

## **Chapter Three**

### **Research Methodology**

This chapter presents the research methodology used in this study. This chapter presents the research design, research setting, research population, and the instrument of the study. Afterwards, this chapter also explains the data collection method and followed by the data analysis of this study.

#### **Research Design**

This research conducted a quantitative research design. The researcher has chosen this research design because quantitative research is used to identify a research problem based on trends in the field and to know how one variable affects another (Creswell, 2012). The characteristics of quantitative research design as stated by Creswell are describing a research problem through a description of trends as the explanation of the relationship among variables, collecting numerical data using instruments and analyzing trends, or relating variables using statistical analysis. Thus, this research design is suitable for this study because the researcher only focused on analyzing the trends based on the problem.

Creswell (2012) stated that survey design is used to determine the trends in community. This statement is in line with the researcher's concern in conducting this study. Thus, the researcher used survey design as the research method. The type of survey design used in this study was a cross-sectional survey design because the researcher collected the data at one point time (Creswell, 2012). Creswell added that survey study describe trends in the numerical data

rather than offer firm explanation. Furthermore, Cresswell also said that a cross-sectional study can examine current attitudes, beliefs, opinions or practices. The objective of this study was to assess the students' participation in group discussion and to know the factors that influence their participation. Therefore, survey design was suitable research method used in this study.

### **Research Setting**

This study was conducted at English Education Department of UMY. The researcher has chosen this setting because the teachers of EED UMY often used group discussion as the teaching technique in the learning process. Thus, the problem of this study was based on the researcher's experience as an EED of UMY student. Therefore, the researcher can easily access the data from the participants.

### **Research Population**

The population of this study is all of the English Education Department of UMY students' batch 2014. The researcher has chosen this population because the setting of this study took place at EED of UMY. Furthermore, the reason why the researcher has chosen the third-year students as the research population because there were any differences levels of students' speaking proficiency in every batch. The researcher decided to only choose the students batch 2014 because they have a lot of experiences in implementing group discussion in their learning activities compared to the sophomore and first-year students.

Moreover, senior students of batch 2013 are doing their thesis and the researcher believes it would be difficult to get the data from them. Thus, the researcher has chosen the third-year students as the population which consisted of

four classes from A to D with the number of students for each class varied from 30 to 35. Thus, the total population in this study was 122 students of EED UMY batch 2014. Because the researcher used total sampling, thus, the whole population became the participants. Therefore there were 122 participants in this study.

### **Data Collection Method**

The researcher used two kinds of questionnaire when collecting the data. The researcher modified the existing questionnaire from the previous study conducted by Atwood (2004). Unfortunately, Atwood did not provide the validity of the questionnaire in the study. Thus, the researcher tested the validity of the questionnaire as the very first step to analyze the data.

The Student Attitudes Questionnaire (SAQ) was used to assess students' participation level in group discussions. There are 10 statements about the situations that may appear to survey students' participation in group discussions. The Participation Checklist identified the students' reasons to participate and did not participate in group discussions. There are 10 statements that might be the factors influencing students' participation in group discussions and 10 statements that might be the factors influencing students' non participation. To answer the SAQ questionnaire, the respondent chooses one optional answer of the rating scales provided. Cresswell (2012) said that rating scale is respondents' response of the instruments items with an interval between the categories. There are four rating scales provided in the SAQ questionnaire. They are 1 refers to *Never* 2 refers to *Sometimes* 3 refers to *Often* and 4 refers to *Always*.

To answer the Participation Checklist, the respondent may choose more than one of the statements based on their reasons to participate and or non-participate in group discussions and add their personal reasons in the sheet provided. The researcher used a paper based questionnaire and distributed the questionnaire for two days. The first day, the researcher distributed the questionnaire to class A and B and the next day the researcher distributed the questionnaire to class C and D. Before the students answered the questionnaire, the researcher gave some instructions as well as it needed. The time allocation given to the students was about 10 minutes to answer 30 statements of the questionnaire. After they answered the questionnaire, the researcher collected all the questionnaire sheets. The researcher measured the interval of each category based on Supranto's formula (2006), as the following:

$$c = \frac{Maxvalue - Minvalue}{N}$$

$$c = \frac{4 - 1}{4} = \frac{3}{4} = 0.75$$

c = class width (interval)

Max value = maximal value

Min value = minimal value

N = number of classes (categories)

The formula shows that the interval for each category is 0.75. The following table shows the interval score of the categories:

**Table 3.1**

**The interval score of students' participation level in group discussions**  
**(Supranto, 2006)**

<b>Interval</b>	<b>Categories</b>
3.25-4.00	High
2.50-3.25	Moderate
1.75-2.50	Low
1.00-1.75	Very Low

Table 3.1 shows the interval and categories of students' participation in group discussions. First, students' participation in group discussions is high if the interval is 3.25-4.00. It shows that the students are actively participating in group discussions. Next, students' participation is categorized as moderate if the interval is between 2.50 and 3.25. It shows that the students' participation and nonparticipation in group discussions are equal. Then, students' participation in group discussions is low if the interval is 1.75-2.50. It shows that many students are keeping silent in group discussions. Last, students' participation in group discussions is very low if the interval is only 1.00-1.75. It shows that most of students are choose to be nonparticipation or being passive in group discussions.

### **Instrument of the Study**

The researcher used a questionnaire as the instruments of this study. Cohen et al (2011) defined questionnaire as numbers of questions that should be answered by the respondent based on their beliefs. Type of the questionnaire used in this study was "closed" and "open" questionnaires. Closed questionnaire means

the respondents only choose the answers per item by making a mark on the options while open questionnaire enable the respondent to write a free answer in their own terms. Cohen et al, (2011) also added that in general, closed questionnaire is quick to complete and straightforward to code. Closed questionnaire is directly to the point and more focused than open-ended questions.

Furthermore, it is useful to generate the frequencies of response in statistical analysis. On the other hand open questionnaire can lead to irrelevant information. The respondent may need much more time to answer the questions. The researcher used and modified the existing questionnaires from Atwood (2004). The questionnaires are included the demographic form, the Student Attitudes Questionnaire and the Participation Checklist. The researcher translated the questionnaire into Indonesian Language as the first language or mother tongue of the sample to make it easier for the respondent to understand the statement.

### **Analysis of the Data**

**Instrument testing.** After the data were collected by distributing the questionnaire, the researcher checked the instrument testing. The very first step was testing the validity and reliability of the instrument items. Testing the validity of the data is important in conducting a research. If the data is invalid then it is worthless for the research.

**Validity.** Cohen et al. (2011) defined validity as the degree of standard acknowledgement of the data. The validity might be improved by the careful sampling, appropriate instruments and appropriate statistic of the data. The researcher used expert judgment to know the validity of the instrument. Expert judgment helped the researcher to know whether the questionnaire items are valid

or need word revision. The researcher has chosen three teachers at EED of UMY to give the expert judgment. The expert suggested that some statements need to be revised in order to make better statements. The validation sheet from the expert judgment is attached in the appendix.

Then the researcher also analyzed the instrument's validity used SPSS program. The data was analyzed to identify the  $r$  value and the researcher compared the  $r$  value and  $r$  table. The questionnaire items are valid if the  $r$  value is higher than  $r$  table (Sugiyono, 2013). The criteria of items validity is shown in the following table:

<b>Table 3.2</b>
<b>The criteria of items validity (Sugiyono, 2013)</b>
$r \text{ value} > r \text{ table} = \text{valid}$
$r \text{ value} < r \text{ table} = \text{not valid}$

Every sections of the questionnaire consist of 10 items with different categories (Q). The researcher distributed the questionnaire to 122 respondents (n). Based on the Table of Critical Values for Pearson's  $r$  with the Level of Significance for a Two-Tailed Test 0.05 for  $n = 122$  the  $r$  table is 0.176. It means the  $r$  value for each questionnaire items should higher than 0.176 to make the items valid. The result of SPSS statistical data shows that all items have  $r$  value above 0.176 and indicated that all items are valid. The researcher minimized the validity table from the SPSS into a simple table to ease the data analysis. The table 3.3 below shows the  $r$  value and validity items of the first questionnaire section from the SPSS statistical data.

<b>Table 3.3</b>			
<b>Instrument validity questionnaire 1</b>			
<b>Items</b>	<b>r table</b>	<b>r value</b>	<b>Validity</b>
Q1	0.176	0.661	Valid
Q2	0.176	0.417	Valid
Q3	0.176	0.400	Valid
Q4	0.176	0.594	Valid
Q5	0.176	0.693	Valid
Q6	0.176	0.678	Valid
Q7	0.176	0.741	Valid
Q8	0.176	0.694	Valid
Q9	0.176	0.591	Valid
Q10	0.176	0.491	Valid

\*N of items: 10

\*valid items: 10

The table 3.4 below shows the r value and validity items of the second questionnaire section from the SPSS statistical data.

<b>Table 3.4</b>			
<b>Instrument validity questionnaire 2</b>			
<b>Items</b>	<b>r table</b>	<b>r value</b>	<b>Validity</b>
Q1	0.176	0.551	Valid
Q2	0.176	0.509	Valid
Q3	0.176	0.541	Valid
Q4	0.176	0.518	Valid



Q5	0.176	0.485	Valid
Q6	0.176	0.332	Valid
Q7	0.176	0.276	Valid
Q8	0.176	0.524	Valid
Q9	0.176	0.412	Valid
Q10	0.176	0.580	Valid

\*N of items: 10

\*valid items: 10

The table 3.5 below shows the r value and validity items of the third questionnaire section from the SPSS statistical data.

<b>Table 3.5</b>			
<b>Instrument validity questionnaire 3</b>			
<b>Items</b>	<b>r table</b>	<b>r value</b>	<b>Validity</b>
Q1	0.176	0.493	Valid
Q2	0.176	0.404	Valid
Q3	0.176	0.454	Valid
Q4	0.176	0.422	Valid
Q5	0.176	0.494	Valid
Q6	0.176	0.329	Valid
Q7	0.176	0.442	Valid
Q8	0.176	0.586	Valid
Q9	0.176	0.484	Valid
Q10	0.176	0.489	Valid

\*N of items: 10

\*valid items: 10

**Reliability.** Afterwards, the researcher tested the reliability of the instrument. As stated by Cohen et al. (2011), reliability is also called the consistency over time, over instrument and over groups of respondents. Reliability makes assumption that instrumentation should be consistent and replicable. The reliability of the data might be improved by minimizing any external sources of variation. The reliability of the instruments was measured by using Cronbach's Alpha criteria.

<b>Table 3.6</b>	
<b>Criteria of reliability of Cronbach's Alpha (Cresswell, 2012)</b>	
<b>Cronbach's Alpha</b>	<b>Criteria</b>
>0.90	Very highly reliable
0.80-0.90	Highly reliable
0.70-0.79	Reliable
0.60-0.69	Low reliable

Table 3.6 shows the criteria of reliability of the instruments. The instruments are very highly reliable if the Cronbach's Alpha is higher than 0.90. Then, the instruments are highly reliable if the score shows 0.80-0.90 and reliable if it shows between 0.70-0.79. Last, the instruments will low reliable if the score shows 0.60-0.69.

The figure 3.1 below shows the Cronbach Alpha value and reliability items from the SPSS statistical data for the first questionnaire section.

Figure 3.1 Instrument reliability questionnaire 1

**Figure 3.1**  
**Reliability Statistics**

Cronbach's Alpha	N of Items
.796	10

The Cronbach Alpha value for the first questionnaire section is 0.796, it means the instrument is reliable to use.

The figure 3.2 below shows the Cronbach Alpha value and reliability items from the SPSS statistical data for the second questionnaire section.

Figure 3.2 Instrument reliability questionnaire 2

**Reliability Statistics**

Cronbach's Alpha	N of Items
.781	10

The Cronbach Alpha value for the second questionnaire section is 0.781, it means the instrument is reliable to use.

The figure 3.3 below shows the Cronbach Alpha value and reliability items from the SPSS statistical data for the third questionnaire section.

Figure 3.3 Instrument reliability questionnaire 3

**Reliability Statistics**

Cronbach's Alpha	N of Items
.776	10

The Cronbach Alpha value for the third questionnaire section is 0.776, it means the instrument is reliable to use.

## **Data Analysis**

The researcher analyzed the data collected using descriptive statistic because it is used to describe and present the data in terms of summary frequencies (Cohen, et al. 2011). The researcher used descriptive statistic to assess the degree of students' participation in group discussions and the influencing factors. The researcher measured the frequencies and the central tendency to measure the percentage of students' participation in group discussions at EED of UMY used SPSS.17. Then, the researcher measured the frequency and percentage of each questionnaire statements of influencing factors to determine the factors that influence students' participation and nonparticipation from the highest to lowest.