CHAPTER III

RESEARCH DESIGN

This chapter discusses things related to the way this study is conducted. Research design, data collection which consist of population, sample, and sampling, research instruments, validity and reliability testing, data collecting method and data analysis.

A. Research Design

The research design is the way how to collect the data and search the result of the study. In the other words, when designing research we need to ask: given the research question (or theory), what type of evidence is needed to answer the question (or test the theory) in a convincing way Research design ‘deals with a logical problem and not a logistical problem’ (Yin, 1989).

The research design used in this research is correlative quantitative research, and Ary Donald, Cheser Lucy, and Sorensen Chris (2010: 349-340) stated that Correlational research is nonexperimental research that is similar to ex post facto research in that they both employ data derived from preexisting variables. There is no manipulation of the variables in either type of research. They differ in that in ex post facto research, selected variables are used to make comparisons between two or more existing groups, whereas correlational research assesses the relationships among two or more variables in a single group. Ex post facto research investigates possible cause-and-effect relationships; correlational research typically does not. An advantage of correlational research is that it provides information about the strength of relationships between variables.

To know the relationship of emotional qoutient and speaking ability students, the writer used an instrument that Originally designed by BarOn in 1980. Nowadays, we called it as BarOn Emotional Quotient Inventory (BarOn EQ-I) a self-report scale with 133 items which measure 5 composite and 15 subscale. The composite break down into 5 domains that are intrapersonal EQ which are divided into sel-regard, self-actualization, emotional self-awareness, assertiveness, and independence. Interpersonal EQ which are divided into interpersonal relationships, empathy, and social responsibility. Adaptability EQ which are divided into problem solving, reality testing, and flexibility. Stress management EQ which are divided into impulse and stress tolerance. General mood which are divided into optimism and happiness.

Otherwise, the researcher use speaking test to know speaking ability of the students. As long as we know that speaking was important skill to be conducted as an attempt to know the speaking ability of the students to comprehend the meaning in variety of task. Therefore, the student received a single score reflecting their performance. (Douglas in Hughes 2002).

B. Population, Sample and Sample

1. Population

Population is group of interest to the researcher, the group to which she or he would like the result of the study to be generalizing (Gay, 1992,: 125) an important characteristic of inferential statistic is process of going from the part to the whole. The small group that observed is called a sample and larger group about which generalization is made, we called a population. A population defined

as all members of any well-defined class of people, events or object. (Ary, 2010: 148)

The population in this research that being observed by the researcher is all the fourth semester approximately were 190 students of English department in State of Islamic Institute of Tulungagung consist of A until E class.

2. Sample

Sample is part of population that being studied. Sample shall be seen as a nation to population is not population itself (Bailey, 1994 83) cited on (Prasetyo and Janah, 2008: 119) selected sample is a very important to conducting a research study. Sample must be repetitive if one is to be able to generalize with confidence from the sample to the population. Arikunto (2001: 131) moreover, states that "sample" is part of population which representative it" He also states "if the subject less than 100, it is better taken all so its research constitutes population. Here after if total subject outgrow, therefore get among been taken 10-25% or 20-25 or more" (Arikunto, 2002: 112).

Shortly, this research sample was chosen by the researcher is the fourth semester students in 4B English department of State Islamic Institute in academic year 2017-2018 as sample. In this class have 46 students but only 39 students who follow the EQ test that the writer distributed. Interestingly, the numbers of students in 4b class have higher students than the other class. Based on the speaking lecturer said there were 3 class in fourth semester that have good impression in English included this class. But only 4B class whose have a great amount of the students and most of them have good impression in English.

3. Sampling

The sampling is a technique to take the sample. Sampling is indispensable to the researcher (Ary, 1972: 138). According to Gay (199: 123), sampling is the process selecting a number of individual for a study in such as a way that the individuals represent the large of group from which they were selected "the purposive sampling was applied in the research. Purposive sampling is the process of selecting the 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 research, the researcher doesn't conduct investigation to all the population so the researcher gained sampling research. Than to get sample that representative and related with the variable the researcher uses purposive sampling. Bungin (2005:115) said that sampling technique at research more give priority of research purpose that population characteristic in determines research sample.

Then in this case the researcher chose students' 4^{th} semester in B class. The respondent should have the same knowledge capacity toward learning English background is essential to do. Therefore, this study can examine the relationship between emotional quotient and student's speaking ability without any intervention of other moderator variables such as English learning experience and so forth. So, the reasons of the researcher chose the sample because they have well impressive in English.

C. Research Instrument

Before applying two main research instruments, the sample had been selected based on some criteria. To know this aspect, a paper sheet had spread to 39 students in 4B class in order to gain their information about their length of English learning experience, their educational background, their experience in teaching English and their achievement in English subject. Then, two main instruments were used in this study. The following were the instruments which had been used to gain the data:

1. Questionnaire

This study used mixed model of Emotional quotient as the basis of theory to measure students‟ emotional intelligence. Researchers in the mixed model tradition have typically used questionnaires to assess emotional intelligence (Schutte, et.al, 1998). The approach is based on the assumption that people have sufficient insight into their own emotions and real-life functioning for self-report to be valid (Zeidner, et.al, 2009, p.26).

There were some reasons of using questionnaire in this research. First, the use of questionnaire provides a straightforward and economical means for measuring individual differences in emotional intelligence (Schutte, Malouff & Bhullar, 2009). Moreover, It relates to administration method (Van Rooy & Viswesvaran, 2007). The second one relates to administration costs. The use of self-report EI test is generally inexpensive and requires few resources for administration.

The questionnaire used in this study was BarOn Emotional Inventory (EQ-I) as the basis theory to measure students emotional intelligence. The

questionnaire used in this study was emotional intelligence scale which was originally design by BarOn in 1980. Nowadays, we called BarOn Emotional Quotient Inventory (BarOn EQ-I) it is a self-report scale with 133 items which measure 5 composite and 15 subscale. The composite break down into 5 domains that are intrapersonal EQ which are divided into self-regard (9 items), self-actualization (9 items), emotional self-awareness (8 items), assertiveness (7 items), and independence (7 items). Interpersonal EQ which are divided into interpersonal relationships (11 items), empathy (8 items), and social responsibility (10 items). Adaptability EQ which are divided into problem solving (8 items), reality testing (8 items), and flexibility (8 items). Stress management EQ which are divided into impulse (9 items) and stress tolerance (9 items). General mood which are divided into optimism (8 items) and happiness (9 items) (Bar-On, 1997, pp. 43–45).

Generally, BarOn Emotioanl Quotient Inventory (EQ-I) used 133 items for measuring Emotional Intelligence of the respondent, based on the expert validation result suggest that the writers to take less than 133 items for sure it's enough for given to the respondent. However, the important thing that every items reflecting on each sub domains of EQ. According to the Sadeghi and Farzizadeh (2013) in their research also used BarOn (EQ-I) and the number of items that they used 90 items that it's reflect on each EQ domains.

In this research, the researcher adapts of the BarOn EQ-I consisting 45 items reflecting each EI domains was used. The items in the questionnaire also measures five main areas of competencies or skills in addition to 15 factorial components.

The first is intrapersonal EQ and it comprises 15 items. It is divided into 5 items in itself; emotional self-awareness, which comprises 3 items, assertiveness, which comprises 3 items, self-regard, which comprises 3 items, self-actualization, which comprises 3 items, and independence, which comprises 3 items. The second is interpersonal EQ and it comprises 9 items. It is divided into empathy comprising 3 items, interpersonal relationship comprising 3 items, and social responsibility comprising 3 items. The third is adaptability EQ and it comprises 9 items. These items are divided into problem solving that comprises 3 items, reality testing comprises 3 items, and flexibility comprises 3 items. The fourth is stress management EQ and it comprises 6 items.They are divided into stress tolerance comprising 3 items and impulse control comprising 3 items. The fifth is general mood EQ and it comprises 6 items. They are divided into happiness, which comprises 3 items, and optimism, which comprises 3 items. In the questionnaire there are 15 questions connected to scales which aim to measure response validity

The EQ scale was in form a 5-point Likert type scale continuum from "very seldom or not true of me" to "very often true of me or very true of me". The likert scale was chosen for some reasons. The likert is the most universal method for survey data collection which is easy to understand (LaMarca, 2011). The responses were quantifiable and subjective to computation of some mathematical analysis (Bertram, 2007). It was also efficient to be used in terms of the researcher's time, effort and cost.

2. Speaking test

This speaking test was given to get the score of students in speaking class. Especially, for speaking test the researcher didn't conduct by herself but she has been collaborate with the teacher in speaking class to do the monologue speech with partially interactive speaking situation. Partially interactive speaking situation is speaking activity when students retell the audience about story from the text. The type of speaking test was storytelling where the students were asked to make video with any object based on the story that they used and they also act like an actor at the story.

The type of speaking test was *storytelling* and students were asked make a video and they have role or act like a actor of the text that they used. The reason to choosing the speaking test type was because this research intended to see whether students' emotional state has any connection with their speaking performance. The free topic was given to the students and they should be able to perform it in good as they can. To measure the students speaking ability, the researcher used analytic scoring rubric. (***See appendix 5 for analytical scoring rubric***)

D. Validity and Reliability Testing

For the validation, the reseacher tested the questionnaire to the students in the same level with the population and used SPSS and Psychologist lecturer to know the questionnaire valid or not. Especially, for the questionnaire the writer adapted it from BarOn Emotional Quotient Inventory EQ-I (BarOn, 1996). In the other way, the researcher used the SPSS for the reliability and validity as follow:

Case Processing Summary

		N	%
Cases	Valid	39	100,0
	Excluded[a]	0	,0
	Total	39	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,932	45

Based on the SPSS, the validity and reliability was tested and the procedure used pearson correlation and the researcher looked in Triton PB book about SPSS Terapan Riset Paramentrik (2006:257). The interpretation is:

1. Reliability
    a. In **Case Processing Summary** section, the respondent was done in try out are 39 students (N=39) and all of the data there is not exclude or deleted from analysis.
    b. In **Reliability** statistics section the value of Cronbach' Alpha are 0,932 with the 45 questions or items. The value or *r* table to test two tails in level trusty 90% or significance 5% (p=0,05) can be search based on the amount of respondent or N. because N=39, it means the free of degree is N – 2= 39. The *r* table is 0,325.
    c. Summary, because of the Cronbach' Alpha = 0,932 and actually bigger than the *r* table = 0,325; it means, the questionnaire which try out proved reliable.

2. Validity

   d. **In Item Total Statistics.** The *t* table score for two tails at degree 90% or significance 5% (p = 0,05) can be search based on the total of respondent or N. because of N=39, it means the free degree is N – 2 = 39 – 2 = 37. The distribution table, the score or *r* table in 37 = 0,325. **Corrected Item-Total Correlation,** actually, the score all of the items were bigger than *r* table. Because the researcher used content validity and based on the explanation with statistic above all of items have been valid.

E. Data Collecting Method and Instrument

a. Procedure of Collecting data

The procedures of collecting the data collection including the administration and scoring procedures are presented as follows:

The data were collected into two sections. The first section was spreading the emotional quotient scale. In order to re-determine the validity of the instruments used, the reseacher asked the supervisor to check whether the questionnaires were really designed accordance to the research. Furthermore, in order to motivate students to join to this research, the objective of the study had been explained to them both in oral and written way. For avoiding the misunderstanding, all the instructions were given in *Bahasa Indonesia.* It took 10-20 minutes or more to complete, although there was no formal time to limit them. The samples were asked to answer the entire questionnaire based on their own and answer the entire items carefully.

The second section was administering English speaking test the researcher collaborated with the English speaking lecturer had prepared the students to faced the speaking test. Students were told to deliver an English *storytelling* and look for their own theme. Then, give them task to make a video. They had around 2 weeks to done the task and prepared well all the thing as like tools for the role. Two qualified relevant lecturers had helped the researcher to assess the students' speaking performance.

b. Scoring Procedures

The procedures of scoring for the EQ and speaking test are as follows:

The students were assessed on their Emotional Intelligence or Emotional Quotient by using the questionnaire of Emotional Quotient Inventory EQ-I from barOn. The participants needed to fill every single items with responses ranging from 'very seldom true or not true of me' (1) to 'very often true of me or true of me' (5). Each response had its value ranging from 1 to 5. Based on the procedure the researcher was collecting the questionnaires sheet from the TBI-4B.

On the other hand, students' performance was assessed based on speaking scoring rubric with the score ranging from 1 to 5. Therefore the measure yielded global score ranging from 65 to 90. It means that the highest score was 90 while the lowest score was 65. Furthermore, the students‟ performances were recorded and assessed later by the examiners. This method has some advantages and disadvantage. The disadvantage of the taped test is that it is less personal, the examinee is talking to a video and not to a person (Cartier, 1980 in Fulcher, 1993). Moreover, the taped test is inflexible. It means that if something goes wrong during the recording, it is virtually impossible to adjust for it.

However, taped speaking test has some advantages. Cartier (1980, as quoted in Fulcher, 1993, p. 76) states that taped test is very practical when it comes to test a large number of students. It is also more objective since each student receives identical stimuli (ibid.p.76). The scoring can be performed at the most convenient or economical time and location.

F. Data Analysis

The correlation analysis was used to determine the correlation between two variables. To show the correlation between two variables more easily, as suggested by Hatch and Lazaraton (199: 427), the values of variables should be plotted against the other's variables value. In this study, the students' emotional quotient level was the variable X, whereas their speaking performance was the variable Y.

In quantitative research, it is really crucial to know the normality of the data. An assessment of the normality of data is a prerequisite for many statistical tests because normal data is underlying assumption in parametric testing.

Furthermore, to be more specific, this study also tried to find out the relationship between five dimensions in emotional intelligence and three elements in speaking test (fluency, pronunciation, and confidence). It is interesting to know which one of five dimensions in emotional intelligence has the highest relationship with each three elements in speaking ability.

To determine which correlation formula would be used, the distribution data were tested its normality. The researcher used the "Statistical Package for Social Sciences" (SPSS for windows) version IBM SPSS 20 to test the normality of data

One-Sample Kolmogorov-Smirnov Test

		Emotional Quotient	Speaking Ability
N		39	39
Normal Parameters[a,b]	Mean	158,8462	84,0256
	Std. Deviation	19,21559	7,76120
Most Extreme Differences	Absolute	,126	,208
	Positive	,073	,208
	Negative	-,126	-,201
Kolmogorov-Smirnov Z		,786	1,302
Asymp. Sig. (2-tailed)		,567	,068

a. Test distribution is Normal.

Hypothesis testing:

a. Ho accepted if N sig. < 0.05
b. Ha rejected if N sig. > 0.05

As the table show above, the result of distribution data is normal. The table of One-Sample Kolmogorov-Smirrnov Test was obtained probability number/Asym. Sig. (2-tailed). This percentage was compared with 0.05 (α =5%) to take the decision based on:

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

G. Data Interpratation

The data can be interpreted after the value of the observed *r* is consulted to the value of the critical r table). In other words, the result of correlation coefficient between X and Y is consulted to Pearson Product Moment table on the level of significant 5%. If the observed *r* is higher than the critical *r* at the significant level

of 5 %, it means that there is positive correlation between two variables. A coefficient near + 1.00 has a high size and a positive direction (Gay, 1987, p.193). It represents a high degree of relationship and can be interpreted that a person with a high score on Emotional Intelligence test is likely to have a high score on speaking test and vice versa.

However, if the observed *r* is lower than the critical *r* at the significant level of 5 %, it means that there is no correlation between Emotional intelligence and students‟ English speaking ability. In other words, a coefficient near -1.00 has a high size and a negative or inverse direction (Gay, 1987 p.13). It means that students with a high score on Emotional Intelligence test is likely to have a low score on speaking test.

Furthermore, Gay (1987) gives more explanation in interpreting the data as the following criteria:

a. If the coefficient is near +1.00, the variables are positively related
b. If the coefficient is near .00, the variables are not related
c. If the coefficient is near -1.00 the variables are inversely related.

Colton as cited in Yusuf (2003) explains that the strengths of two variables can be interpreted quantitatively into four interpretations:

a. If *r* value = 0.00 – 0.25 means there is no relationship / the relationship is weak.
b. If *r* value = 0.26 – 0.50 means the relationship is moderate
c. If *r* value = 0,51 – 0.75 means the relationship is high
d. If *r* value = 0.76 – 1.00 means the relationship is so high and almost perfect.

In addition, Emra (1998) as cited in Darmawan (2009) explains a detail interpretation of correlation coefficient in the following table:

The Interpretation of Correlation Coefficient

Correction Value	Approximate Interpretation
-1.0	Perfect negative correlation
-.8 to -1.0	Very high degree of negative correlation
-.6 to -.8	High degree of negative correlation
-.4 to -.6	Medium degree of negative correlation
-.2 to -.4	Low degree of negative correlation
+.2 to -.2	Probably no correlation
+.2 to +.4	Low degree of positive correlation
+.4 to +.6	Medium degree of positive correlation
+.6 to +.8	High degree of positive correlation
+.8 to +1.0	Very high degree of positive correlatin
+1.0	Perfect positive correlation

Furthermore, the above interpretation was also used to test the hypothesis by using the following criteria :

a. If the observed *r* is bigger than the critical *r* at the significant level of 5 %, H0 is rejected and Hi is accepted. Thus, there is positive correlation between variable X and Y.

b. If the observed *r* is lower than the critical *r* at the significant level of 5 %, H0 is rejected and Hi is accepted. Hence, there is no correlation between these two variable.