

CHAPTER III
RESEARCH METHOD

This chapter consists of research method, research design, research location, instrument, data collection, data analysis.

3.1 Research Design

In this study, data collection will be conducted through an experiment. Experimental research involves describing the effects of specific variables, often through treatments applied to participants. Therefore, this study employs an experimental approach as a form of quantitative research to assess the effectiveness of using picture media in learning to enhance the speaking performance of IX-grade junior high school students. As stated by Mohajan (2020:51), quantitative research methods focus on measurable aspects and relationships between phenomena. They aim to explain, predict, and control phenomena by analyzing relationships among measurable variables. The research design utilized in this study is a one-class pretest-posttest design, which aims to determine the effectiveness of employing image media in learning to enhance students' speaking performance.

Drawing from the experimental research framework, the design of this study follows the pattern outlined by Rahayuningsih (2019:36):

Table 3.1 The Formula Pre-test and Post-test

Pre – Test	Treatment	Post –Test
01	X	02

Information

X : Treatment

O^1 : Result Pre Test

O^2 : Result Post Test

Before being given treatment, the Experimental was first given (pre test). After that, the experimental was given treatment using media picture (x). Next at the end, a post test was carried out on the experimental to find out the differences after receiving treatment. The difference between O^1 and O^2 is assumed to be the effect of treatment.

This research will be conducted at SMPN 4 Banda Aceh. The Research will be carried out from July 16 - 19 2024.

3.2 Population

As per Sugiyono (2013:80), the population refers to a group of objects or subjects sharing specific qualities and characteristics within a defined area. Similarly, Arikunto (2017:104) defines population as a set of elements with one or more attributes of interest. In the context of this study, the population comprises the all of students at SMP Negeri 4 Banda Aceh in the academic year 2023/2024.

3.2.1 The sample

Sample is part of the object that will be studied carefully, and the sample is taken from part of the population or the whole. Sugiyono (2008:37) states that the sample is part of the number and characteristics of the population. The sample in this study 15 of student.

3.3 research location

This research will be conducted in junior high school SMPN 4 Banda Aceh, the location will be chosen because it is a place where students study with average of students different course have strategy public speaking. The focus of

this study is the researcher selected SMPN 4 Peunayong Banda Aceh to enhance speaking skills due to the observed low proficiency levels among students. The study will investigate the effectiveness of utilizing visual media to enhance student speaking performance.

3.4 The Variabel of the research

A variable is a characteristic, number, or quantity that can vary and is typically used to measure or represent different aspects of a phenomenon. There are two fundamental types of variables: independent variables and dependent variables. The independent variable is the aspect of the research that is manipulated or controlled by the researcher and is believed to influence other factors. Its nature is independent and its values are not influenced by other factors. On the other hand, the dependent variable is the factor being observed or measured in a study to determine whether it is affected by changes in the independent variable.

In this study, there are two variables identified:

1. Independent variable: The use of picture media in learning.
2. Dependent Variable: Students' speaking performance.
3. Instrument of collecting data

For the research instrument, a speaking test was utilized, comprising three main components: (1) Instructions, (2) Materials for retelling, and (3) Relevant Images. Initially, students underwent a pretest to assess their baseline speaking abilities. Subsequently, an image series was introduced in the classroom to narrate a story, followed by a posttest where students described the images. The analytical scoring consisted of five items, each scored out of five, resulting in a maximum

score of 25. However, this score was multiplied by, this a final maximum score of 100. To evaluate student performance, a speaking scoring rubric was employed.

Table 3.2 Scoring Categories (Brown: 2004)

Aspects	Score	Indicator
Pronunciation	5	Equivalent to and fully accepted by educated native speakers.
	4	Error in pronunciation quite rare
	3	Errors never interfere with understanding and rarely disturb the native speaker. Accent may be obviously foreign.
	2	Accent is intelligible though often quite faulty..
	1	Errors in pronunciation are frequent but can be understood by a native speaker used to dealing with foreigners attempting to speak his language.
Grammar	5	Equivalent to that of educated native speaker.
	4	Able to use the language accurately on all levels normally to pertinent to professional needs. Errors in grammar are quite rare
	3	Control of grammar is good. Able to speak the language with sufficient structural accuracy to participate effectively in most formal and informal conversation on practical, social and professional topics
	2	Can usually handle elementary constructions quite accurately but does not have thorough or confident control of the grammar.
	1	Errors in grammar are frequent, but speaker can be understood by native speaker used to dealing with foreigner attempting to speak his language.
Vocabulary	5	Speech on all levels fully accepted by educated native speakers in all its features including breadth of vocabulary and idioms, colloquialisms, and pertinent cultural references.
	4	Can understand and participate in any conversation within the range of his/her experience with a high degree of precision of vocabulary.
	3	Able to speak language with sufficient vocabulary to participate effectively in the most formal and informal conversation in practical, social, and professional topics.

		Vocabulary is broad enough that he rarely has to grope for a word.
	2	Has speaking vocabulary sufficient to express himself simply with some circumlocutions..
	1	Speaking vocabulary inadequate to express anything but the most elementary needs..
Fluency	5	Has complete fluency in the language such that his speech is fully accepted by educated native speakers.
	4	Able to use the language fluently on all levels normally pertinent to professional needs. Can participate in any conversation within the range of his experience with a high degree of fluency.
	3	Can discuss particular interest of competence with reasonable ease. Rarely has to grope for words.
	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.
	1	No specific fluency description. Refer to other four language areas or implied level of fluency.
Comprehension	5	Equivalent to that of an educated native speaker.
	4	Can understand any conversation within the range of his experience.
	3	Comprehension is quite complete at a normal rate of speech.
	2	Able to satisfy routine social demands and work requirements; needs help in handling any complication or difficulties.
	1	Within the scope of his very limited language experience, can understand simple questions and statements if delivered with slowed speech repetition, or paraphrase.

According to Sugiyono (2021), the Likert scale is the scale used to measure the attitudes, opinions and perceptions of a person or group of people about social phenomena. Each item of the questionnaire has 5 (five) answers with different weights or values. Each answer choice will given a score, the respondent

must describe and support the question (positive items to negative items) this score is useful for knowing alternatives the answer chosen by the respondent. The existence of this score can provide each alternative statement answer. Below are the Likert scale scores according to Sugiyono showed the score for each rating scale.

Table 3.3 Score/Rating Likert Scale

No	Score/Rating	Categori
1.	5	Very Good
2.	4	Good
3.	3	Average
4.	2	Poor
5.	1	Very Poor

3.5 Instrument validity

Instrument validity is a very important part of a study. The function of instrument validity is to prove that the data obtained using the instrument is correct. According Zohrabi (2013), validity relates to how much a study can be believed to be true, it can be evaluated for the purpose of the study. Simply put, a research instrument in the form of a test must be in accordance with the material provided. The validity instruments that researcher will use in this study are :

In the context of the study, the validity of the instrument can be discussed as follows :

1. Pre -test Validity : Pre-test is use to measure the intial level of speaking ability of the students before treatment using the pictrure media. Pre-test validity in

the form of speaking. That is, students are to come forward to speak and choose a theme provide by the researcher

2. Treatment Validity : Treatment in this study is the provision of access or use of the media picture for speaking. The validity of the treatment is related to how effective the media is in improving student's English speaking skills. Students will be given three meetings to practice using media picture.
3. Post-test Validity : Post-test is used to measure student's level of English speaking abilities after being given treatment. Students will again be asked to speak a head with a predetermined theme. The validity of the post test will be guarantees if the instrument can accurately measure the improvement in students speaking skills after treatment.

3.6 Procedure Collecting Data

According to Sugiyono (2013:136), research methods refer to the techniques employed by researchers to gather data for their studies. This implies that research methods are chosen based on the specific data needs of the study. In this research, the following methods were utilized to collect data:

3.6.1. Documentation

According to arikunto (2017:231),the documentation method is looking for data regarding things or variables in the form of notes, transcripts, books, inscription, meeting minutes, notes, agenda it is used to provide a concrete picture of children's activity during the learning process and to strengthen \the data obtained by documentation in the form of teacher notes and photographs which provide a concrete picture of studentactivities. So the documentation carried out in

his research is in the form of diaries, photos and recordings to support. The results. Study.

3.6.2 Pre test

Before implementing the treatments, the researcher visited the selected class and provided an explanation to the students regarding the upcoming activity. This was followed by the distribution of the assessment instrument and instructions to commence the pre-test.

3.6.3 Post test

The post-test is administered after all the interventions or treatments have been conducted in the experimental research. It is similar to the pre-test given to the students.

3.7 Technique of the Analysis Data

The gathered data is subsequently examined to address the formulated issues and hypotheses. In quantitative research, statistical analysis is utilized for data interpretation (Sugiyono, 2013:31).

In this research, the data analysis technique used is registration analysis, namely regarding the dependence of an independent independent variable with the aim of obtaining a bound average value of the variable. therefore, the analysis used by researchers, to obtain good grades, researchs carried out tests on the research instrumentnts used in the research.

The following are simple statistics used by researchers to calculate data analysis:

$$X = \frac{\sum x}{\sum N}$$

Keterangan:

\bar{X} = Mean (average value)

$\sum x$ = (total score student)

$\sum N$ = number of student

3.7.2 Normality of the test

The normality test aims to find out whether the data from each is normally distributed or not. This normality test uses the Liliefors method. Liliefors is one of the methods used to test the normality of data. The Liliefors normality test in this study was carried out using the Excel App. The following is the form of hypothesis used in testing normality :

- H_0 : Data comes from a normally distributed population
- H_a : The data does not come from a normally distributed population.

Based on p-value or significance (sig), the hypothesis decision making criteria are as follows :

- if sig < 0.05 then H_0 is accepted or the data is normally distributed.
- If sig > 0.05 then H_a is accepted or the data is not normally distributed.

3.7.3 Hypothesis of the test

Hypothesis testing is an action carried out by researchers to test the truth of temporary assumptions made by researcher in the research. Therefore, hypotheses can sometimes also turn out to be truth or vice versa, data can fall as truth. In this research, the hypothesis used is the t-test: paired two sample assuming equal variances which is used to compare the means of two groups where the a class is not related to each other and the basis for decision making in the t-test. Paired two sample for means is as follows :

1. If the significance value (2- tailed) is $< 0,05$, the H_0 is rejected and H_a is accepted.
2. If the significance value (2 -tailed) is $> 0,05$ the H_0 is accepted and H_a is rejected.

3.7.4 Evaluation Rubric Classification

Tabel 3.4 Student's Score Classification

Criteria	Score
Very Good	21 – 25
Good	16 – 20
Average	11 – 15
Poor	6 - 10
Very Poor	1 - 5

The researcher employs EXCEL to compute the t-count (t_0) and table (t -table) scores using table distribution. The analysis technique utilized in this study is the paired sample t-test, which is employed to assess the effectiveness of the treatment. Additionally, the researcher examines the hypothesis acceptance through the mean score and standard deviation comparison between the pre-test and post-test, determining whether there are significant differences and validating the hypotheses.

- a. If: $t_0 \geq (t_t) =$ Reject the null hypothesis
- b. If: $t_0 < (t_t) =$ Received the null hypothesis.