

CHAPTER III

METHODOLOGY

This chapter outlines the research methodology, including the research design, research site, participants, instruments used, as well as the processes for data collection and analysis.

3.1 Research Design

This research used a qualitative approach with a case study design, which is an appropriate method to achieve the research objectives. This is because case studies are important for a very deep and thorough understanding of a phenomenon (Lucas, et al., 2018). This study aimed to explore the teacher's understanding of PjBL, her planning process for its implementation, and how this understanding is translated into classroom practices. Additionally, the research focused on examining the benefits and challenges of implementing PjBL in a state senior high school. Therefore, qualitative method is considered appropriate for this research as they examine a particular phenomenon relating to a person, group, community, society, and other social issues (Bassey, 1999). Qualitative research is best suited for research that wants to gain a thorough understanding of certain issues.

This study follows a number of principles of qualitative research by Cresswell (2012). First, data collection will be conducted in the field at the location where the participants encounter the topic under study. Second, the researcher is the main instrument that collects data. Third, this study uses three types of data: classroom observations, lesson plan, and interviews with the teacher and students. Fourth, the researcher concentrates on learning the participants' meaning about the subject under study, not the researcher's own meaning. The fifth feature is the emergent design, which allows for varied data collection procedures.

The case study was chosen to complement this research for two reasons. First, it provides an in-depth investigation and analysis of the issue of teachers' actual understanding of project-based learning in the Indonesian context. Second, the participants of this study are one English teacher and six students with their own

individual beliefs and experience in experiencing project-based learning in English language teaching and learning. Using the case study approach, the phenomenon is clearly described and contextualized in relation to real-world events. This study focuses on a specific topic: teacher's knowledge of project-based learning, including the plan, practices, benefits and challenges when teaching EFL classes in senior high schools. The case study in this study was based on real-life phenomena in which a teacher at a senior high school viewed the usage of project-based learning in their classroom activities.

3.2 Research Site and Participants

3.2.1 Research Site

This study took place in the classroom of one of the public high schools in Bandung, West Java which implemented project-based learning. This school was chosen because of its accessibility to the participants and its alignment with the requirements needed for this study. This research provides a way for English teacher to have a better understanding of the concept of project-based learning. Considering that the teachers play a crucial role in preparing future educators (Lutfiyana et al, 2024).

3.2.2 Research Participants

For the research participants, there was one English teacher and six students from XI 8 involved in the project at a high school. In this study, only an English teacher was selected as a participant to continue the observation and interview. She was chosen due to the relevance of this research and the amount of data available. Her involvement closely aligns with the study's focus, allowing for an in-depth examination of key themes. Before starting the study, the researcher conducted a pre-observation. The teacher participant was selected based on several criteria, including the teacher's experience with project-based learning, her ability to communicate in the same language as the researcher to avoid misunderstandings, and her openness to working with the researcher. The school also recommended this teacher, as she was considered qualified for the study.

In addition, the aspects studied were a teacher who implemented project-based learning integrated with the Emancipated Curriculum, teacher teaching experience, and education degree. The selected teacher was a participant who was deemed to gain in-depth information related to the teacher's understanding of project-based learning. This teacher was selected because she was believed to be purposeful participant who could best inform the research question. Teachers who are familiar with curriculum changes and various learning methods are better equipped to understand and implement project-based learning (Yang, et al 2021). Her experience has given her the adaptability, strategic insight, and practical skills needed to effectively apply and benefit from the project-based learning method.

Moreover, six students were chosen to participate in this study to gather information on their points of view or perspectives on project-based learning implementation in senior high school. They were selected as representatives based on their range score in English subjects. In addition, the students were in the eleventh grade and enrolled in the learning year of 2023/2024. Furthermore, the participants are pseudonyms. It is a fictitious name or alias used by an individual to conceal their true identity. This research may adopt pseudonyms for a variety of reasons, such as maintaining anonymity, protecting their privacy, or creating a distinct persona (Henry, 2017).

3.3 Data Collections Techniques

3.3.1 Instruments

3.3.1.1 Observation

An instrument for gathering information through field observations is the observation sheet. This study uses the implementation criteria of PjBL proposed by Larmer, et al. (2015). The observation sheet was used as a method to collect data in this study, specifically to examine the implementation of project-based learning in EFL classrooms. As some indicators cannot be fully captured through interviews alone, direct observation by the researcher is required. The classroom observations were conducted seven times with an allocation of one and a half hours. Observation involves collecting data from real-world settings (Semiawan, 2010) and is a

structured process that includes activities such as observing and documenting various phenomena and situations, both in natural and controlled environments (Kristanto, 2018). Its analysis relies on what the researcher sees, hears, smells, tastes, or touches from the observed subject. This observation is carried out by seeing the lesson plan or document of teachers in implementing project-based learning. Moreover, documents during project-based learning are also used to support the data. In addition, this study collects multiple data in the form of observation sheets, field notes, videos, and pictures of teaching practice in doing observation.

3.3.1.2 Interview

An interview is a conversation to get the information. In this interview, the writer used semi-structured interviews where the researcher asks questions based on students' responses. In addition, semi-structured interviews were used in this session to get more comprehensive and detailed data based on the interviewee's responses. The interview guide for the teacher is modified by Larmer, et al. (2015). The interview questions for the teacher are modified by the researcher to best fit the interviewee and interview context. The questions from the teacher start from the general to narrow, adjusted with the framework used in this study. The interview with the teacher took 1-2 hours of three session in different times. The first session aimed to gather information about the teacher's understanding of project-based learning. The second session focused on obtaining details and clarifying the teacher's actions in the classroom. The final session reviewed the entire process of implementing PjBL and explored the benefits and challenges encountered during its application. This is done because to gain richness of data, verifying information, and building trust with the participant.

Moreover, the interview guide for students was adapted from the Buck Institute for Education (2019) to make the questions easier for students to understand. Interview guidelines was developed based on the indicators in the instrument grid. The interview process was flexible, depending on the availability of teachers and

students, and it was recorded to help with data analysis. According to Kvale, as quoted in Cohen, Manion, and Morrison (2000: 267), "the use of interviewing in research marks a move from seeing the human subject as something that can be manipulated and data as something external to the individual, and towards knowledge as being generated between humans, often through conversation". The interview lasted around 1 hour with all six students at the same time.

The interview for a teacher aims to provide more information about the teachers' understanding of project-based learning based on their experience and comprehension. There is a teacher as a representative of the English teacher subject in the school. In addition, six students will be interviewed to gain the students' perspectives on the benefits and challenges of project-based learning. The results from the students' interviews are presented to support observational data. The first step is making a schedule with the interviewee and interviewing the teacher. Moreover, the researcher will record the participants' answers and, after that, transcribe and translate the data.

3.3.1.3 Document Analysis

The document used in this research was a lesson plan (RPP), which was carried out to collect information related to teachers' understanding of PjBL. This document determined how consistently teachers apply PjBL in each stage that must be taught. The researcher analyzed one teacher's lesson plan, which focused on the topic of Analytical Exposition Text using the project-based learning approach. By analyzing one lesson plan helps the researcher closely examine how teacher apply PjBL, including her teaching methods, student participation, and challenges faced. It also allows for a detailed case study in a real classroom setting. Additionally, focusing on one lesson plan makes it easier to observe and analyze teaching strategies, support techniques, and adjustments made during the lesson. The document was originally written in Indonesian. For this study, certain parts of the lesson plan were translated to present findings that address the research question. This document was also used to obtain additional information on how the teacher made project-based lesson plan in the classroom. The lesson plan was collected during the

implementation of PjBL and analyzed for data triangulation. In this study, the lesson plan analysis developed by Larmer et al. (2015), which includes the key elements of project-based learning, is used to find out the teacher's plan for implementing learning in the classroom.

3.3.2 Data Collection Procedures

This research design took several steps. The first step was to create guidelines for classroom observations and interviews. Then, the researcher requested permission from the teacher and the Headmaster of the school. The researcher and English teacher made meeting agreements for data collection. The next step was the observations in the classrooms. The researcher took some pictures and videos to use as documentary evidence (e.g., students' work and digitally recorded video). Due to the limitation of video recording, the researcher also provided a field note to help remind and support unrecorded data in the classroom. The researcher also asked permission to make a copy of the lesson plan that the teacher used. Additionally, during the observations, the researcher analyzed the lesson plan used by the teacher.

After the researcher gained observation data, then for the interview sessions, the researcher and participants made a schedule based on the availability of the teacher and students. The interview sessions with the teacher were scheduled at different times, based on the teacher's availability. The interview was conducted directly with the students in school. In addition, the researcher requested permission to record the interview.

3.4 Data Analysis

To analyze the data, this study followed Creswell's (2012) method, the data was analyzed in six steps:

1. Preparing and organizing data. This involves organizing and analyzing data collected from classroom observations, interviews, and lesson plans.
2. Exploring and coding data. To provide a comprehensive analysis of the interview transcripts, the data were studied by reading them. In addition to

coding the data, this analysis also examines the data according to the purpose of the report.

3. Building description and themes. In this study, the researcher analyzes data from classroom observations, interviews, and lesson plans to explore teachers' understanding and application of project-based learning. The analysis involves reviewing classroom observations, interview responses, and lesson plans to identify key patterns and relationships, followed by organizing the data into relevant categories and themes.
4. Reporting and representing findings. After reviewing and analyzing the data, the researcher synthesized the findings, shifting from simply describing the data to interpreting it in more depth.
5. Interpreting results. At this stage, the researcher triangulated data from various sources so that the results were valid and reliable. In addition, this research was also followed and strengthened by previous theories from the literature review.
6. Validating accuracy. At this stage, data analysis serves as a validation process to ensure the reliability of the research. As explained by Creswell (2012), the purpose of validation is to provide evidence to users, professional observers, or data producers that the information presented in qualitative research is accurate.

Table 3.1 The List of Codes and Theme System

Aspects	Codes	Themes	Sources
Teacher's Understanding	TU-CP	Challenging Problem or Question	Interview
	TU-SI	Sustained Inquiry	
	TU-A	Authenticity	
	TU-SVC	Student Voice & Choice	
	TU-R	Reflection	
	TU-CR	Critique & Revision	
	TU-PP	Public Product	
Teacher's Plan	TP-CP	Challenging Problem or Question	Lesson Plan

	TP-SI		Sustained Inquiry	
	TP-A		Authenticity	
	TP-ST		Student Voice & Choice	
	TP-R		Reflection	
	TP-CR		Critique & Revision	
	TP-PP		Public Product	
Teacher's Implementation	TI-CP	SI-CP (S 1,2,3,4,5,6)	Challenging Problem or Question	Observation
	TI-SI	SU-SI (S 1,2,3,4,5,6)	Sustained Inquiry	
	TI-A	SI-A (S 1,2,3,4,5,6)	Authenticity	
	TI-ST	SI-ST (S 1,2,3,4,5,6)	Student Voice & Choice	
	TI-R	SI-R (S 1,2,3,4,5,6)	Reflection	
	TI-CR	SI-CR (S 1,2,3,4,5,6)	Critique & Revision	
	TI-PP	SI-PP (S 1,2,3,4,5,6)	Public Product	
Teacher's Advantages	TA-CC	SA-CC (S 1,2,3,4,5,6)	Collaboration and Communication	Interview
	TA-CCT	SA-CCT (S 1,2,3,4,5,6)	Creativity and Critical Thinking	
	TA-RW	SA-RW (S 1,2,3,4,5,6)	Real-World Experience	
	TA-SC	SA-SC (S 1,2,3,4,5,6)	Enhance Students' Confidence	
	TA-ELT	SA-ELT (S 1,2,3,4,5,6)	Effective Learning and Teaching Process	
	TA-F	SA-F (S 1,2,3,4,5,6)	Flexibility of Teaching	
Teacher's Challenges	TC-DG	SC-DG (S 1,2,3,4,5,6)	Dynamic Group Diversity	Interview
	TC-TM	SC-TM (S 1,2,3,4,5,6)	Time Management	
	TC-MS	SC-MS (S 1,2,3,4,5,6)	Monitoring Students Outside the Class	
	TC-R	SC-R (S 1,2,3,4,5,6)	The Lack of Reflection	

3.4.1 Observation

The data from observation is identified based on the theory of the Gold standard of project-based learning by Larmer et al. (2015). Observations is designed to

assess how an English teacher implements project-based learning (PjBL), comparing the teacher's actual actions with the planned approach. This aims to verify and recheck the data collected during the observation, ensuring its conformity with the teacher's plan. Ultimately, data were analyzed using open theme coding and theory to triangulate findings, identifying similarities and differences in PjBL implementation.

3.4.2 Interview

The result of the interview was analyzed by the researcher based on the interview coding. Several codes are generated by Larmer et al. (2015) in the interview responses. The data is also analyzed under seven elements of project-based learning by Larmer et al. (2015). The process of organizing the information involved reviewing, coding, and grouping data into relevant themes. To make it easier for the researcher and readers to find excerpts, the codes in the findings will be labeled as "Excerpt #01..., etc." with the date included. In addition to observational data, interview data helped clarify the findings related to the research questions. Apart from observation data, interview data is also included to add to, support, and clarify observation data in answering research questions.

Table 3.2 General Codes of Interview Data

No	Codes	Excerpts
1	A Challenging Problem or Question	"What are the challenges of online learning, and how can we address them to ensure equal access for all students?"
2	Sustained Inquiry	"I asked students to do a mini research to gain data of the project"
3	Authenticity	"I try to let students create a proposal/formula to the real-world situation and introduce the scenario"
4	Student Voice & Choice	"I let the students choose their product that related to their interest"
5	Reflection	"I encourage the students to find the solution to the issue and give them the freedom to explore the solution"
6	Critique & Revision	"I give the students feedback for the product they have"
7	Public Product	"I give a formative assessment by seeing the students' process and outcomes"

Adapted from Larmer, Mergendoller, and Boss (2015)

3.4.3 Document Analysis

The data collected from the teacher's lesson plan was analyzed to determine their content. The lesson plan was evaluated based on the key elements of Project-

Based Learning (PjBL) as outlined by Larmer et al. (2015), applied to the activities in the teacher's lesson plan. They emphasized on the teachers' decision-making process in structuring the activities in each stage of PjBL. This allowed the researcher to evaluate how well the activities, sources, and learning tasks designed by the teacher aligned with the essential elements required for the effective implementation of PjBL.