CHAPTER III
RESEARCH METHODOLOGY

This chapter describes the procedure of the research in order to find the answers of the two questions stated in Chapter One. It covers the statements of the problems, research design, site and respondent, data collection, and data analysis.

3.1 Statements of Problems

This paper seeks to address the following questions.

1. To what level of self-efficacy do the students belong?
2. What are the factors influencing the students' self-efficacy in speaking English?

3.2. Research Design

This current study applied mixed method research in order to find out the students' self-efficacy level in speaking English and the factors influencing the self-efficacy level. Creswell (2003) explains that mixed method involves both collecting and analyzing quantitative and qualitative data. He defines it as the sequentially collection or analysis of both quantitative and qualitative data in a single study, which involves the integration of the data in the process of the research (Creswell, Clark, Gutmann, Petska & Hanson, 2007).

The first research question was aimed to find the level of the students' self-efficacy in speaking English. Questionnaire was chosen as the instrument to find out the self-efficacy level of 61 participants. A seven-point likert scale was applied on it, and the results were analyzed by using IBM SPSS 20.0 in order to check the validity and reliability of the data. An ordinal category formula (see Table 3.3) was also applied to determine students' self-efficacy level. Therefore, a

21

quantitative analysis was considered appropriate to count and interpret the data from the survey.

On the other hand, the second research question was aimed to find the factors influencing students' self-efficacy level. One of the ways to identify the factors is by administering an interview. It was conducted once to each of the participants who had been chosen based on their self-efficacy level. Since the interview was the main source of the data in this research question, a qualitative analysis was needed to interpret and describe the data from the interview transcription.

Seeing the description above, a mixed method research was employed because it helped the collection and analysis of both data needed for the research. The following is the figure of the process of mixing the data.
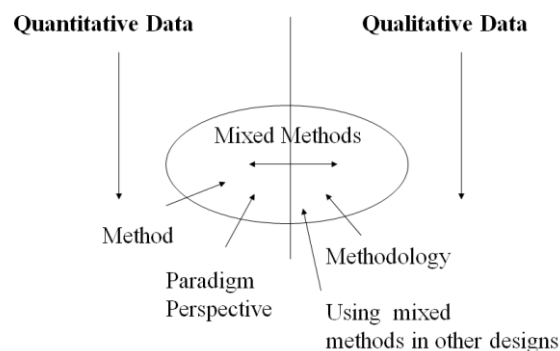

Figure 3.1 Creswell's process of mixing mixed data (2010)

The advantage of applying mixed method is on the result of mixing the data, and its function to the study. By mixing the datasets, it provides a better understanding of the problem than if either dataset had been used alone (Creswell, 2006). Brewer and Hunter (1989) state that when both quantitative and qualitative data are included in a study, the data gained will make the result even richer than one form of data. In other words, it helps to provide richer and more

22

comprehensive results in a research than either only quantitative or qualitative study.

3.3 Site and Respondents

This study was conducted in a senior high school in Bandung. The site was chosen due to two reasons; first, this school was open for research that it gave an access to do the research. Second, this school was categorized as the first cluster school in Bandung. Thus, it was very challenging to see the students' self-efficacy in speaking English found here. The data were taken from two classes of eleventh grader. The total respondents of this research were 61 students from both classes.

3.4. Data Collection

In mixed method research, surveys and interviews are commonly combined together (Creswell, 2006). In this study, a survey was employed through the questionnaire, and then an interview was conducted to the participants. In this way, the data were gained through multiple data collection techniques, and each technique would be described thoroughly below.

3.4.1.Questionnaire

Questionnaire is best used (also sometimes called a survey, checklist or schedule) when the responses are from many participants. It is also important to obtain sighted information from the participants. In accordance to the data needed, Dörnyei (2003, cited in Burns, 2010) notes that questionnaires can get you three types of information; factual or demographic (who the interviewees are and their background/experiences), behavioural (what they do, or did in the past) and attitudinal (attitudes, opinions, beliefs, interests and values). In this study, the

23

questionnaire was expected to present the factual and attitudinal data, which represented the depiction of students' self-efficacy level in speaking English.

A closed-ended questionnaire adapted from Bandura's "children's perceived academic self-efficacy" (Bandura, Pastorelli, Caprara, Barbaranelli, Rola, & Rozsa, 2001)' was employed in this study. There were 15 questions adapted, which were very task-specific, included in the questionnaire related to students' academic achievement (see Appendix A). It is in *Likert scale* form and categorized as subject-completed instrument (Creswell, 2006). The scale was ranged range from 1 (Very Poor) to 7 (Very Good). The participants were asked to put a checklist on the box with a number that best represented their estimation of their English speaking skill. The ranges self-efficacy levels of self-efficacy were taken from the students' total score of all items which were proceed by using ordinal category formula (see Table 3.3). Since this study includes ordinal category formula, the formula directly divides the scores into five ranges, namely very high self-efficacy, high self-efficacy, medium self-efficacy, low self-efficacy, and very low self-efficacy. It will be explained further in ordinal category (see Table 3.3 Ordinal Category).

3.4.2.Interview

Interview is a useful way in a study to conduct a conversation that explores information needed. Burgess (1984:102, cited in Burns, 2010) describes interview as "a conversation with a purpose". It reveals information, which does not appear in the other instruments, and, therefore, it gains participants' perspective more deeply (Hatch, 2005). The number of participants chosen for the interview will depend on the time availability, since interviews can be more time consuming than observations or surveys (Burns, 2010).

24

In order to acquire deeper information on the participants' views, semi-structured interview was employed in this research. According to Burns (2010), this type of interview is not only structured and organized, but also more open and flexible. It was conducted to 10 students from five levels of self-efficacy. From very high self-efficacy to very low self-efficacy towards speaking English. Each level was represented by two students. The interview was conducted twice, five participants on Monday, September 10th 2012 and five more on Thursday, 13th 2012. The participants were asked 29 questions based on the three main factors influencing self-efficacy level as described in Chapter II (see Appendix C).

The students were interviewed one by one in a closed room, as Emilia (2005:81) states that individual interviews are intended to allow for greater depth. The languages used during the interview were Indonesian and English. Some students preferred to have the interview in English, and some others preferred in Indonesian. A tape recorder was used to record the interview, and the document of interview were then transcribed (Emilia, 2005).

3.5. Trying Out the Instrument

The purpose of trying out the instrument is to make sure that the items are valid and reliable before it is administered to the participants. As Sugiyono (2002) explains, the valid and reliable instrument in collecting data will result in the valid and reliable data of the research. The try-out was administered to 30 students of eleventh grade, and the results were analyzed by using IBM SPSS 20.0. Each step will be further explained as follow.

3.5.1. Validity of the instrument

By finding out the validity of the instrument, it gives benefit for the study before taking further action. An invalid instrument can lead to misunderstanding, which absolutely effects to the wrong data and the wrong result. Setiadi (2010)

25

says that it wastes away if the questionnaire is too long for the respondent to complete and it could be time consuming and possibly not easily understandable by the respondent. Thus, it leads to invalid data.

Validity is the degree to which a test measures what is supposed to be measured. Therefore, 'a questionnaire should measure what is supposed to be measured' (Umar, 2002). In order to check the validity of the instrument, a correlation technique is mostly used (Masrun, 1979). He explains the item, which has positive and high correlation with the total score, is the item that has high validity. Here are the steps to measure the instrument validation:

1) If r-result is bigger than r-table (r-result > r-table), so the item is valid. But the item will be considered as invalid if--if the correlation between the item and r result is less than r table (r-result < r-table).

2) Comparing r-result with r-table (0.252).

3) Concluding the comparison.

(Sugiyono, 2011)

Based on the results of the questionnaire, all of the r-result from each question is bigger than the r-table (0.252). The r-result is bigger than r-table (see Table 3.1), so the questionnaire was considered as a valid instrument.

Table 3.1

The result of validity test on students' self-efficacy in speaking English

Items of questions	r-result	r-table	*Ket*
SE 1	0.745	0.252	Valid
SE 2	0.760	0.252	Valid
SE 3	0.800	0.252	Valid
SE 4	0.838	0.252	Valid
SE 5	0.733	0.252	Valid
SE 6	0.668	0.252	Valid
SE 7	0.780	0.252	Valid
SE 8	0.650	0.252	Valid
SE 9	0.717	0.252	Valid

26

SE 10	0.707	0.252	Valid
SE 11	0.804	0.252	Valid
SE 12	0.688	0.252	Valid
SE 13	0.760	0.252	Valid
SE 14	0.731	0.252	Valid
SE 15	0.756	0.252	Valid

3.5.2. Reliability of the instrument

Reliability is defined as the extent to which a test procedures consistent to the results when it is administered under a similar condition (Hatch & Fahardy, 1982). Testing the reliability of the instruments is intended for convincing that the instrument will yield the same results even thought carried out in different classes. One of the methods to check the reliability of an instrument is Alpha-Cronbach method (Budi, 2006). The formula is:

$$r_i = \left(\frac{K}{k\text{-}1} \right) \left\{ 1 - \frac{\sum S_i{}^2}{S_t{}^2} \right\}$$

Where

k : Mean square between the subject

$\sum S_i{}^2$: Mean square of the error

S_t : The total of the variants

(Sugiyono, 2011)

27

In this method, the r result is shown as alpha, and if the alpha is more than the criterion (0.06), as well as having positive value, the instrument is reliable. Based on the reliability test, it was found that the Cronbach's alpha of the data fell at 0,953 (see Table 3.2). The alpha (0,953) was bigger than the criterion (0.06), so the instrument used in this study was reliable. Since the instrument was valid and reliable based on the tests, it was administered to all participants to obtain the data needed in this study

Table 3.2

The result of reliability test of students' self-efficacy in Speaking English

Variable	Cronbach's Alpha	Criteria	
Students' self-efficacy in speaking English	0.953	>0.06	Reliable

3.6. Ordinal Category

Ordinal category is a categorization of a group tested or a scale into several levels. It is purposed to place an individual to their own level according to assessed attribute (Azwar, 2012). For example, the continuum of the level would be "the lowest to the highest". The assumption of this category is it has normal distribution. For that reason, the levels can be determined by grouping it based on existing formula (see Table 3.3).

The results from self-efficacy scale were categorized into five levels, namely very high, high, medium, low, and very low by using the self-efficacy scale category. It is described in the following table, and the clear description of the formula can be seen in Chapter IV.

Table 3.3

Ordinal category formula in normal distribution data

28

Scoring Range	Criteria
$X \geq \mu + 1{,}5\sigma$	Very High
$\mu + 0{,}5\sigma < X \leq \mu + 1{,}5\sigma$	High
$\mu - 0{,}5\sigma < X \leq \mu + 0{,}5\sigma$	Medium
$\mu - 1{,}5\sigma < X \leq \mu - 0{,}5\sigma$	Low
$X \leq \mu - 1{,}5\sigma$	Very Low

Where

X : Subject's raw score

μ : Mean score

σ : Standard deviation

(Azwar, 2012)

3.7. Data Analysis

Since this current study employed mixed method, the data collected were analyzed in two ways, analysis for quantitative and qualitative data. Firstly, the quantitative data, which were gathered by questionnaire, were analyzed by SPSS 20.0 to interpret the data. It was further processed through the ordinal categorization to determine the range of the students' self-efficacy level, from very high to very low. For the second question, as a qualitative data, Creswell (2006) suggests some preparations before analyzing the data from the interview, including: (1) Data Organization: organize the data into files and folders based on the type of the data, (e.g. questionnaire or interviews), displaying the data in form of table or matrix, and keeping copies of all the data.), (2) Data Transcript: convert any forms of data into text data, and (3) Means for Analysis: the process

29

where the data are analyzed by hand or computer. To make it in detail, each step of the data analysis based on the instrument used was elaborated as follow:

3.7.1.Questionnaire

In order to categorize the participants' level of self-efficacy in speaking English, their scores in the questionnaire were quantified by using SPSS 2.0 and next processed to the ordinal category. The steps are listed as follows:

1. Calculating the total score of each participant's questionnaire by summing up the grade of each question (see appendix B)
2. Arranging the scores in order (from the highest to the lowest).
3. Analyzing the data by using SPSS 20.0 (see Chapter IV).
4. Processing the score in the ordinal category formula to determine the range of students' level of self-efficacy (see Table 3.3 and Chapter IV).

3.7.2. Interview

The interviews were conducted to ten students based on a set of interview guidelines (see Appendix C). Since there were five levels of self-efficacy, the students were labeled to represent each level. Therefore, the students were labeled as:

1. Students with very high self-efficacy :   Student 1 and Student 2
2. Students with high self-efficacy   :   Student 3 and Student 4
3. Students with medium self-efficacy :   Student 5 and Student 6
4. Students with low self-efficacy   :   Student 7 and Student 8

30

5.   Students with very low self-efficacy :   Student 9 and Student 10

The data from the interviews were further transcribed, coded and analyzed based on the main issue that was the factors influencing students' self-efficacy. The factors were taken from the theory of factors influencing adolescents' self-efficacy from Schunk and Meece (2005) (see Chapter II). The analyses of the interview were also to ensure the validity and reliability of data in students' self-efficacy scale. Here are the steps to analyze the data obtained in the interview:

1.   Transcribing the data in the audio-recorder. A condensed version of interview can be seen in Appendix D.
2.   Reducing inappropriate data which are not relevant with this research.
3.   Categorizing and coding the data based on the theme that is the factors influencing students' self-efficacy.
4.   Relating the data to the theories of self-efficacy and previous stuies on students' self-efficacy. Creswell (2006) says that interrelating themes is important to provide rigorous insight of the findings.
5.   Reporting the findings by using narrative discussion. Narrative discussion, as Creswell (2006) suggested, is the most common form of reporting findings in qualitative research in which the writer summarized the findings from the data analysis in detail.