

CHAPTER 3

RESEARCH METHODOLOGY

This chapter presents the methodology employed in this study. It describes five parts of the research procedures: research design, setting and participants, data collection, data analysis, and research schedule.

3.1 Research Design

This present research uses a detailed descriptive case study that focuses on the topic. Yin (2018), defines case studies as an empirical approach that deeply explores current phenomena and considers them in real-life situations, mainly when it is not easy to distinguish between a phenomenon and its environment. Case study methodology is chosen because it best supports the development of a thorough comprehension of what will be studied. This is related to the research that describes the challenges and opportunities of using project-based learning that is carried out collaboratively in creating a mini-research in the Grammar in Multimodal Discourse class. Therefore, this approach is used because it is considered the right way to conduct research and can effectively describe a phenomenon's existence (Siggelkow, 2007).

3.2 Research Setting and Participants

This research was conducted in one of the universities in Tasikmalaya, West Java, Indonesia. Contextually, this research covers project-based learning in creating mini-research in the Grammar in Multimodal Discourse class. In this project, students were asked to analyze multimodal discourse in various media, multimedia, or hypermedia. The course comprises sixteen meetings with various assignments and performances, including presentations, analysis, class/group discussions, article summaries, and performances.

Moreover, three students were recruited because of their willingness to be involved in this research to explore their perceptions regarding the challenges and opportunities of project-based learning in creating a mini-research in the Grammar in Multimodal Discourse class. To maintain participants' confidentiality, all participants' names will be changed to pseudonyms: Participant 1, Participant 2, and Participant 3.

3.3 Data Collection

The data used in this research is the results of data collection carried out twice by conducting semi-structured interviews. Semi-structured interviews have a clear idea of the subject to be discussed but are not limited by a particular structure or sequence (Heigham & Coker, 2009). Semi-structured interviews give the interviewer the flexibility to explore topics in greater depth and to follow the flow of the conversation as it develops, allowing for the disclosure of richer and more in-depth information. Rubin & Rubin (2012), stated that the purpose of semi-structured interviews was to get rich, detailed qualitative data that could be utilized to understand participants' experiences and how they are interpreted and explained.

The interviews were conducted via Zoom Meeting and WhatsApp. During the interview sections, the researcher and participants used Indonesian, and then the researcher translated it into English and transcribed it. Most of the interview questions that were asked to participants followed the interview guide adapted from Sang & Van (2016) and Amin & Shahnaz (2022). The interview topics that participants were asked about were the challenges and opportunities of project-based mini-research in the Grammar in Multimodal Discourse class.

Moreover, this study uses Castillo-Monotoya's Interview Protocol Refinement (IPR) framework. This framework was believed to be one of the most appropriate methods for refining structured or semi-structured interviews, allowing researchers to develop unstructured interviews for specific topics in a discussion or a series of questions to facilitate conversation (Castillo-Montoya, 2016). The process consisted of four steps: a. Make sure the interview questions are consistent with the research topic; b. Design an inquiry-based dialogue; c. Getting input on interviewing protocol; and d. They are piloting the interviewing protocol.

3.4 Data Analysis

This research uses thematic analysis to analyze the data. Thematic analysis, according to Braun & Clarke (2006), is a method for locating,

analyzing, and summarizing patterns (themes) in data. Furthermore, flexibility is one of the advantages of thematic analysis. Therefore, the researchers use thematic analysis to make it easier to interpret the data and allow researchers to obtain extensive data sets more easily by organizing them into themes. Practically, the analysis encompasses six significant stages, namely:

3.4.1 Familiarization With the Data

In the first stage, the researcher reads the interview transcripts to look for themes or patterns in the information gathered. This process includes copying data, reading and re-reading data, and recording transcripts of interview data.

3.4.2 Generating Initial Codes

This second stage identifies all relevant data to answer the research question. The researcher carries out this procedure by coloring the data determined as a code linked to the study goals and underlining the codes.

Table 3.1 Generating Initial Codes

Participant 1	<i>Pengalamannya baik sih, walaupun pasti sih kendala kaya misalnya beberapa anggota atau beberapa partner gitu yang slow respon gitu kaya faktor komunikasi dan juga waktu yang mungkin yang ini bisa yang lain ga bisa, saya bisa yang lain ga bisa. Pokoknya dan sebaliknya gitu ya, tapi intinya kita dapat manage hal itu ko dan dapat menyelesaikan project ini tepat waktu gitu.</i>	Lack of communication Time management
Participant 1	<i>Ketika masalahnya berkaitan dengan waktu kerja kelompok ya kunci utamanya itu komunikasi, kita harus bisa reschedule lagi. Make</i>	Problem-Solving

<p>announcement lagi di WhatsApp Group (WAG) gitu kalau misalnya hari ini belum bisa atau belum muncul kita ganti besok ya atau lusa tapi semuanya harus hadir dan menyelesaikan tugasnya masing-masing. Terus kita buat janji gitu dengan cara semuanya berkomitmen bisa untuk berdiskusi bersama. Selain itu, dari tugasnya paling ya mengharuskan untuk menganalisis, kadang kita tetap ada ga ngertinya gitu misalnya nah kalau kaya gitu kadang ee menanganinya tuh saling tanya sih misalnya ke yang lain ada yang paham ga, ada yang punya catatan, atau ada yang punya referensi ga.</p>	<p>Group Discussion</p> <p>Sharing Information</p>	
<p>Participant 2</p>	<p>Kalau segi sosial, tentu ya . Karena kan berkelompok juga ya jadi mau ga mau harus berkomunikasi jadi saya belajar untuk berkomunikasi yang enak gitu tanpa menyinggung satu sama lain jadi ya dibawa gitu sampe sekarang sih kalau itu.</p>	<p>Communication skills</p>
<p>Participant 3</p>	<p>Iya menurut saya project-based learning ini efektif ya apalagi dalam tugas GiMD ini yang dimana kita harus menganalisis dan membutuhkan waktu yang cukup</p>	

<p><i>lama juga. Di sini bisa meningkatkan ketelitian dan ketepatan kita dalam menganalisis poster atau sebuah media berupa gambar, tulisan, dll. Dan project-based learning juga sebuah sarana yang baik untuk para mahasiswa, dalam konteks mata kuliah ini kan kita menghasilkan mini research dan ini juga membantu guru/instruktur melihat bagaimana siswa mereka memahami dan menguasai pelajaran tersebut.</i></p>	Critical thinking
<p>Participant 2 Kalau buat saya sih ya, karena mata kuliah ini juga seru ya dalam analisisnya menantang kita untuk bisa dan tidak membosankan serta menarik gitu untuk di analisisnya eee.. kebetulan saya suka dan cukup tertarik dengan tugas dan penulisan dari tugas yang ini gitu, jadi ya memotivasi saya buat mengerjakannya.</p>	Students understanding
<p>Participant 3 <i>Mmm, kalau buat keterampilan sosialnya mungkin jadi terbiasa mencoba untuk berkomunikasi dengan baik ya. Aku pribadi kan ga bergantung sama anggota kelompok aja kadang anggota kelompok lain juga suka nanya gitu.</i></p>	Learning Interest
	Learning Motivation
	Group interaction

Eleven initial codes represented different aspects of the participants' interview transcriptions. The following is a list of initial codes and their frequencies.

Table 3.2 List of Initial Codes and Their Frequency

No	Initial Codes	Total
1.	Group discussion	12
2.	Lack of communication	6
3.	Time management	9
4.	Problem-solving	4
5.	Sharing information	3
6.	Critical thinking	7
7.	Learning Motivation	4
8.	Learning Interest	1
9.	Communication skills	4
10.	Students understanding	3
11.	Group interaction	1

3.4.3 Searching for Themes

In the third stage, researchers identify themes in the data categorized in the previous stage. This procedure selects data transcripts and identifies essential or exciting aspects of the data using the research questions as a guide.

Table 3.3 Searching for Themes

No	Initial Codes	Potential Themes
1.	Lack of communication	Obstacles in Making a Project
2.	Time management	
3.	Group discussion	Students Collaboration Skills
4.	Sharing information	
5.	Group Interaction	
6.	Problem-Solving	Problem-Solving Skills

7.	Critical Thinking	Critical Thinking Skills
8.	Students Understanding	
9.	Communication	Communication Skills
10.	Learning Motivation	Students Motivation
11.	Learning Interest	

3.4.4 Reviewing Themes

In the fourth stage, the researcher develops or modifies the themes identified in the previous step. The researcher reviews the themes to ascertain the most appropriate and checks their usefulness, limitations, adequacy, and consistency.

3.4.5 Defining and Naming Themes

This fifth stage determines the final theme with the proper name. The theme used must answer the research question and achieve the desired goals.

Table 3.4 Defining and Naming Themes

Potential Themes	Themes
Obstacles in Making a Project	Determining the Difficulty in Making a Project
Students Collaboration Skills	The Role of Teamwork in Gaining Knowledge
Problem-Solving Skills	Practical Problem-Solving Skills as the Key to Managing Teamwork Challenges
Critical Thinking Skills	Improving Critical Thinking Skills through Collaborative Learning
Communication Skills	The Efficiency of Communication Skills in Developing Connections
Students' Motivation	Increasing Student Motivation through Active and Collaborative Learning

3.4.6 Producing the Report

In the final stage, the researcher reports the results of this study as a last chance for analysis. Data from one theme to another must be sequential and connected to provide a coherent data description.

3.5 Research Schedule

To carry out this study more successfully and efficiently, I created the following research schedule:

Table 3.5 Research Schedule

No	Activities	Sept 2023	Oct 2023	Nov 2023	Jan 2024	April 2024	June 2024	July 2024
1.	Research proposal writing							
2.	Research proposal examination							
3.	Data collection							
4.	Data analysis							
5.	Report							
6.	Thesis examination							