

CHAPTER III

RESEARCH METHOD

A. Research Design

This study employed a descriptive quantitative research design. The design was used to describe students' perceptions of participating in Project-Based Learning (PjBL) and how these perceptions were related to the development of students' critical thinking skills in the English class. The descriptive quantitative approach was chosen because the study did not aim to examine the effect or effectiveness of a treatment, but rather to provide a clear description of the tendencies of students' responses based on numerical data obtained through a questionnaire. Therefore, this study focused on presenting data descriptively to understand students' perceptions of project-based learning in the English class.

The quantitative method was rooted in the philosophy of Postpositivism, which emphasized the use of numerical data to describe phenomena objectively (Sugiyono, 2007). In this study, data were collected through a questionnaire developed based on indicators of students' perceptions of project-based learning as well as critical thinking skills, including the abilities to analyze, evaluate, and solve problems. The data obtained were then analyzed descriptively using percentages to illustrate the tendencies of students'

perceptions regarding the contribution of project-based learning to the development of their critical thinking skills in the English class.

B. Population and Sample

1. Population

This research was conducted at SMP Negeri 11 Bengkulu Tengah, with the study population consisting of eighth-grade students. In total, there were 47 eighth-grade students at the school, divided into two classes. The selection of this population was based on the consideration that students at this level were in a significant stage of cognitive development, making them suitable for measuring their critical thinking skills. The population data were classified based on the number of students in each class and were presented in detail in the following table to provide a comprehensive overview of the characteristics of the research population.

Table 3.1.
Population of the Research

No	Class	Male Student	Female Students	Number of Students
1	VIII A	15	6	21
2	VIII B	10	16	26
Amount		25	22	47

2. *Sampel*

The sampling in this study used purposive sampling, a method of selecting samples based on specific considerations deemed relevant to the research objectives. Class VIII A, consisting of 21 students at SMP Negeri 11 Bengkulu Tengah, was chosen based on information obtained from the English subject teacher. The teacher stated that students in this class showed a higher level of engagement in the learning process. The teacher also mentioned that the students in this class were more active in asking questions, providing diverse answers, and demonstrating critical thinking skills in understanding and analyzing the material taught. Therefore, this class was considered the most suitable sample to support this research.

In addition, Class VIII A also had an advantage in understanding the English subject compared to other classes. Information from the teacher indicated that students in this class were quicker in grasping linguistic concepts and were better able to apply their understanding in various learning situations. This ability was an important aspect of this study, as one of the main focuses was to analyze how English language learning could help develop students' critical thinking skills. Therefore, the selection of Class VIII A as the sample was expected to provide more accurate and relevant results in line with the research objectives.

The main goal of this research was to contribute to the development of theory and practice in English language learning that was more effective in enhancing students' critical thinking skills. By using purposive sampling, this study aimed to obtain valid and reliable data in identifying the most effective teaching strategies. In addition, the results of this study were expected to provide useful recommendations for teachers in developing teaching methods that not only improved English comprehension but also trained students to think critically in facing various academic challenges as well as everyday life.

C. Research Instrument

In this study, the researcher used a quantitative instrument to collect numerical data related to students' perceptions of Project-Based Learning (PjBL) in the English class. The instrument employed in this research was a questionnaire that was systematically structured to obtain data from students based on predetermined indicators. The questionnaire was designed to measure students' perceptions related to project-based learning as well as aspects of critical thinking skills, including analysis, evaluation, and problem-solving. The questionnaire items were arranged using a four-point Likert scale to capture students' responses clearly and to avoid neutral answers.

The data obtained from the questionnaire were used to describe students' responses in numerical form and were analyzed descriptively using percentages. Through the use of this quantitative instrument, the researcher aimed to obtain a clear and structured description of students' perceptions of Project-Based Learning in relation to the development of their critical thinking skills in the English class.

The questionnaire consists of 30 closed-ended statements developed based on five main indicators. The first indicator, Understanding of PjBL, contains five items to measure students' knowledge of the concepts and procedures of project-based learning. The second indicator, Engagement in the Project, includes five items to assess students' participation and enthusiasm. The third indicator, Critical Thinking Skills, consists of ten items that evaluate students' ability to analyze and evaluate information. The fourth indicator is Collaboration and Communication, and the fifth indicator is Reflection and Learning Attitude, each with five items. The construction of the questionnaire refers to Jonassen's constructivist theory (1999), which emphasizes the importance of direct experience in shaping knowledge.

D. Data Collecting Technique

collection in this study was conducted using a questionnaire as the sole data collection technique. The questionnaire was distributed to eighth-grade students of SMPN 11 Bengkulu Tengah after they had participated in Project-Based Learning (PjBL) activities in the English class. The students were asked to respond to each statement based on their perceptions of project-based learning.

The questionnaire consisted of 30 statements arranged using a four-point Likert scale, covering several indicators related to students' perceptions of Project-Based Learning as well as aspects of critical thinking skills, including analysis, evaluation, and problem-solving. The use of a Likert scale was intended to obtain clear and measurable numerical data and to avoid neutral responses.

The data obtained from the questionnaire were collected systematically and then analyzed descriptively using percentages to describe the tendencies of students' responses. Through this data collection technique, the study aimed to obtain quantitative data that provide a clear description of students' perceptions of Project-Based Learning in relation to the development of their critical thinking skills in the English class.

E. Data Analysis

The data obtained from the questionnaire were analyzed using descriptive quantitative analysis. The analysis focused

on summarizing and describing students' responses in numerical form to provide a clear description of their perceptions of Project-Based Learning in the English class.

The responses were tabulated and calculated using percentages to identify the tendencies of students' answers for each statement and indicator. The results of the analysis were then presented in the form of tables and descriptive explanations to support the interpretation of the findings in accordance with the research objectives.

Quantitative Data

The questionnaire data was analyzed by calculating the total score, average, and percentage to provide an objective overview of the impact of the PJBL model on students' critical thinking skills. This approach is considered efficient and representative in illustrating the overall response patterns.

Below is an explanation of the use of the Likert Scale formula:

$$P = \frac{F}{N} \times 100$$

Explanation:

P : Percentage of responses

F : Number of students who selected a specific option

N : Total number of respondents

Table 3.2.
Score Interpretation

Presentase (%)	Interpretation
0%	None
1-25%	A Small Number
26-49%	Nearly Half
50%	Half
51-75%	Most
76-99%	Almost All
100%	All

