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CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

The research employed a descriptive quantitative research design, describing students' learning styles and analyzing their impact on speaking skills learning outcomes. The questionnaires used in the analysis were distributed to the population and comprised three types of learning styles: visual, auditory, and kinesthetic. The collected data were then analyzed quantitatively to provide a clear picture and statistical analysis of the dominant learning styles and their influence on students' speaking performance (Sugiyono, 2018:13).

B. Location And Time

This research was conducted at SMAN 1 Tembilahan Hulu. This school is located at Saptamarga Street, Tembilahan Hulu, Tembilahan, Indragiri Hilir Regency, Riau 29281. The researchers began the research in Desember to Januari 2025.

C. Population And Sample

1. Population

According to Sugiyono (2018:130), a population refers to a generalized group or area that includes subjects possessing specific quantities and characteristics as defined by the researcher. Based on the statement above, the population of this research was all of the class XI SMAN 1 Tembilahan Hulu which consist of ten classes and the total of population consist 329 students. The details of the population are as follows:



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Table III.1 Population

NO	CLASS	POPULATION
1	XI 1	36
2	XI 2	35
3	XI 3	32
4	XI 4	28
5	XI 5	31
6	XI 6	32
7	XI 7	34
8	XI 8	34
9	XI 9	35
10	XI 10	32
TOTAL		329

Class XI 9 is not included in the main population used as the object of research. This class is used specifically as a class for testing the validity of the instrument, with the aim of testing the reliability and validity of the instrument before being applied to the actual research sample.

2. Sample

In many research studies, a sample is chosen to gather data and achieve the research objectives. When determining the sample size and the method of selecting the sample, several factors need to be carefully considered (Shukla, 2020:1). The researcher's method of choice in this study is random sampling. According to Bhardwaj (2019) in Noor et al. (2022:79), random sampling is a technique suitable for extremely homogeneous populations, where research participants are selected entirely at random. This method ensures that every individual in the population has an equal chance of being selected, thus



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reducing bias and increasing the representativeness of the sample. In this study, a random selection process was conducted among 294 eleventh grade students at SMAN 1 Tembilahan Hulu, using systematic random sampling to produce 30% of the participant population for this study.

Table III. 2 Sample

NO	CLASS	TOTAL	SAMPLE
1	XI 1	36	10
2	XI 2	35	15
3	XI 3	32	15
4	XI 4	28	10
5	XI 5	31	10
6	XI 6	32	10
7	XI 7	34	10
8	XI 8	34	10
9	XI 10	32	10
TOTAL		294	100

D. Research Procedure

The researcher came to the class and gave the questionnaire to the students, after that the researcher explained a little about the questionnaire.

E. Research Instruments

In this research, the researcher used Questionnaire as an instrument to collect data. According to Sugiyono, (2018:142) A questionnaire is a data collection technique that is carried out by giving a set of questions or written statements to respondents to answer. Researchers gave questionnaires based on

learning style indicators to students.

Table III.3 Item Of Questionnaire

Indicators	Total Item	Item Number
Visual	4	1,2,3,4,
Auditory	2	5,6
Kinesthetic	10	7,8,9,10,11,12 ,13,14,15,16

F. Data Collection Technique

In data collection, researchers used a questionnaire to students. The questionnaire was given to respondents, namely grade XI students. The questionnaire consisted of 16 questions based on indicators. Students were given 20-30 minutes to answer the questionnaire.

G. Data Analysis Technique

The methods used to determine An Analysis of Visual, Auditory and Kinesthetic Learning Styles in Speaking Skill are:

a. Questionnaire

The researcher chooses to use descriptive quantitative to analyze the data. The technique uses to collect the data is questionnaire that contain 16 statements. Moreover, the type of questionnaire is a Likert scale which has been studied to have good results in producing a high-quality data. The Likert scale contains 4 lever l which are: 1) Strongly Agree 2) Agree 3) Disagree 4) Strongly Disagree. Generally, quantitative data analysis involves the use of descriptive statistics. To analyze the data related to students' learning styles, the researcher employed Microsoft Excel 2021.





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Table III.4 Likert Scale

No	Scale	Score
1	Strongly Agree	4
2	Agree	3
3	Disagree	2
4	Strongly Disagree	1

Widyoko's model (2014:109) in Agusria (2023:28), state that the data gathered can be analyzed by counting by amount based on every score from the respondent

1. Finding the highest score :

The amount of the highest score from every question time to the amount of the subject.

$$4 \times 100 = 400 \text{ (the highest score)}$$

2. Finding the lowest score :

The amount of the lowest score from every question time to the amount of the subject.

$$1 \times 100 = 100 \text{ (the lowest score)}$$

3. Finding the interval :

$$\text{Interval} = \frac{400 \text{ (the highest score)} - 100 \text{ (the lowest score)}}{4 \text{ (Class Interval)}} = \frac{300}{4} = 75$$

Based on the interval above, the classification or the level of learning style can be seen below :



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Table III. 5 Learning style in speaking skills

Score level	Level of learning style
326 – 400	Very Good
251 – 325	Good
176 – 250	Fair
100 – 175	Low

4. Finding the mean score

To identify the level of learning style, all statement scores must be added up and divided by the number of statements. The result can be expressed as the level of learning style.

$$\frac{\sum \text{all of the score of the statements}}{\sum \text{all of the statements}} = \text{mean score}$$

To assess the acoustic level of a test instrument, Cohen (2007:33) in Agusria (2023:27) put forward several reliability categories that can be used as a reference. The table below presents these categories which function to determine the extent to which a test can be considered reliable.

Table III. 6
A commonly accepted rule of thumb of describing internal consistency by using Cronbach Alpha

Cronbach Alpha	Internal Consistency
> 0.90	Very highly reliable
0.80-0.90	Highly reliable
0.70-0.79	Reliable
0.60-0.69	Minimally reliable
< 0.60	Unacceptably low reliable

To obtain the reliability of the questionnaire given, the researcher used the SPSS 27 program to find out whether the questionnaire was reliable or not.



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b. Validity test

Validity refers to the extent to which the collected data accurately represents the true scope or area of the investigation (Taherdoost, 2020:29). To assess the validity of the data collection instruments used to gather data, a validity test is required to evaluate the accuracy and effectiveness of the measuring tool (Pariani, 2016) in Harnita (2023:26). Therefore, a valid instrument refers to a measuring tool that is accurate and reliable for collecting data. Construct validity is the validity method employed in this investigation. According to Heale and Twycross in Khomeiran and Barrett (2025:38) State that construct validity is the ability to make conclusions about test results that are relevant to the idea under study. Furthermore, the r table limit with a significance of 0.05 was utilized to make decisions in this validity test, which was conducted using SPSS 27 to ascertain how accurately an instrument measures what it was intended to assess.

c. Reliability test

Reliability refers to the consistency or stability of a measurement. A reliable test or instrument means that respondents will obtain the same score on repeated tests, provided that no other factors influence the score (Segal & Coolidge, 2018 in Govindasamy et al 2024;641). Reliability is a measurement that indicates the consistency or stability of a construct or item (Liew & Idris, 2017 in Govindasamy et al 2024;641).