it. First, the researcher *tabulates* them into the tables which expected the readers easier to understand. Then, the researcher uses computer calculation of *Spearman Correlation* using SPSS 16.0 program to analyze the data. After that, the researcher makes conclusion based on the result showed by SPSS 16.0 program if the hypothesis is rejected or accepted.