

CHAPTER III RESEARCH METHODOLOGY

A. Research Design

In this study, a quantitative correlation study design was used in this study. This study design explores the association between self-confidence and English performance in grade tenth students of SMA Muhammadiyah 1 Metro. The correlation coefficient (r or R) measure provides information about the closeness of two variables Senthilnathan 2019 in (Patel, 2019). Use the confidence effect as a variable in the calculation Questionnaires and speaking tests will be conducted as subjects. The questionnaire consists of 40 questions. It includes a personality survey that measures each student's confidence and a series of questions to recall their most memorable moments. Furthermore, quantitative methods focus on objective measurements using statistical analysis or numerical data collection (Boucad, 2017). This approach focuses on collecting statistical data and generalizing it to groups of people to provide details about the specific phenomenon of the 2010 bubby. Data from surveys and language test analyzes are collected using a tool called the Social Science Statistical Package (SPSS). This result may indicate how student confidence affects their English skills. .

B. Population And Sample

a. Population

According to (Handayani, 2018), the population is the totality of each element that will be studied that has the same characteristics and can be individuals from a group, event, or something to be studied. The population in this research is several tenth students studying at SMA Muhammadiyah 1 Metro are randomly selected for the concern of the present study. The total number of respondents taken in doing the research is 40 respondents of 127 students.

Table 3.1 Number of Student

NO	Class	Total Number
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of Students		
1.	X MIPA I	32
2.	X MIPA II	28
3.	X MIPA III	34
4.	X IPS I	32
Total		127

Source : Administration Staff of SMA Muhammadiyah 1 Metro.

b. Sample

According to Sugiyono 2008:109 in (Triyanto, 2014), "the sample is part of the total and characteristics owned by the population". It can be concluded that the sample is part of the population that is thought representative of the population because they have the same characteristics or characteristics. Simple random sampling is one form of probability sampling in which every member of the population has an identical chance of being selected for the sample. Whether an individual is included or excluded from the sample is exclusively based on chance and not any other factor.

Accordingly, the researcher has chosen simple random sampling for this study since each person in the population has an equivalent likelihood of being picked.

C. Research Instrument

The research instrument is "a tool used to measure" observed natural and social phenomena" Sugiyono in (Faizi et al., 2017). The Instrument used in this study is a self-confidence questionnaire the method used is a closed questionnaire. The questionnaire instrument must be measured for validity and reliability of the data so that the research results in valid and reliable data.

The researcher adopts the 40 items questionnaire from Lauster, which was translated from English to Indonesian by Ismiyanti in (Zamrodah, 2016). The Indonesian version questionnaire is used to prevent language barriers that might confound answers. In addition, to ensure the collection of frequency data, the questionnaire uses a 4-point Likert scale which is later modified, which consists of four alternative answers, namely Strongly Agree (SS), Agree (S), Neutral (N), Disagree (TS), Strongly Disagree (STS). Subjects are asked to choose one of the four alternative answers delivered for each

statement, with put a tick (✓) in the alternative answer column. Norm Student self-confidence questionnaire scores are in the table.

Table 3.2 Likert Scale Questionnaire

No.	Answers	Favourable	Unfavourable
1.	Strongly Agree (SS)	5	1
2.	Agree (S)	4	2
3.	Neutral (N)	3	3
4.	Disagree (TS)	2	4
5.	Strongly Disagree (STS)	1	5

Table 3.3. Indicator Self-Confidence

A). Speaking Skills Instrument Grid

No.	Indicator	Question Number	Total
Speaking Skills			
	a.Presentation Skills	1,2,11,17,18,19	6
	b.Gestures	3,8*	2
	c.Ability to concentrate	4,5,16	1
	d.Ability to control emotions such a anxiety, panic, and fear.	6,9*,7,10*	4
	e.Able to overcome (nervousness and stage fright).	12	1
	f.Have deep experience speaking and practicing.	13,14	2
	g.Have a large vocabulary	15	1

B). Self Confidence Instrument Grid

No.	Indicator Self Confidence	Question Number	Total
	a. There is no fear of appearing	1	1

in public.		
b. Believe in your ability or competence.	2	1
c. Dare to accept and face the rejection of others.	3	1
d. Dare to be yourself.	4	1
e. Have good self-control.	5	1
f. Having an internal locus of control.	6,7,8	3
g. Have a positive perspective on yourself, other people and situations outside of yourself.	9	1
h. Have realistic expectations of yourself so that when those expectations are realized he can be able to see the positive situation himself and the situations that occur.	12	1
i. Always be calm in doing something.	13	1
j. Have adequate potential and ability.	10	1
k. Able to adapt and communicate in various situations.	11	1
l. Have the ability to socialize.	14	1
m. Optimist	15	1
n. Having expertise or skills.	16	1

C). Communication Skills Instrument Grid

No.	Indicator	Communication Skills	Question Number	Total
	a. Skills in doing discussion.		1,2	2
	b. Question answering skills.		6	1
	c. Express opinion.		3,10	2
	d. Use of good grammar.		4,9*	2
	e. Communication is short, clear and easy to understand.		7	1
	f. Use a volume that sounds clear.		8	1
	g. Move your hands according to the words spoken.		5	1
	h. Look at the interlocutor.		11,12	2

Additionally, the speaking skills of an individual can be measured through specific tests, such as recounting a significant story or event they have experienced. Furthermore, score interviews are also used as a way to assess the speaking tests. This score measures pronunciation, grammar, vocabulary, and fluency, amongst other qualities, and assigns it a numerical value, typically ranging from 50-80 points per component of the speaking test.

In brief, the researcher uses questionnaires to ascertain the self-confidence of the students while the speaking test consists of the student having to recount a particular story or experience to their English teacher, which is then graded. Scores from both tests are then used to calculate an overview of the student's self-confidence and speaking abilities. Furthermore, the personality tests are conducted with the help of survey forms. The speaking test comprises of the student presenting the story to the class with the English teacher assessing it.

D. Validity and Reliability of Research Instrument

1. Validity of Instrument

According to Sugiyono 2013 in (Faizi 2017) a valid instrument means a measuring instrument used to measure get the data (measure) it's valid. Valid means the instrument can be used to measure what should be measured. Gay in (Paramitha, 2013) confirms an instrument said valid if the instrument used can measure what was to be measured. Instrumentation as a part of data collection.

In this research, the researcher employed a test as an instrument. This test is a way of assessing an individual's aptitude, knowledge, or aptitude in a specific area. As the researcher employed the instrument from prior research, both the validity and reliability of the previous analysis was taken into account for this investigation. For validity, (Sari & Dewi, 2021) as the previous researcher, considered the instrument based on content validity. Sari (2021) used SPSS 25 to find the validity of each item by conducting a pilot study of 40 students.

Thus, based on the validity evidence, all items are proven to be valid after being analyzed by SPSS 25 Statistics as the value of Pearson Correlation is higher than the value of the r table (Sari & Dewi, 2021).

2. Reliability of Instrument

Instruments are said to be reliable when they can reveal reliable data Arikunto, 2010 in (Ningtyas, 2018). According to Sugiyono (2017: 130) in (Faizi 2017) states that the reliability test is the extent to which the measurement results using the same object will produce the same data. Moh. Nazir in (Faizi 2017) explained that a measuring instrument is said to have high reliability or can be trusted, if the measuring instrument is steady, in the sense that the measuring instrument is stable, dependable, and predictable. A steady measuring instrument does not fluctuate in measurement and is reliable because the use of the measuring instrument many times will give the same result.

In summary, the reliability of measuring instruments is a tool used to reveal psychological factors or dimensions of human personality, then the psychological scale must retain good statements and have a high level of reliability. This reliability test is conducted on 40 students at SMA Muhammadiyah 1 Metro, using questions that have been declared valid in the validity test and the reliability will be determined.

Cronbach's Alpha is a trusted method of verifying reliability through internal consistency, and Taber (2018) described it as “one of the most important and pervasive statistics in the production and utilization of tests, 2018 in (Patel, 2019).

The Cronbach's Alpha Reliability coefficient formula :

$$r_i = \frac{k}{(k-1)} \left\{ 1 - \frac{\sum s_i^2}{s_t^2} \right\}$$

r_i = Coefficient of reliability Cronbach's Alpha

k = number of questions

$\sum s_i^2$ = variance of scores on each questions

s_t^2 = total variance of overall scores

Cronbach's alpha coefficient typically falls between 0 and 1, however, there is no bottom line for the number. The higher the coefficient gets to 1.0, the more reliable and consistent the items on the scale become.

Based on the formula, where k is the number of items considered and r is the mean of the inter-item correlations the size of alpha is determined by both the number of items in the scale and the mean inter-item correlations. George and Mallery (2003) in (Syamsuryadin & Wahyuniati, 2017) provide the following rules of thumb: “_ > .9 – Excellent, _ > .8 – Good, _ > .7 – Acceptable, _ > .6 – Questionable, _ > .5 – Poor, and _ < .5 – Unacceptable” . While increasing the value of alpha can be attributed to the number of items in the scale, its gains beyond a certain point are minimal. Achieving an alpha value of .8 should generally be considered a satisfactory goal. It is essential to understand that although alpha levels in excess of .8 suggest that the items of the scale are internally consistent, it does not automatically imply that the scale in question is unidimensional. In summary, we can conclude that a higher value indicates a strong relationship between the items on the test, whereas, a lower value indicates a weaker relationship between test items.

E. Data Collecting Technique

In this research, the self-confidence of the students was determined through a personality test that consisted of 40 questions or statements. A story from a past event was retold in order to assess the speaking capacity of the students. Scoring interviews were also included in the speaking assessment. The researcher gathered the participants to take on the personality test and the speaking test. Additionally, the researcher collected existing personality tests and speaking tests, prepared to be studied. The steps for data collection was as follows:

1. Personality tests

The researcher distributes the questionnaires to 40 respondents. Subsequently, instructions for completing the questionnaire are on the first page of the form.. The researcher allows them to fill in the questionnaire within 40 minutes. Although the completion of the questionnaire takes approximately 40 minutes, the researcher informs the participants that there is no fixed time in completing it. The purpose is to guarantee that the participants can understand the questionnaire completely. After that, the researcher analyzes it.

2. Retelling a story or event

The researcher gives a speaking test score sheet, and instructions to the teacher. Next, the researcher asks the respondents to retell about an experience they would never forget in 4 minutes. The teacher assessed by using oral English rating sheet. The researchers collect and analyze the results given by the teacher.

F. Data Analyzing Technique

According to Sugiyono 2017 : 147 in (Faizi 2017) what is meant by technical data analysis are activities after data from all respondents or other data sources are collected. Activities in data analysis are grouping data based on variables and types of respondents, tabulating data based on variables from all respondents, presenting data for each variable studied, perform calculations to answer the formulation of the problem, and perform calculations to test the hypothesis that has been proposed.

Before finding the correlation, the data analyse by using some steps, it will be explain as follow:

1. Test the linearity of the data

The objective of examining the linearity of the data is to know whether there is a relationship between two elements or not. To conduct the test, the researcher utilized SPSS 20 with a significance level of 0.05. If the deviation from linearity Sig > 0.05, it implies that a linear relationship exists between the two variables. Conversely, if the score of deviation from linearity Sig < 0.05, it implies that there is no connection between the two variables. The ANOVA (Analysis of Variance) table in SPSS can help identify the type of regression applicable to explain the results between the independent and dependent variables.

2. Pearson Product Moment Correlation

The next step is uncovering the positive correlation between two variables using Pearson's Product Moment Correlation involves calculating the formula:

$$r_{xy} = \frac{n\sum XY (\sum x) (\sum y)}{\sqrt{n\sum(x)^2 - (\sum x)^2 - (\sum x)^2 - (n\sum(y)^2 (\sum y)^2)}$$

The formula is illustrated as follows:

n = the number of respondents

x = the students' score in self confidence

y = the students' score in speaking

$\sum x$ = the sum of self confidence

$\sum y$ = the sum of speaking score

$\sum x^2$ = the sum of squares self confidence scores

$\sum y^2$ = the sum of squares speaking scores

$\sum xy$ = the sum multiplication self confidence scores and speaking scores

The means of strategy use are analyzed in compliance with Oxford's (1990)'s interpretation, in which the classification of the frequency was based on a five-point rating scale as follows:

Table 3.5 Scale and Interpretation of Likert-Scale Questionnaire

No.	Level of Opinion	Interpretation
1.	5	Strongly Agree (SS)
2.	4	Agree (S)
3.	3	Neutral (N)
4.	2	Disagree (TS)
5.	1	Strongly Disagree (STS)

In facilitating the data analysis, the scoring system of strategies were valued with the mean as follows:

Table 3.6 Mean Interpretation of Questionnaire Data

Range of Mean	Interpretation
3.5 – 5.0	High Use
2.5 – 3.4	Medium Use
1.0 – 2.4	Low Use

Meanwhile, to answer the second question of the research, the Pearson Product Moment correlation is implemented as it is to discover the correlation between self-confidence as the independent variable and speaking skills as the dependent variable. The interpretation in the correlation coefficient is based on the following table:

Table 3.7 Rule of Thumb for Interpreting the Size of Correlation Coefficient (Hinkle et al., 2003)

Size of Correlation	Interpretation
0,80 – 1,00	Very high positive (negative) correlation
0,60 – 0,80	High positive (negative) correlation
0,40 – 0,60	Moderate positive (negative) correlation
0,20– 0,40	Low positive (negative) correlation
0 – 0,20	Negligible/Very weak correlation

Lastly, the researcher concludes the data analysis result to reveal the answer of the research questions. Miles and Huberman (1994) stated the process of drawing conclusions involves taking a step back, reflecting on what the analyzed data mean, and evaluating the repercussions for the original questions.