

CHAPTER III

RESEARCH METHODOLOGY

This chapter describes the methodology employed in this research. It covers the research design, subjects of the research, research instruments, data collection techniques, data analysis procedures, and triangulation used to ensure the credibility of the findings.

A. Research Design

This research employed a qualitative research design with a phenomenological approach. A phenomenological study was used to explore and understand the lived experiences of individuals regarding a particular phenomenon (Creswell, 2023). In this research, the phenomenon referred to the experience of pre-service English teachers in using AI assistance tools for developing reading materials. The qualitative phenomenological approach was appropriate because the purpose of this study was not to measure variables or test hypotheses, but to understand how pre-service teachers experienced, perceived, and interpreted the use of AI tools in the process of designing reading instructional materials. Through this approach, the researcher aimed to capture participants' authentic experiences, meaning-making processes, perceived benefits, and challenges when interacting with AI assistance tools. This design allowed the researcher to describe the essence of their experiences in detail.

B. Subject of Research

The participants of this research were five pre-service English teachers enrolled in an English Language Education program who had experience using AI

assistance tools to develop reading materials. The participants were selected through purposive sampling. According to Creswell (2023), purposive sampling was commonly used in qualitative research because it allowed the researcher to intentionally select individuals who provided rich and relevant information about the phenomenon being studied. To ensure data relevance, the participants met several criteria. They had completed or were currently enrolled in a teaching practicum at the junior high school level, had taken a course related to material development, had experience using AI assistance tools for academic or instructional purposes, and had previously developed reading materials. The information of the participants is presented in Table 3.1.

Table 3.1 Participant Information

| Participant | Gender | Age | Semester | Practicum Status | AI Tools Used |
|--------------------|---------------|------------|-----------------|-------------------------|------------------------------|
| P1 | Male | 22 | 8 th | Completed | ChatGPT, Quillbot, Gemini |
| P2 | Male | 23 | 8 th | Completed | ChatGPT, Quillbot, Gemini |
| P3 | Female | 21 | 8 th | Completed | ChatGPT, Gemini, Canva AI |
| P4 | Male | 22 | 8 th | Completed | ChatGPT, Grammarly, Quillbot |
| P5 | Female | 22 | 8 th | Completed | ChatGPT, Gemini |

The selection of five participants was considered appropriate for this phenomenological study. Creswell and Creswell (2023) stated that phenomenological research typically involved a small number of participants, generally ranging from three to ten individuals, to facilitate an in-depth exploration of lived experiences.

C. Research Instrument

In qualitative research, the researcher served as the primary instrument for

data collection and interpretation. This was because qualitative inquiry required direct interaction with participants, sensitivity to context, and the ability to interpret meanings from rich, descriptive data (Creswell & Creswell, 2023). As the main instrument, the researcher was responsible for designing the procedures, conducting interviews, interpreting participants' narratives, and ensuring the rigor of the study. To support this role, the researcher used two secondary instruments: the interview guide and the document analysis checklist.

The interview guide functioned as a flexible framework to direct the semi-structured. It contained open-ended questions designed to elicit detailed descriptions of the participants' experiences in using AI assistance tools to develop reading materials. Semi-structured interview guides helped maintain consistency across interviews and allowed the researcher to explore emerging topics during the conversation (Adams, 2015). The guide included prompts related to participants' experiences with AI tools, perceptions of benefits and challenges. The complete interview guide is provided in Appendix 76.

The second instrument was a document analysis checklist used to evaluate the reading materials created by participants with the assistance of AI tools. This checklist helped the researcher identify key features, patterns, and characteristics relevant to the study, such as: the type of AI tools used, the purpose of the materials, the integration of AI generated content, and the decisions made by participants during material development. The document analysis checklist is presented in Appendix 78.

Both instruments the interview guide and the document analysis checklist

were designed to support phenomenological inquiry. Phenomenology required instruments that helped reveal significant statements, meaning units, and essential themes from lived experiences (Moustakas, 1994). Therefore, the structure of these instruments was intentionally flexible, descriptive, and open-ended to capture the essence of participants' experiences. This study did not aim to examine AI use on a massive scale; therefore, a questionnaire is not employed.

D. Data Collection

Data in this research were collected through two primary techniques: semi-structured and document analysis. These techniques were appropriate for phenomenological research because they allowed the researcher to obtain detailed descriptions of participants' lived experiences (Moustakas, 1994).

Semi-structured interviews provided a balance between predetermined questions and the flexibility to explore emerging insights. This method is widely used in qualitative research because it allows participants to describe their experiences in their own words while enabling researchers to probe for deeper understanding (Adams, 2015). In this study, the interview guide consisted of three sections informed by previous research. The first section examined how pre-service teachers used AI in material development, including text generation, material preparation, and evaluation of AI outputs (Ji, 2024; Dakhi, 2025; Wulandari & Purnamaningwulan, 2024; Holmes et al., 2019). The second section focused on the benefits of AI, such as supporting content creation, clarity, simplification, accuracy, and creativity (Ji, 2024; Al Fajri & Rahman, 2024; Yusnita et al., 2024; Savitri et al., 2025). The third section explored challenges related to plagiarism, overreliance,

digital literacy, and ethical issues (Khasawneh, 2024; Dakhi, 2025; Wulandari & Purnamaningwulan, 2024; Holmes et al., 2019).

In addition to interviews, this research employed document collection as a supporting data technique. Participants provided samples of reading materials they had developed using AI tools, which served as supplementary data to illustrate how AI was used in developing reading texts for junior high school students. Document analysis was appropriate because written materials could reveal aspects such as text difficulty, coherence, and instructional structure (Nation & Macalister, 2020; Gebhard, 2023). Furthermore, the collected documents supported methodological triangulation by complementing interview data and enhancing the credibility of the findings (Creswell & Creswell, 2023).

Both techniques interviews and document analysis were aligned with phenomenological inquiry. Phenomenological research prioritized rich, first person narratives and descriptive explanations of lived experiences, which were best obtained through conversational, open, and meaning centered data collection strategies (Moustakas, 1994).

E. Data Analysis

The data analysis in this research followed the phenomenological procedures proposed by Moustakas (1994) and Creswell (2023). The analysis began with the verbatim transcription of all interview recordings. The transcripts, along with collected documents, were read repeatedly to allow the researcher to become fully immersed in the data and to develop a comprehensive initial understanding of the participants' experiences. After this initial familiarization, the researcher

engaged in horizontalization by identifying all significant statements related to the phenomenon under study. At this stage, each statement was treated with equal value to ensure that the analysis remained grounded in the participants' authentic expressions, while repetitive or irrelevant information is set aside.

Once the significant statements had been identified, the researcher clustered them into meaning units, which represented emerging patterns that described how participants experienced and interpreted the use of AI tools in developing reading materials. These meaning units were then further organized and transformed into broader themes that reflected the central elements of the participants' lived experiences. Consistent with Creswell's (2023) emphasis on thematic development, these themes served as the foundation for interpreting and presenting the findings of the study.

Following the thematic development, the researcher constructed both textural and structural descriptions of the participants' experiences, as outlined by Moustakas (1994). The textural description explained what the participants experienced, drawing upon direct excerpts from their narratives, whereas the structural description explained how the experience occurred, including the context, conditions, and situations that shaped it. These two forms of description were then synthesized to develop the essence of the phenomenon. The essence represented the fundamental meaning shared across participants' experiences and provides a comprehensive understanding of how pre-service English teachers perceived and made sense of using AI tools in the development of reading materials.

F. Triangulation

Triangulation in this research was used to increase the credibility of the findings by checking the consistency of information gathered through different data sources. In qualitative research, triangulation was an important strategy because it allowed the researcher to compare data from more than one method, ensuring that the interpretation does not rely on a single source alone (Creswell & Creswell, 2023). In this study, triangulation was achieved by examining the relationship between what the participants explained during the interviews and the reading materials they had produced using AI tools.

The interview data provide insight into how the participants described their experiences, benefits, and challenges when using AI in the process of developing reading materials. The collected documents, on the other hand, show how these tools were actually used in practice. By comparing these two types of data, the researcher was able to see whether the participants' explanations matched the features, structure, or content found in the materials they produced. This help edensure that the findings were supported by evidence that comes from different angles.

According to Shenton (2004), using multiple sources to examine the same phenomenon helped strengthen credibility because it allowed the researcher to confirm whether different pieces of data pointed to similar conclusions. In this study, triangulation provides a clearer and more reliable understanding of how pre-service English teachers experienced the use of AI tools for developing reading materials.