CHAPTER III
RESEARCH METHOD

This chapter presents procedures of the research about the relationship between self-efficacy and students’ speaking achievement at eleventh grade of SMAN 02 Batu. All procedures cover research design, population, sample, instruments are used for data collection and data analysis. Each procedure is explained below.

3.1 Research Design

There are two types of research design in education namely qualitative and quantitative design. According to Ary, et. al. (2010:39) qualitative research is investigation of social phenomena focusing on verbal descriptions of settings, situations, and participants. Qualitative researcher did depth understanding on the phenomena rather than measuring statistically the data. Meanwhile Cresswell (2012) explains that quantitative research focuses on measuring numbered data that will be analyzed by statistical procedures. Moreover, Quantitative research let researcher investigates relationship among variables. Therefore, based on previous information, this study utilized quantitative research to conduct the study to test the hypothesis that related the variables.

This research aimed to investigate whether any significant relationship between self-efficacy belief and students’ speaking achievements of eleventh grade at SMAN 02 Batu or not. Consequently, this research employed correlational research that was proposed to seek the relationship between one
variable and others. This is in line with Ary, et. al. (2010:350) explains that correlational research shows the strength or weak relationship among two variables.

Next, there were two variables that will be examined in this correlational research. There were independent variable and dependent variable. The independent variable was the students’ self-efficacy beliefs, while the dependent variable was students’ speaking achievement. The relation between those variables would determine whether the hypothesis is accepted or not. Therefore, testing those two variables was very important.

3.2 Population

Before conducting the research, researcher should define his or her population. According to Ary, et. al. (2010:520) population is a group of people, event or object with a similar characteristic. The population of this research was all eleventh grade students of SMAN 02 Batu. Furthermore, all of students has their age ranging from 15-17 years old. There are 9 classes of eleventh grade at SMAN 02 Batu which one of class consists of 34 students. Hence, the amount population of this study was 306 students.

3.3 Sample

Creswell, (2012) argues that researcher can take subgroup of the target population that would be researched as the representative which is called by sample. Sample was selected by researcher using sampling technique. In this study, researcher deliberately used cluster sampling. Cluster sampling allowed
researcher to take one group, unit or class which were already existed. According to Ary (2010:154) cluster sampling members was chosen by group or unit which were already naturally together. There are two reasons why researcher employed cluster sampling. Firstly, the teacher could not accommodate the right time for conducting the research since it disturbed the teaching learning process. Secondly, teacher offered the researcher to take one or two classes only for conducting the research. Hence it would be more convenient for researcher to select sample using cluster sampling.

In order to estimate numbers of sample the researcher adopted from Sugiyono (2008) to collect the sample. He briefly explains that if the population is more than 100 the researcher can take 10%, 15%, 20% or 55% of the population as a sample. Since the population of this research is more than the 100, which is 306 students, thus, the researcher took 10% from 306. Hence, researcher took one class which is class E of eleventh class and the class consists of 34 students.

3.4 Research Instrument

Research instrument is simply a tool for research in obtaining the data. Likewise, Wilkinson and Birmingham (2003:3) define that research instruments are tools for requiring relevant information for the project of research. There are two types of research instruments in this study namely questionnaire and document analysis, explained as follow:
a. Self-Efficacy Questionnaire

Creswell (2012) explains that questionnaire is the form containing participants’ answers about questions and supply basic, personal, and demographic information in survey design. The questionnaire was used since it provided structural information needed that related to three aspects of self-efficacy (see table below). Moreover, questionnaire was measured its validity and reliability by SPSS version 18.0 in order to ensure the answers were valid. Researcher adopted the questionnaire from Hairuzila and Subarna (2007) that they adopted from Bandura’s questionnaire. Furthermore, the first eight items (1 up to 8) aimed to investigate Students’ judgment of their self-efficacy level. It deal with how students measured their ability. The next eight items (9 up to 16) aimed to investigate how students’ judgment of their self-efficacy in generality. It deal with students ‘belief’ in their abilities in various activities. The last six items (17 up to 22) aimed to investigate Students’ judgment in the strength of their self-efficacy. It deal with how students cope with their failure and goals. Hence there were 22 items of self-efficacy questionnaire.

### Table 3.1 Blueprint of Self-Efficacy Questionnaire

<table>
<thead>
<tr>
<th>No</th>
<th>Aspect</th>
<th>No Items</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Students’ judgment of their self-efficacy level</td>
<td>1,2,3,4,5,6,7,8,8</td>
<td>8 questions</td>
</tr>
<tr>
<td>2.</td>
<td>Students’ judgment of their self-efficacy in generality</td>
<td>9,10,11,12,13,14,15,16,8</td>
<td>8 questions</td>
</tr>
<tr>
<td>3.</td>
<td>Students’ judgment in the strength of their self-efficacy</td>
<td>17,18,19,20,21,22,6</td>
<td>22 questions</td>
</tr>
</tbody>
</table>

Sub total
This questionnaire used likert scale. According to Bertram (2006), likert scale is set of statement for obtaining participant’s preference degree in a psychometric response scale. It usually ranges from strongly agree or sangat setuju (SS), agree or setuju (S), neutral or netral (N), disagree or tidak setuju (TS), strongly disagree or sangat tidak setuju (STS). The questionnaire was constructed deliberately in Bahasa Indonesia in order to avoid students’ misunderstanding.

**Document Analysis**

According to Scambor document analysis is method of investigation focusing on existed data material or document. Hence, In order to gain data of students’ speaking achievement, researcher took the scores that had been already available in students’ reports in odd semester.

**3.5 Data Collection**

It is essential for researcher decide procedures for obtaining data. These procedures were called as data collection. Ary et al (2010) remark that the data collection is techniques of collecting or gathering the data. The data were collected from eleventh grade of SMAN 02 Batu. Based on the sample, it was clearly explained that the researcher chose one class consisting of at least thirty students to be researched. All the process to collect the data explained as follows:
1. Preparation

The first step, researcher did some preliminary observation to school that was selected to be place to conduct the study. The followed step was researcher administered for permit letter for conducting study on that school. Furthermore, researcher prepared for the research instruments in order to gather the data. Then, after research instruments were done, researcher could determine the date that was approved by school for conducting the study.

2. Action

This study conducted at SMAN 02 batu on the 23rd to 25th January 2017. Researcher requested to teacher for students’ speaking score in the odd semester. After getting the data, researcher came to the class to distribute self-efficacy questionnaire for students which should be answered. The students were assured that their answer would be used for research purposes. The following step was classifying students’ answers into the Microsoft Excel. Students’ answers were classified with statements in the questioner.

3. Data Validation

There two data that researcher obtained. Firstly, the students’ speaking score in the odd semester. Secondly, the students’ response of self-efficacy questioner. Researcher processed students’ responses of questionnaire with validity and reliability measurement with the help of SPSS 18.0. The following step was researcher used Pearson Product Moment correlation of SPSS version 18.0 of two data namely the score of
students’ speaking and students’ response. Hence, researcher could answer
the research problem of this study.

3.6 Data Analysis

Data analysis is a process of analyzing and arranging the data in order
to enable the researcher to come up with findings (Ary et al, 2010). After
collecting the data researcher analyzed the data using statistical
measurement. The procedures of analyzing data would be explained as
follow:
1. In order to interpret the students’ response of self-efficacy
questionnaire, T-Score was used for investigating whether high or low
the students’ self-efficacy. The T-Score formula explained as follow:

\[
T\text{-score} = 50 - 10 \left( \frac{X - \bar{X}}{S} \right)
\]

\(X\) = Score each student’s response
\(\bar{X}\) = Mean score students’ response
\(S\) = Standard deviation of students’ response

2. Score of students’ speaking achievement were obtained from students’
reports.

3. Calculating the correlation coefficient of students’ self-efficacy scale
and students’ speaking achievement using Pearson’s Product Moment
Correlation. The formula is as below:
\[ r = \frac{\sum XY - \left( \frac{\sum X}{N} \right) \left( \frac{\sum Y}{N} \right)}{\sqrt{\left( \sum X^2 - \frac{(\sum X)^2}{N} \right) \left( \sum Y^2 - \frac{(\sum Y)^2}{N} \right)}} \]

- \( r \) = the correlation coefficient product moment

- \( \sum XY \) = the two variables (students’ self-efficacy scale and students’ speaking achievement)

- \( N \) = number of subject

- \( \sum X \) = total score in X (students’ self-efficacy scale)

- \( \sum Y \) = total score Y (students’ speaking achievement)

- \( \sum X^2 \) = total score quadrate X (students’ self-efficacy scale)

- \( \sum Y^2 \) = total score quadrate Y (students’ self-efficacy scale)

4. The data were analyzed by using SPSS software version 18.0 and Microsoft Excel.

5. From all those steps, the researcher made description about the data.