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CHAPTER III

RESEARCH METODOLOGY

A. Research Design

The research design employed in this study is a quantitative method with a correlational approach. According to Creswell & Guetterman (2019:342), correlational research is a non-experimental form of quantitative research in which investigators use correlational statistics to describe and measure the degree or association between two or more variables or sets of scores. This design focuses on determining the relationship and the strength of that relationship between the independent and dependent variables without any attempt to influence them. The researcher utilized this correlational design to analyze how variations in one variable correspond with variations in another, using statistical tools to calculate the correlation coefficient.

B. Location & Time

The research took place at SMA Negeri 1 Tembilahan Hulu, situated on Sapta Marga Street in Tembilahan City, Indragiri Hilir Regency. The study is scheduled for February-April 2026. The selection of SMA Negeri 1 Tembilahan Hulu is based on preliminary observations that indicated diverse students' reactions toward speaking tasks. While some students appear confident, others exhibit signs of hesitation. Furthermore, initial dialogues with teachers suggested that students' oral participation does not always reflect their general academic potential. These observations present an intriguing phenomenon: it remains unclear to what extent speaking anxiety actually



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relates to their performance levels. Thus, this site offers a relevant context to empirically test the correlation between these two variables.

C. Population and Sample

1. Population

A population is defined as a collection of individuals belonging to the same species that are present in a specific geographic area at a given time, share a shared genetic background, and have the ability to breed (Johnson, 2019:73). The research population consisted of 11th grade students at Tembilahan Hulu State High School. The total population in the area is 360 people.

2. Sample

A sample is a smaller, representative portion of a population that enables researchers to draw conclusions about the entire group without having to study each individual member. Singh & Masuku (2014:3) says that “sampling is related with the selection of a subset of individuals from within a population to estimate the characteristics of whole population”.

The researcher employed a simple random sampling technique for this study. According to Sugiyono (2021:138), simple random sampling is a method of selecting sample members from a population where the process is conducted randomly without considering any existing strata within that population. This technique was applied because the total population of 360 eleventh-grade students was



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considered homogeneous in nature regarding the characteristics being studied. By utilizing this method, every individual in the population was given an equal opportunity to be selected, resulting in a sample size of 36 students. Consequently, the total number of participants involved in this research is 36 students.

In determining the sample size, the researcher took 10% of the total population. This is in line with Sugiyono (2021:131) who suggests that size of the sample can be determined based on the level of the precision required, and for a large or homogeneous population, a percentage-based approach (such as 10-15%) can be applied as long as it represents the population's characteristics.

The decision to take a 10% sample, resulting in 36 students, was also based on practical considerations. Sugiyono (2021:144) acknowledges that researchers may consider limitations in terms of time, funding, and energy when determining the sample size, provided the sampling remains objective. Given that this research involves a speaking test, which requires significant time for individual assessment and oral data collection, a 10% sample was deemed the most feasible and effective to ensure the depth and accuracy of the data analysis within the available timeframe. Consequently, the total number of participants involved in this research is 36 students.



D. Research Instrument

In this research, the researcher employ two types of instruments to collect the data. The first is a questionnaire to measure the students' speaking anxiety, and the second is a speaking performance test to assess the students' public speaking ability.

1. Questionnaire (FLCAS)

The researcher use a questionnaire as the tool to measure the first variable. Sugiyono (2017:142) states that a questionnaire is a tool used to collect data in which participants are given a list of questions or written statements to fill out. In this study, the questionnaire serves to collect data regarding the participants' psychological conditions, particularly their level of anxiety when speaking in public.

The researcher uses the Foreign Language Classroom Anxiety Scale (FLCAS) developed by Horwitz et al. (1986). The questions in this tool focus on students' feelings of nervousness, their fear of being judged by others, and their confidence during oral performances. To ensure a systematic measurement, the 33 items of the FLCAS are categorized into a blueprint as shown below:

Table 1. The Blue Print of FLCAS Questionnaire

No.	Indicators	Item Numbers	Total
1.	Communication Apprehension	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11	11
2.	Test Anxiety	12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26	15
3.	Fear of Negative Evaluation	27, 28, 29, 30, 31, 32, 33	7
Total items			33



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The attitude scale used for this questionnaire is a Likert model with five answer choices: SA (Strongly Agree), A (Agree), N (Neutral), D (Disagree), and SD (Strongly Disagree).

2. Speaking Performance Test

The second instrument is a speaking performance test to measure the students' public speaking ability. In this test, students will be asked to deliver a speech in front of the class based on one of three predefined topics: *"Fast Food in Our Daily Life"*, *"The Importance of Regular Exercise"*, and *"Healthy Life for Healthy Future"*. These topics were selected from the students' English module on healthy living and had previously been covered by the English teacher at SMAN 1 Tembilahan Hulu. The researcher will then evaluate their performance using a speaking assessment rubric. The aspects assessed in this test include pronunciation, grammar, vocabulary, fluency, and comprehension.

E. Data Collection Technique

The methods for gathering data are integral parts of the instruments utilized to gather information that determines the effectiveness of the research. In order to investigate the correlation between students' speaking anxiety and their public speaking ability, the researcher devised a systematic procedure to obtain relevant data. The procedure is outlined as follows:



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1. Questionnaire (Variabel X)

To collect data on students' anxiety levels, the researcher prepared the Foreign Language Classroom Anxiety Scale (FLCAS) questionnaire consisting of 33 statements. The questionnaire was distributed to students selected through simple random sampling across each Eleventh-Grade (XI) class at SMAN 1 Tembilahan Hulu. Due to the school's strict policy prohibiting students from bringing mobile phones to school, which was maintained even after the researcher requested permission, the questionnaire was administered online via Google Forms for students to complete at home. They were given fifteen to twenty minutes to answer all statements based on their actual feelings before submitting their responses. Once gathered, the collected data were processed according to the standardized FLCAS scoring rubric ranging from Strongly Agree to Strongly Disagree.

2. Speaking Performance Test (Variable Y)

To assess students' public speaking ability, the researcher prepared a speaking test conducted in the multimedia room over two days to accommodate the students' mandatory non-academic school activities. Three predetermined topics were distributed to the students in advance, allowing them the freedom to choose one topic for their speech. During the test, students delivered their presentations in front of the class while the school's English teacher evaluated their actual performance using a standardized speaking rubric to avoid researcher bias. The aspects assessed in this test included pronunciation, grammar, vocabulary,



fluency, and comprehension. Finally, the scores obtained from the speaking test were collected to be correlated with the questionnaire results through statistical analysis

F. Data Analysis Technique

1. Scoring the FLCAS Questionnaire (Likert Scale)

In this study, there are two types of data that are processed. The first was made up of the FLCAS questionnaire's data.

Table 2. FLCAS Scoring Rubric

Scale	Positive Question	Negative Question
Strongly Agree	1	5
Agree	2	4
Neutral	3	3
Disagree	4	2
Strongly Disagree	5	1

(Source: Hortwiz et al, 1986)

As indicated by the above table, students who positively replied "Strongly Agree" were allocated a score of 1, students who replied "Agree" were allocated a score of 2, students who replied "Neutral" were allocated a score of 3, students who replied "Disagree" were allocated a score of 4, and students who replied "Strongly Disagree" were allocated a score of 5. On the other hand, for negatively worded statements, students who replied "Strongly Agree" scored 5, students who replied "Agree" scored 4, students who replied "Neutral" scored 3, students who replied "Disagree" scored 2, and students who replied "Strongly Disagree" scored 1. Once all students' responses have been transformed into scores, an



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examination was carried out to determine anxiety levels through the anxiety scale by Alrabai (2014).

Table 3. Anxiety-Level Scale

Scale	Level of Anxiety
33-82	Very Low Anxiety
83-89	Moderately Low Anxiety
90-98	Moderate Anxiety
99-108	Moderately High Anxiety
109-165	High Anxiety

(Source: Alrabai, 2014)

The instrument used to assess students' speaking skills in this study was an assessment rubric adapted from Harris (1969). This rubric was chosen because it provides comprehensive measurement criteria, covering five main aspects: pronunciation, grammar, vocabulary, fluency, and comprehension. The details of each criterion and its score are presented in table below:



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Table 4. Assessment Rubric

Criteria	5	3	1
Pronunciation	Pronunciation is accurate, with correct inflections, numbers of syllables and other correct nuances of pronunciations	Pronunciation is satisfactory; however words sometimes have incorrect inflections or are otherwise sometimes hard to understand.	Pronunciation is very hard or impossible to understand by a native speaker.
Grammar	The speaker speaks with no more incorrect grammar than a native speaker would.	The speaker occasionally uses inappropriate verb tenses and/ or incorrectly uses parts of speech, incorrectly uses parts of speech, however the speaker has the ability to correct grammar without prompts.	The speaker makes frequent use of inappropriate verb tenses and/or incorrectly constructs sentences or uses parts of speech.
Vocabulary	Vocabulary is sufficient to be understood in most settings and words are used with their correct meaning.	Vocabulary is moderate, although the speaker sometimes needs help identifying the correct words. There are only occasional problems with correct meanings of words.	Vocabulary is very limited and/or incorrect words are often used.
Fluency	The speaker speak fluently like a native speaker.	The fluency of the speakers is slightly disrupted by language issues.	Speech is interrupted and stops, making conversation impossible.
Comprehension	The speaker understands everything without difficulty.	Understand most of what is said when speaking is slowed down, even if there is repetition.	Unable to understand even simple conversation.



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(Harris, 1969. Modified by Onny Martiningsih, S. Pd, the English Teacher at SMA Negeri 1 Tembilahan Hulu)

Total Score:

Overall Grade:

- 1) 18-20 = Excelent
- 2) 15-17 = Good
- 3) 11-14 = Fair
- 4) Below = Needs Improvement

2. Percentage of Respondents

The students' speaking skills were then evaluated using assessment guidelines developed by Brown (2004:172). Each student's score was calculated using the formula below.

$$\text{Percentage} = \frac{\text{Student's Scores}}{\text{Students' Maximum Score}} \times 100\%$$

3. Correlational Analysis

After both sets of data were collected, they were statistically analyzed to see if there was a significant correlation between students' anxiety levels and their speaking abilities. Survey scores were used as the x variable, while test scores were used as the y variable. Researchers analyzed the data using the product-moment correlation coefficient (r) generated by SPSS 27.



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The statistic hypotheses are below:

- **Ha:** sig 2-tailed < 0.05 (There is a significant correlation)
- **Ho:** sig 2-tailed > 0.05 (There is no significant correlation)

The manual method for calculating the Pearson product-moment correlation coefficient (r) uses a formula based on the total scores of the independent variable (X) and the dependent variable (Y)

The following are formulas commonly used in research:

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

Explanation of the formula components:

1. N : The total number of paired observations (sample size).
2. $\sum E$: The sum of all scores for variable X .
3. $\sum Y$: The sum of all scores for variable Y .
4. $\sum X^2$: The sum of the squared scores for variable X .
5. $\sum Y^2$: The sum of the squared scores for variable Y .
6. $\sum XY$: The sum of the products of paired X and Y scores.

The resulting correlation coefficient (r) requires a systematic interpretation to determine the magnitude of the association between the variables. This coefficient ranges from 0.00 to 1.00, where a value approaching unity indicates a progressively stronger relationship.

To ensure an objective assessment of the calculated coefficient, the researcher adopts the interpretive framework established by Sugiyono



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(2019:245). The following table delineates the coefficient intervals and their corresponding levels of relationship:

Table 5. Interval of Inter-Variable Correlation Coefficients

Coefficients Interval	Relationship Level
0.00 – 0.199	Very Low
0.20 – 0.399	Low
0.40 – 0.599	Moderate
0.60 – 0.799	Strong
0.80 – 1.000	Very Strong

(Source: Sugiyono, 2019)

