

CHAPTER III RESEARCH METHOD

In this chapter, the researcher provided an overview of the research design, sample population, research instruments, data collection techniques, and data analysis techniques.

A. Research Design

This research used a quantitative research method namely Quasi-Experimental design. Sugiyono (2016:77) said that “Quasi experimental design is used because in reality it is difficult to get a control group used for research”. In this case focused on conducting experiments using Project-Based Learning in EFL learning at Islamic Junior High School 1 Pariaman. The quasi-experimental design used two classes as an experimental class and control class, which is an experimental class where VII.6 was got treated by using Project-Based Learning while control class is VII.5 with conventional methods.

The researcher used the non-equivalent material group, pre-test and post-test design. Because, the researcher used 2 classes as a comparison to test the Project-Based Learning on their 4C skills. To collect the data of speaking, the researcher used pre-test and post-test of speaking test and for students' creativity skill the researcher used the final project.

The pre-test was held before the treatment while the post-test was held after the treatment. Researcher used a spoken test for the pre-test to know the students' speaking skills. The students asked to describe people

orally. From that speaking test, the research could find any errors experienced by students in learning English.

Table 3.1

Research Design

Group	Pre-Test	Treatment	Post-Test
VII.6	O1	X	O2
VII.5	O3	-	O4

Explanation :

VII.6 : Experimental Class

VII.5 : Control Class

O1 : Pre-test

O2 : Post-test

X : Treatment

- : There is no treatment

O3 : Pre-test

O4 : Post-test

B. Population and Sample

1. Population

The population of this research is the seventh grade students of state Islamic Junior High School 1 Pariaman in the academic years 2024/2025 because seventh grade is the initial year of learning, the 4C skills start from the initial stage. Sugiyono (2016:80) said that

“population is a generalization area consisting of objects/subjects that have certain qualities and characteristics set by researchers to study and then draw conclusions”. The total number of population is 310 students from ten classes (VII.1-VII.10)

Table 3.2

Population of Seventh Grade

Class	Number of Student
VII.1	31
VII.2	30
VII.3	32
VII.4	32
VII.5	30
VII.6	30
VII.7	31
VII.8	30
VII.9	32
VII.10	32
Total	310

In conclusion, at IJHS 1 Pariaman class VII has been divided into 10 classes (from class VII.1 to class VII.10) with a total of 310 students.

2. Sample

The sampling technique of this research is probability sampling. Sugiyono (2016:82) stated that “probability sampling is a sampling technique that provides equal opportunities for each element of the population to be selected as a sample member”. In this case the researcher used cluster sampling, based on the number of population above, it is large enough to be a research sample. The sample is homogeneous so it uses the cluster sampling technique to select two of the classes to be sampled. The cluster sampling technique is the process of randomly selecting whole groups, not individuals in a population that is determined to have the same characteristics. The researcher was draw with paper 10 classes to become 2 classes, after that the researcher scrambles 2 classes with coins to get the experiment class and control class. The samples of this research are class VII. 5 consist of 30 students and class VII.6 consist of 30 students.

C. Research Instrument

The instruments that researcher used are the speaking test and the final project assessment for the instrument of this research. According to Sugiyono (2016:92) research instruments are used to measure the value of the variables under study. Speaking tests are generally used to assess and measure students’ learning outcomes in communication skills in English and final project to assess student creativity skills.

The researcher employed content validity, in this study the researcher asked the validators to perform the validity test. Valid means that the instrument can be used to measure what should be measured (Sugiyono, 2016:121)

In assessing students' speaking skills, the researcher used scoring rubric from Hughes (2003:131-132).

Table. 3.3

Scoring Rubric for Speaking Test

No	Items	Criteria of each item	Score
1	Accent	7. Pronunciation frequently unintelligible.	0
		8. Frequent gross errors and a very heavy accent make understanding difficult, require frequent repetition.	1
		9. Foreign accent" requires concentrated listening, and mispronunciations lead to occasional misunderstanding and apparent errors in grammar or vocabulary	2
		10. Marked "foreign accent and occasional mispronunciations which do not interfere with understanding.	2
		11. No conspicuous mispronunciations, but would not be taken for a native speaker.	3
		12. Native pronunciation, with no trace of "foreign accent."Grammar	4
2	Grammar	7. Grammar almost entirely inaccurate except in stock	6

		phrases.	
		8. Constant errors showing control of very few major patterns and frequently preventing communication.	12
		9. Frequent errors showing some major patterns uncontrolled and causing occasional irritation and misunderstanding.	18
		10. Occasional errors showing imperfect control of some patterns but no weakness that causes misunderstanding.	24
		11. Few errors, with no patterns of failure.	30
		12. No more than two errors during the interview	36
3	Vocabulary	7. Vocabulary inadequate for even the simplest conversation.	4
		8. Vocabulary limited to basic personal and survival areas (time, food, transportation, family, etc.).	8
		9. Choice of words sometimes inaccurate, limitations of vocabulary prevent discussion of some common professional and social topics.	12
		10. Professional vocabulary adequate to discuss special interests; general vocabulary permits discussion of any non-technical subject with some circumlocutions.	16

		11. Professional vocabulary broad and precise; general vocabulary adequate to cope with complex practical problems and varied social situations.	20
		12. Vocabulary apparently as accurate and extensive as that of an educated native speaker.	24
4	Fluency	7. Speech is so halting and fragmentary that conversation is virtually impossible.	2
		8. Speech is very slow and uneven except for short or routine sentences.	4
		9. Speech is frequently hesitant and jerky; sentences may be left uncompleted.	6
		10. Speech is occasionally hesitant, with some unevenness caused by rephrasing and groping for words.	8
		11. Speech is effortless and smooth, but perceptively non-native in speed and evenness.	10
		12. Speech on all professional and general topics as effortless and smooth as a native speaker's.	12
5	Comprehension	7. Understands too little for the simplest type of conversation.	4
		8. Understands only slow, very simple speech on common social and touristic topics;	8

In assessing final project the researcher used scoring rubric from Yardani (2022:28-30) :

Table. 3.5

Scoring Rubric for Final Project

Assessment Parameters	Less (10-40)	Fair (41-70)	Good (71-100)
Critical Thinking	- Analyze problems superficially - Does not conduct evaluation of information received - Uses ideas that already exist without evaluating - Receiving feedback without any consideration - Unable to give reasons valid reasons for defend choices made in solving	- Identifying problem aspects but did not Consider complexity - Evaluate of the information received - Using existing ideas - ideas that already exist with evaluating first although not in detail - Accept input without no consideration - Not able to give reasons valid reasons for defend choices made in solving	- Identifying aspects problems And consider complexity - Conduct evaluation of information received in details - Using existing ideas that already exist with evaluating first and Customize whether it is possible applied or not - Receive input by Doing consideration first - Can provide valid reasons to defend choices made in solving product
Collaboration	- Not responsible responsible for each task - Not completed on time - Not consider other people's	- Responsible to the task each - Strive to complete each tasks in the team - in a timely manner	- Responsible to the task each - Complete tasks on time - Considering other people's input

	opinions - delegating tasks to others	even if the end not on time - Taking into account people's input other - Does not delegate tasks to others	- Not delegating tasks to others
Creativity	- Not knowing purpose of the project - Not consider user needs - Not knowing challenges in the project - Only following direction only - Does not provide new ideas for solving problem - Not able to identify project needs	- Knowing in general the general purpose of the project - Consider user needs - Knowingsome of the project challenges - Only follows directions that are already - Does not provide new ideas for solving problem - Not able to identify project needs	- Knowing in general the general purpose of the project - Consider user needs - Knowing all of the challenges project - Able to provide alternative solutions in solving problem - Provide new ideas for problem solving - Able to identify project needs
Communication	- Can't communicate with team members (more silence) - Can't convey ideas or opinions to the team - Uses words that are not politeness in communication	- Able to communicate with team members - Able to convey ideas or opinions to the team - In communicating Often use words that are words that are not polite	- Able to communicate with team members - Able to convey ideas or opinion to the team - In communication never use words that are words that are not polite

After collecting the data, the researcher classifies the score of the final project the students. In classifying the students' score :

Table.3.6

Weighting Table Final Project
Taken from Yardani (2022, p. 37)

Final Project Assessment Parameters	Score
Less	10-40
Fair	41-70
Good	71-100

D. Stages of the Research

To make the research more focused, researchers made the stages of research for experimental class.

Table.3.7

Stages of the Research

Preliminary Activities	The researcher started the class by preparing the students, then explained the learning objectives and introduced how PjBL would be implemented.
Main Activities	1. The researcher explained the material about Descriptive Text as well as the generic structure of the text. 2. To carry out a project, the researcher divided the students into several groups such as 1 group of 4 people and provided a timeline for completing the project in 1 month. 3. The researcher provides the topic of describing a person (regional/national achievers such as

	teachers, preachers, regional leaders, athletes, friends) that each group will choose as their title topic. 4. Each student in the group was assigned a task, such as approaching sources, videographers, interviewers, and writers. 5. Final project, the group will present the results of their project.
Closing Activities	The researcher evaluated the learning that had been carried out and asked for student feedback on the lesson after that assessment.

E. Technique of Data Collection

The researcher used pre-test and post-test to measure the students' speaking skills and the final project to assess students' creativity.

- 1) Pre-test, the pre-test is given in the form of speaking test. First the researcher ask students attention, second researcher explained the purpose of the research and explained the procedure of the test, third students are asked to describe people. Therefore, from the pre-test the researcher can determine what problems experienced by students in speaking English.
- 2) Treatment, The treatment of Project-Based Learning will be conducted in experimental class. After giving pre-test, the students were given some treatments by using Project-Based Learning. It took four meetings and 90 minutes. First the researcher gave some motivation before starting the materials, second the researcher gave

some explanation about the learning process, third the researcher gave some teaching materials about describing people, fourth the researcher divided the students use Project-based Learning. After finishing the PjBL, the researcher asked the students to give a presentation about the final project.

- 3) Post-test, The post-test is given in the form of a speaking test. The post test was conducted after the researcher was given the treatment to the experimental class. In the post test, students are asked to describe people.
- 4) Final project, final project assessment at the last meeting, each group presented the project they have made and be assessed using the project scoring rubric.

F. Technique of Data Analysis

In analyzing the data of this research study, the researcher used quantitative techniques by calculating data using statistical techniques. This method is done to find out if the data which is obtained is significant data. Then, the researcher was able to determine that the use of Project-Based Learning has an influence on students' 4C Skills. There are several techniques of data analysis performed by the researcher in this research study, including :

1. Data Description

Descriptive statistics are statistics used to analyze data by describing or describing the data that has been collected as it is without intending to make conclusions that apply to the public or

generalizations (Sugiyono, 2016:147). The collected data in this study is given just as it is; no additional inferences are made from it, nor is it possible to forecast the future based only on the facts at hand. The researcher's next goal is to characterize and evaluate the symptoms found in the data in order to determine how well the Project-Based Learning has an effect on students' 4C skill at Islamic Junior High School 1 Pariaman.

2. Descriptive Analysis

There are sample numbers, minimum, maximum scores, mean and standard deviation in descriptive analysis. Student pre-test and post-test scores were used to produce a descriptive analysis. In this case, the researcher used two methods, namely manually and using the SPSS version, which can be used to calculate descriptive data, and the SPSS program was used to calculate all the data collected in this research, namely the paired sample T-test.

Researchers want to know the effect of Project-Based Learning on students' 4C Skills. Researchers started by giving a pre-test. After the pre-test, the researcher gave the treatment four times. Researchers teach describing people (speaking skill) to students using Project-Based Learning method in experimental class after treatment students are given a post-test. Finally, the means of the two tests were compared to find out whether there was a significant difference between the pre-test and post-test.

1. Calculating the students' mean score of the pre test and post test by using the formula (Gay,1981):

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

Description :

$\bar{X}$: The mean score

$\sum x$: The number of all scores

N : The number of sample

2. Finding out the improvement of percentage of the students' pre test and post test by using the formula (Gay, 1981):

$$\% = \frac{X2 - X1}{X1} \times 100$$

Description :

% : The percentage of improvement

$X2$: The total of post test

$X1$: The total of pre test

3. Find out the significant different between mean score of the students by calculating the value of the t-test, the formula was used as follows (Arikunto, 2010).

$$t = \frac{\bar{D}}{\sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{N(N-1)}}$$

Description :

t : test of significance

$\overline{D}$: the mean score of total deviation

Σ : the sum of total score of difference

ΣD^2 : the square of sum score for difference

N : total number of subject

