

## **CHAPTER III**

### **METHODOLOGY**

#### **A. Method of the Research**

This research used Correlation method with correlation by using simple technique the aim of this study is measure relationship between two variables between Google for Education as independent variable (X) and Teaching and learning speaking as dependent variable (Y).

#### **B. Setting of Research**

##### **1. Place**

This research will be conducted at Islamic State University Sultan Maulana Hasanudin Banten in JL.RayaSyeikh Nawawi AlBantani No.30 Curug, Serang City. Especially, in 1<sup>st</sup> Semester of English Education Department. The researchers also obtain access to carry out study and the data for one semester.

##### **2. Time**

This research was conducted for eight months covering the collection of reference materials, revisions, testing instrument, started from wrote proposal to munaqosah examination with research timeline as follows:

Table 3.1  
Research Timeline

No	Activities	2020	2021										
		Des	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	
1	Submission tittle												
2	Making Proposal												
3	Trial of Proposal												
4	Data collection												
5	Data processing												
6	Munaqosah Examination												

### C. Population and Sample

#### 1. Population

According to Shukla Population is the set or group of all the units on which the findings of the research are to be applied<sup>1</sup>. The Population in this study are all of 3<sup>rd</sup> Semester student majoring in TBI in Islamic state University of Sultan Maulana Hasannudin Banten. Which consist of 120 students. The population of this study have similar level in term of language proficiencies and meets to learner process.

Table 3.2

The Table of Population of the Research

NO	CLASS	STUDENTS
1	TBI 3A	36
2	TBI 3B	40
3	TBI 3C	40
<b>TOTAL</b>		<b>120</b>

---

<sup>1</sup>Sukhla satishprakash, *concept of population and sample* (Ahmedabad: rishit publication 2020)

## 2. Sample

According to Umair Majid sample is the process of statistically selecting object or people who are the target of research which are representative of individuals from the population.<sup>2</sup>

For the sample of this study, researcher will take 30 students to be the sample in this study who represent each class. These 30 are students between that ages of 18-19 and of different gender. This sample will be selected random in order to avoid subjectively and maintain the reliabilities of this study. The following table will be displayed the distribution of sample

Table 3.3  
The Sample Table of the Research

NO	CLASS	STUDENTS
1	TBI 3A	10
2	TBI 3B	10
3	TBI 3C	10
<b>TOTAL</b>		<b>30</b>

### D. Technique of Data Collecting

According to Syed Muhammad Sajjad Kabir, there are many methods of collecting data commonly used in a research. They are a test,

---

<sup>2</sup>Umair Majid “*Research Fundamentals: Study Design, Population, and Sample Size*” URNCST journal (January 2018) vol 2. DOI: 10.26685/umcst.16

interview, questionnaire, and observation<sup>3</sup> and in this study the researcher used two instruments that is Questionnaire and interview.

## 1. Questionnaire

According to the questionnaire is a series of questions from researches who request object or individuals to get information that is statistically useful about a particular topic<sup>4</sup>.

For the Questionnaire researcher will use a close questionnaire where the researcher provided the answer choices for respondents so the respondents only fill in the questionnaire according to the situation and conditions experienced. Researcher distributed questionnaire to 30 as student's participant of this study to obtain the valid data. The data for questionnaire later on will be described in depth in the chapter IV.

## 2. Interview

Interview is ways to get information with the form of consultation where researchers find out more about the problem asked by individual.<sup>5</sup> This interview will be conducted to English

---

<sup>3</sup>Syed Muhammad Sajjad Kabir *Methods of Data Collection* (Bangladesh: book zone publication, 2016) first edition

<sup>4</sup>Rani Menta Satya, "Questionnaire Designing for a survey" The Journal of Indian Orthodontic Society (June 2012) vol 4 DOI: 10.5005/jp-journals-10021-1104

<sup>5</sup> Christina Blash Anozie "Literature Review for the Type of Interview in Qualitative Research"

International Journal of Education (September 2017) vol 9 DOI: 10.5296/ije.v9i3.11483

lecturers. Researcher will use unstructured interviews, its free interviews here researchers don't use interviews systematically guidelines arranged that but using guidelines in the form of outlines of the problem to be studied and this type of interview is able to help researcher get more information. This technique was chosen because the writer wants to know more about the problem so that it can obtain accurate data and the interviews will do face-to-face which is done in three times.

#### **E. Research Instrument**

To support the data collecting process and obtain the desired data, researcher uses test in the form of questionnaire and interviews. The questionnaire given to students after the treatment applied and to strengthen the obtained data as well as supports the theory, researcher adopted this instrument and provided the indicator from

Table 3.4  
of Instrument Research

	Assessment indicator	Sub Indicator	Nomor question
Google for education (Google meet)	Video display	High definition (HD)	1
		Color	2
		Screen	3
		Voice	4
	Internet	Cost	5
		Network	6
	Uses	Video encryption	7
		Can share the screen	8
		Maximal 25 video participant	9
		Available free	10
	Fitur	Whiteboard	11
Teaching and Learning speaking	Respon mahasiswa	Respon mahasiswa terhadap belajar menggunakan google meet dalam pembelajaran speaking	12,13,14
	Pemahaman materi speaking	Pemahaman mahasiswa terhadap materi speaking dalam pembelajaran menggunakan google meet	15,16,17
	Keefektifan pembelajaran	Keefektifan penggunaan google meet dalam pembelajaran speaking	18,19,20

Table 3.5  
Interview gird

Indicator	Sub indicator	Informan	Method
Teaching and Learning Speaking by Google Meet	Learning with Google Meet	student	Interview
	Problems or obstacle	student	Interview
	Benefit	student	Interview
	Strengths and Weaknesses	student	Interview
	Student development	student	Interview

The researcher using the category likert scale for assessment the data as follow:

Table 3.6  
Category likert scale

Assessment	Score
Strong agree	5
Agree	4
Neutral	3
Disagree	2
Strong disagree	1

## F. Techniques of Data Analyzing

For this study, the researcher use formula to find out the correlation Google for education with learning and teaching speaking and for analyze the data the researcher using the product moment formula with the rough number<sup>6</sup> but for the first the result of the date must be analyze as follow:

### 1. Quantification data

- a) Sort the data from the lowest data to highest data
- b) Determine range that is the difference between the highest data and the lowest data
- c) Make class with formula as follow :

$$K = 1 + 3,3 \log n$$

- d) Determine the class interval with formula as follow

$$i = \frac{\text{range}}{\text{many class}}$$

- e) Make a table of frequency distribution
- f) Make polygon and histogram

- g) Determine the mean with formula :  $\bar{x} = \frac{\sum fx}{\sum f}$

- h) Determine the median with formula :  $Me = t_b \left( \frac{\frac{n}{2} - fk}{f} \right) p$

---

<sup>6</sup> .Supardi, *statistic penelitian Pendidikan perhitungan, penyajian, penjelasan, penafsiran, dan penarikan kesimpulan*, (Depok: PT RajaGrafindo Persanda, 2019) second edition, 203-204



i) Determine the modus with formula :  $Mo = t_b \left( \frac{b_1}{b_1 + b_2} \right) p$

j) Determine the variants and standard deviation with formula :

$$\sigma_t^2 = \frac{(\sum x_t^2) - \frac{(x_t)^2}{n}}{n}$$

k) Determine the percent

Table 3.7  
Score of percentage

0% - 20%	Very Bad
21% - 40%	Bad
41% - 60%	Enough
61% - 80%	Good
81% - 90%	Very Good

## 2. Normality test

a) Create a cumulative frequency distribution table for single data with more than one

b) Determine the average of score sample with formula :  $\bar{x} = \frac{\sum fx}{\sum f}$

c) Determine the standard deviation with formula :  $s = \sqrt{\frac{\sum fx^2}{\sum x}}$

d) Create data description table bound from X column, Frequency column, cumulative frequency column, z column, S(x) column, z table column and Fo (x) column, and (S(x)-Fo(x))

- e) Sort the column from lowest data to highest data.
- f) Enter the frequencies of each value into the frequency column.
- g) Calculate each i z score for each of the above values with the

$$\text{formula : } Z_i = \frac{x_i - \bar{x}}{s}$$

Convert the cumulative frequency I into probability, that is, into the cumulative frequency distribution  $[S(x)]$  by dividing the cumulative frequency by the total number of frequencies.

$$[S(x)] = \frac{fk_a}{n}$$

- h) Enter the table value z in column with reference to the value of z
  - i) Calculate the score  $[S(x)]$  by dividing each cumulative frequency above by the number of class (N) sample
  - j) Calculate the score  $[Fo(x)]$  by means of a fixed number of 0,500 minus the score of z-table , if z is negative, and a fixed number of 0,500 plus the score of z-table if the score of z is positive.
  - k) Calculate the difference between the score  $[S(x)]$  and  $[Fo(x)]$  is called the maximum deviation D
  - l) Compare D-maximum with table D (Kolmogorov smirnov)
  - m) If the D-maximum  $< D_{\text{table}}$  that the data have normal distribution.
3. Research instrument test
- a) Validity Instrument test

- 1) Tabulate the scores of the data instruments that have been filed in by the respondents then add them up for each respondent.
- 2) Design data descriptions in the form of auxiliary tables for calculating the validity of instrument items.
- 3) Determine the instrument item to be tested for validity as (X) then enter each score achieved by the respondent
- 4) The number of scores achieved by each respondent and make it as a total scores as (Y)
- 5) Squaring the total score of each respondent X becomes ( $X^2$ ) and Y becomes ( $Y^2$ )
- 6) Multiply the score X by Y, to get the score of XY
- 7) Enter each number of scores X, Y,  $X^2$ ,  $Y^2$ , and XY Into the product moment statistical formulation and calculate step by step.
- 8) After the calculation results was known r-count, compared with r-table by first determining  $\alpha =$  or the error rate with the applicable provisions in product moment correlation ( if r-count > r-table the instrument is valid. While, if r-count < r-table the instrument is invalid.

b) Reliability Instrument test

- 1) Transferring the scores of data items that have been tested for validity and meet the validity requirements
- 2) Calculating the total score of each valid item answered by the respondent X
- 3) Calculate the total score of each respondent's answer from the first item to the last item
- 4) Squaring the total score of respondent's answer
- 5) Squaring each score the respondent's answer to each item is then added up the total score  $(X)^2$
- 6) Find out the item variants with formula :  $\sigma_i^2 = \frac{(\sum X_i^2) - \frac{(X_i)^2}{n}}{n}$
- 7) Calculate the total variants with formula :  $\sigma_t^2 = \frac{(\sum X_t^2) - \frac{(X_t)^2}{n}}{n}$
- 8) The last step is to calculate the overall reliability of the instrument using the Alpha Cronbach formula as below :

$$r_{11} = \left[ \frac{k}{k-1} \right] \left[ 1 - \frac{\sum \sigma_i^2}{\sigma_t^2} \right]$$

4. Hypothesis test

- a) Formula the hypothesis of zero ( $H_0$ ) and alternative hypothesis ( $H_1$ )
- b) Choose and determine the research sample

- c) Make a help table data description consist of column (X), column (Y), column (X<sup>2</sup>), column (Y<sup>2</sup>) and column (XY)
- d) Enter the data that has been obtained from the research sample into the help table of correlation
- e) Calculating the correlation coefficient with the statistical formulation that has been set with the formula:

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{\{N\sum X^2 - (\sum X)^2\}\{N\sum Y^2 - (\sum Y)^2\}}}$$

- f) Make interpretation by comparing the correlation coefficient and r product moment

#### 5. Significancy Correlation test

- a) Test the significant of correlation with the “t’ test
- b) Do Do interpretation of correlation coefficient by comparing with interpretation table

#### 6. Determine of the coefficient determination

Calculate the coefficient of determination and provide interpretation

According to Supardi<sup>7</sup>, for How’s the steps collected correlation coefficient, then the data will be interrupted by using criteria the follows table:

---

<sup>7</sup> Supardi, *Statistic Penelitian Pendidikan*, 201

Table 3.8  
Interpretation score

Score of coefficient correlation	Interpretation
KK	Is not correlation
$0,00 < KK \leq 0,20$	Lowest Correlation /very weak
$0,21 < KK \leq 0,40$	Low Correlation /weak but surely
$0,41 < KK \leq 0,70$	A significance correlation
$0,71 < KK \leq 0,90$	High Correlation
$0,91 < KK < 0,99$	A highest Correlation, very strong
KK 1	Perfect correlation