CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

Research design is essentially a strategy to achieve the stated research objectives and acts as a guide or guide the researcher in the entire research process. In conducting research, especially for quantitative research, one important step is to make a research design. Nursalim in Kuntjojo stated "Research design is essentially a strategy to achieve established research goals and serves as a guideline or guide for researchers throughout the research process". [1]

In this case, the researcher uses Correlational research. It is a type of non-experimental research method, in which researcher measures two variables, understands and assesses the statistical relationship between them with no influence from any extraneous variable. It assesses the statistical relationship between them with little or no effort to control extraneous variables.

The researcher use correlational research because the statistical relationship of interest is thought to be causal, but the researcher *cannot* manipulate the independent variable because it is impossible, impractical, or unethical.

The researcher will also investigate one or more characteristics of a group to discover the extent to which the characteristics vary together. In this case Marilyn stated that Correlational studies display the relationships among variables by such techniques as cross-tabulation and correlations. Correlational studies are also

[1]Kuntjojo, **MetodologiPenelitian**, (Kediri:2009), 39

known as ex post facto studies. Through statistical analysis, the relationship will be given a degree and a direction. The degree of relationship determined how closely the variables are related.[2]

This research will use correlational research design because this research is aimed to find out the correlation between students' self-efficacy towards their speaking ability.

B. Place And Time of Research

MTsN 5 Tangerang is **l**ocated in St. Gunung Batu Pagedangan Tangerang. The location is very strategic and can be reached easily. The total amount of the students in MTsN 5 Tangerang is 699students. It is divided into three grades. The seventh grade consists of 250, Eight Grade consist of 235 and Ninth grade 214 students,. Each grade is divided into7 or 6 classes. Average of each class is occupied by 34 students. There are 36teachers and 3 of them are English teachers.

This research is planned in MTsN 5 Tangerang on 08th – 22th November 2019.

C. Population and Sample

1. Population

Jawanto stated in Kuntjojo that "Population or universe is the total number of units or individuals whose characteristics are to be studied. And the

[2]Marilyn K. Simon and Jim Goes,**Dissertation and Scholarly Research** (Seattle, 2011) at www.dissertationrecipes.com

unit is called the unit of analysis, and can be in the form of people, institutions, objects, etc". [3]

Population is not only people, but it can be other animate and inanimate objects that can be learned. The population in this research is the Eighth Grade students of MTsN 5 Tangerang in the academic year of 2019/2020.

The eight grade class is divided into seventh classes and the amount is 235 students. The researcher choose eighth grade students as the population. The researcher is interested to find out how is the level of speaking skill of eight grade students regarding to their self-efficacy.

2. Sample

Sample is a part of population that will be studied by the researcher for discovering the population. In this case the sample is 71 representative of population to be tested in the research. It is chosen from three classes of eight grade students. It reflects the condition of population, therefore the result gained from testing sample can be said as the result gained from population. Sampling technique used in this research is simple random sampling. States that simple random sampling is a technique where researcher takes the samples randomly and every member of the population has the same chance to be taken. To determine the number of the sample, the researcher used the following formula:

$$n = \frac{N}{1 + Ne^2}$$

where:

[3]Kuntjojo, (Kediri:2009), 39

n = sample

N = population

e = error tolerance (5%, 10%, 15%)

With the error tolerance 10% (0.1), it was gained the number of samples as the following calculation:

n = 235

$1 + (235 \times 0{,}1^2)$

n = 235

1 + (235 x 0.01) n = 235

1 + 2.35

$n = \frac{235}{3.35}$

n = 70.1492537313

From the result of the calculation above, the number of samples is 70 (rounded from 70.14925).

D. Variables of the Research

Hatch and Farhady in Sugiyono stated variables are attributes of a person or object that has a variation from one person or object to other person or object.[4] In this case Kerlinger also stated that the variable is a construct or properties that will be studied.[5] Based on the definition above, it can be formulated that the variables

[4] Sugiyono, **Metode penelitian Kuantitatif, kualitatatif dan R&D,** (Bandung, Alfabeta, 2016), 38

[5] Sugiyono, **Metode penelitian Kuantitatif, kualitatatif dan R&D,** 38

of study are an attribute or the nature or value of a person, object or activity which may have certain variations defined by the researchers to learn and then drawn conclusions.

There are two variables in this research:

1. Independent Variable

Independent variable is a variable that influences and becomes the cause or the incidence of the dependent variable. The independent variable of this research is the students' self efficacy and is noted as (X).[6]

2. Dependent Variable

Dependent variable is a variable which is influenced or becomes the result, because of independent variable. The dependent variable of this research is the students' speaking skills which is noted as (Y).[7]

E. Research Instruments

Gulo stated that "Research instruments are written guidelines about interviews, or observations, or lists of questions, which are prepared to get information from respondents. The instrument is called as the Guidelines of Engagement or Interview Guidelines or Questionnaires or Documentary Guidelines, according to the method used".[8]

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[6] Sugiyono, **Metode penelitian Kuantitatif, kualitatatif dan R&D,** 39

[7] Sugiyono, **Metode penelitian Kuantitatif, kualitatatif dan R&D,** 39

[8] W.Gulo, **Metodologi Penelitian**, (Jakarta, Gramedia:2002), 83

Sugiyono Research also stated “instrument is a measuring instrument such as tests, questionnaires, interview guides and observation guidelines used by researchers to collect data in a study”.[9]

Collecting data is a central phase in conducting a research because those data are materials that will be analyzed to know the result of the research. To collect data, instrument was needed by the researcher. Therefore research Instruments are measurement tools designed to obtain data on a topic of interest from research subjects. There are several types of research instruments; questionnaire, interview, observation, test, and documentation.

The instrument that was used in this research was questionnaire and test. Each instrument will be further explained as follows:

1. Questionnaire

Questionnaire is a data collection tool in the form of a series of questions posed to respondents to get answers. On the questionnaire, questions are arranged in the form of Tanya's sentence. In this case, the researcher came to the respondent himself and submitted to the list of questions to fill out.[10]

According to sugiyono there are two types of questionnaire which is naemely open question and close question. Open questions are questions that expect respondents to provide answers in the form of a description. Meanwhile, closed questions are questions that expect respondents to give a short answer or

[9] Sugiyono, **Metode penelitian Kuantitatif, kualitatatif dan R&D,** 102

[10]W.Gulo, **Metodologi Penelitian**, 83

choose one alternative answer to the question that available. The answer to a closed question can take the form of ordinal data, nominal data, and interval data.[11]

In this research, the researcher will use close-ended questionnaire. According to Sugiono, close-ended questionnaire are questions that expect a short answer or expect the respondent to choose one alternative answer from each available question.[12] It means respondents only need to give check list (√) on the provided space. In other words, the students only needed to checklist on provided column based on their own feeling about the statement. The questionnaires to obtain primary data of the students 'self-efficacy are 20 items. Each item of the questionnaire had five possible answers those are; strongly disagree (SD), disagree (D), neutral (N), Agree (A), and strongly agree (SA). The score for each answer is described in table 3.1.

Tabel 3.1

Score for Questionnaire Answer

Questionnaire Answer	Score
Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	4

[11]Sugiyono, **MetodePenelitianKuantitatif, Kualitatifdan R&D,** (Bandung, Alfabeta:2016), 143

[12]Sugiyono, **MetodePenelitianKuantitatif, Kualitatifdan R&D,** 143

To know the final score, the researcher summed up the scores gainedfor each item. Therefore, the possible lowest score is 27 (total items) x 1(possible lowest score) = 20 and the possible highest score is 20 (total items) x 5 (possible highest score) = 100

2. Test

The test is a tool to measure the knowledge level of your students and adjust the learning material accordingly. With the purpose to have your students learn. There are several tasks to assess the students' speaking skill for monologue speaking test. One of them is Picture-Cued Story Telling test. In this research, the researcher conducted a Picture-Cued test for monologue speaking. The students were instructed to produce monologue speaking expressing their opinion about the pictures given by the researcher. The test was about suggestion and opinion because the material the students learned in the eleventh class in the first semester was about expressing suggestion and opinion. Thus, the students would not be obstructed in following the test because they have learned about the material.

The aspects assessed in this test were; grammar, vocabulary, fluency, and pronunciation because the speaking level of eight grade students was considered low to middle. Thus, it was inappropriate to use more compact scoring criteria. The rubric used to assess students' speaking skills is presented in table as follows:

Table 3.2

Rubric of Speaking Test

Aspect	Score	Criteria
Grammar	1	Errors in grammar are frequent, but speaker can be understood by a native speaker used to dealing with foreigners attempting to speak his language
	2	Can usually handle elementary constructions quite accurately but does not have thorough or confident control of the grammar
	3	Control of the grammar is good. Able to speak the language with sufficient structural accuracy to participate effectively in most formal and informal conversation in practical, social, and professional topics.
	4	Able to use the language accurately on all levels normally pertinent to professional needs. Errors in grammar are quite rare.
	5	Equivalent to that of an educated native speaker.
Vocbulary	1	Speaking vocabulary inadequate to express anything but the most elementary needs.
	2	Has speaking vocabulary sufficient to express himself simply with some circumlocutions.
	3	Able to speak the language with sufficient vocabulary to participate effectively in most formal and informal conversations on, social and professional topics. Vocabulary is broad enough that he rarely has to grope for a word.
	4	Can understand and participate in any conversation within the range of his experience with a high degree of precision of vocabulary.
	5	Speech on all levels is fully accepted by educated native speakers in all its features including breadth of vocabulary and idioms, colloquialism and pertinent cultural references.

Fluency	1	(no specific fluency description. Refer to other four language areas for implied level of fluency.)
	2	Can handle with confidence but not with facility most social situations, including introductions and casual conversations about current events, as well as work, family and autobiographical information
	3	Can discuss particular interests of competence with reasonable ease. Rarely has to grope for words.
	4	Able to use the language fluently on all levels normally pertinent to professional needs. Can participate in any conversation within the range of this experience with high degree of fluency.
	5	Has complete fluency in the language such that his speech is fully accepted by educated native speakers.
Pronunciation	1	Errors in pronunciation are frequent but can be understood by a native speaker used to dealing with foreigners attempting to speak his language.
	2	Accent is intelligible though often quite faulty
	3	Errors never interfere with understanding and rarely disturb the native speaker. Accent may be obviously foreign
	4	Errors in pronunciation are quite rare
	5	Equivalent to and fully accepted by educated Native speakers.

To find out the final score of speaking test, the researcher summed up the score of each aspect and multiplied it by 5. Therefore, the possible highest score is (5+5+5+5) x 5 = 100 and the possible lowest score is(1+1+1+1) x 5 = 20. The formula that will be used is as follow:

$$\frac{\text{Total Score}}{\text{Maximum score}} \quad X\ 4 = \ldots\ldots\ldots$$

F. Test of the Research Instruments

A good research instrument should be valid and reliable. The research instruments should be valid and reliable to get a valid and reliable result.

1. Validity

Dempsey and Dempsey in Kunjojo stated that " Validity refers to the ability of a data collection instrument to measure what must be measured, to get data that is relevant to what is being measured".[13]

In this case Sugiyono stated, A valid instrument means that the measurement used to get the data is valid. Valid means that the instrument can be used to measure what should be measured.[14]

According to Sugiyono, there are three kind validity; construct validity, content validity, and external validity.[15] In this research, the researcher tested construct validity. The test was to correlate the scores of instrument items to know the validity. The researcher conducted Pearson Product Moment Validity Testing using SPSS 16.The instrument is valid if the r count > r table with significant value 0.05.If r count < r table with significant value 0.05, the instrument is not valid and cannot be used to collect data in the research. The

[13]Kuntjojo, (Kediri:2009), 36

[14]Sugiyono, Metode Penelitian Kuantitatif, Kualitatifdan R&D, (Bandung, Alfabeta:2016), 121

[15]Sugiyono, (Bandung, Alfabeta:2016), 123

amount of the sample (N) is 70. Thus, the degree of freedom (df) is 70-2= 68 and alpha= 0.05. It is gained r table= 0.235

2. Reliability

Instrument reliability is the level of consistency of results achieved by a measuring instrument, even though it is used repeatedly on the same or different subject. Thus an instrument said to be reliable when able to measure something with results consistent (steady)[16]. Reliability refers to a consistency of an instrument in measuring what to be measured. This research tested internal consistency reliability. It is used to measure the instruments that have more than one item because it refers to the homogeneity of the test items and how well they measure a concept

There are two main ways to calculate internal consistency reliability; split half reliability and coefficient alpha. In this research, the research erased Cranach's Alpha technique with SPSSS 25 to find out the reliability of the instrument. The instrument is reliable if the alpha is more than 0.7.

G. Technique of the Data Analysis

1. Normality Testing

The normality tests are supplementary to the graphical assessment of normality It is used to measure whether the data is distributed normally or not. This testing is a requirement before the data is analyzed. The researcher used Kolmogorov-Smirnov normality testing. Kolmogorov-

[16]Kuntjojo, (Kediri:2009), 37

Smirnov normality testing is appropriate for research with samples more than 50.Therefore, it is appropriate for this research because the number of samples is 65. The data is normal if probability (Sig.) more than 0.05 and data isn ot normal if probability (Sig.) is less than 0.05 (Tamam: 2015).48

2. Correlation Analysis

This research is a correlational quantitative research. Thus, to know the correlation between two variables, the researcher used Correlation Product Moment technique which was developed by Carl Pearson. The formula is as follows:

$$r - \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

Where:

r = Pearson's correlation coefficient

N = number of participants

X = students' self-efficacy scores

Y = students' speaking scores

ΣX = the sum of self-efficacy scores

ΣY = the sum of speaking scores

ΣX2 = the sum of squared self-efficacy scores

ΣY2 = the sum of squared speaking scores

ΣXY = the sum of multiplied scores between X and Y

That formula was used to find out the correlation coefficient "r" product moment between X and Y.

The criteria are discussed as follows: If r count> r table means there is correlation, H_a is accepted and H_o is rejected. If r count < r table means there is no correlation, H_a is rejected and H_o is accepted.

H_o: there is no correlation between students' self-efficacy towards their speaking skills.

H_a: there is correlation between students' self-efficacy towards their speaking skills.

After knowing whether there is correlation or not between two variables, the researcher would like to know the significance of the correlation between two variables. The significance can be seen from the significance value (ρ) with the assumption if $\rho > 0.05$, the correlation is not significant but if $\rho < 0.05$, the correlation is significant. However, the researcher used SPSS (Statistical Package for Social Science) 16 to calculate the data. The researcher used SPSS instead of calculating the data manually in order to get more effective and efficient way for gaining the result of correlation coefficient between the two variables. The correlation coefficient can be negative or positive. Negative correlation coefficient shows a negative correlation and vice versa. Negative correlation means the higher the value of variable X, the lower the value of variable Y. While positive correlation means the higher the value of variable X, then the higher the value of variable Y. The interpretation of product moment correlation scale will be described in table 3.3.

Table 3.3

The Interpretation of Correlation Coefficient

Correlation Value	(r) Interpretation
0.00 – 0.199	Very low correlation
0.20 – 0.399	Low correlation
0.40 – 0.599	Moderate correlation
0.60 – 0.799	High correlation
0.80 – 1.000	Very high correlation