

CHAPTER III

RESEARCH METHODOLOGY

This chapter presents the research methodology used in conducting the research and discovering the answers to the research question stated in the first chapter. This chapter consists of several major sections covering research design, participants of the study, data collection techniques, and data analysis procedures.

3.1 Research Design

The purpose of this study is to investigate pre-service teachers' sense of self-efficacy in the online teaching practicum, as well as factors influencing their self-efficacy. To meet the purpose of this study, mixed-methods research was employed. The implementation of mixed-method research integrates qualitative and quantitative approaches (Tashakkori & Teddlie, 1998, as cited in Creswell & Clark, 2017). According to Creswell (2014), mixed-methods research provides a comprehensive understanding of research problems by analyzing quantitative and qualitative data sequentially in a single study. The current study used an explanatory sequential design. The explanatory sequential design involves two phases of data collection and analysis, intended to have the qualitative data help explain the initial quantitative results in more detail (Creswell, 2014). The researcher collects quantitative data in the first phase and then uses the findings to collect qualitative data in the second phase (Creswell, 2014). In the current study, the questionnaire was used to collect quantitative data in the first phase. Moreover, to collect qualitative data, a semi-structured interview was employed. The qualitative data from the interview was used to help explain in more detail the initial quantitative results from the questionnaire regarding pre-service teachers' self-efficacy and the factors that influence their self-efficacy. Therefore, the explanatory sequential mixed-methods design is considered appropriate in this study since the qualitative data is intended to follow up and explore the initial quantitative results in more detail.

3.2 Participants of the Research

This study involved undergraduate pre-service English teachers in one of the universities in Bandung. All of the participants were chosen due to three reasons. First, the participants were pre-service teachers majoring in the English Education study program. Second, they were the fourth-year students who lately had done the teaching practicum in the 2020/2021 academic year. Third, it was known that in the academic year of 2020/2021, the teaching and learning was done online, so as the teaching practicum, which indicates that their current experience of the online teaching practicum was suitable with the context of this research. Therefore, the selection of these participants was deemed suitable for this study as they were assumed to have more realistic perceptions of self-efficacy after their experience in the online teaching practicum.

A total of 51 pre-service English teachers were involved in this research. There were 9 males (17.6%) and 42 females (82.4%). Females dominated the participants of this research. Moreover, the participants in this research did the online teaching practicum in middle school (27.5%) and high school (72.5%). Most of them stated that they did not have experience in online teaching before the teaching practicum started. The detailed data for participants' background information are presented below.

Table 3.1

Participants' Background Information

	Frequency	Percentage
Gender		
Male	9	17.6 %
Female	42	82.4 %
School Level		
Middle School (SMP)	14	27.5%
High School (SMA/SMK)	37	72.5%
Prior Experiences in Online Teaching		
Having Prior Experiences	6	11.8%
No Prior Experiences	45	88.2%

3.3 Data Collection

This study employed two data collection techniques: the questionnaire and semi-structured interview. Creswell (2006) stated that surveys (also known as questionnaires) and interviews are commonly used in mixed-method research. Therefore, in this study, the data were collected through multiple data collection techniques. The complete explanation of each technique is elaborated as follows.

3.3.1 Questionnaire

The questionnaire was used to investigate pre-service teachers' sense of self-efficacy in online teaching practicum. According to Dornyei (2003, as cited in Anggia, 2013), questionnaires can be used to gather three sorts of data: factual or demographic (participants' background and experiences), behavioral (what they do or did in the past), and attitudinal (attitudes, opinions, beliefs, interests, and values). In addition, Creswell (2006) adds that questionnaires (often referred to as surveys) help in identifying an individual's important beliefs and attitudes. Therefore, in this study, the questionnaire was expected to present the attitudinal data of pre-service teachers' sense of self-efficacy in the online teaching practicum.

The questionnaire used in this study was adapted from Robinia (2008). It is a modified version of the Teachers' Sense of Efficacy Scale (TSES) developed by Tschannen-Moran and Woolfolk Hoy, which consists of 32 close-ended items regarding teachers' ability to engage students, implement instructional strategies, manage the classroom, and use technology for teaching. The questionnaire is a self-reporting survey that measures pre-service teachers' self-efficacy in four subscales.

Table 3.2

The Distribution of the Subscale Items

Subscale	Item Numbers	Total Items
Efficacy in Student Engagement	1 – 8	8
Efficacy in Instructional Strategies	9 – 16	8
Efficacy in Classroom Management	17 – 24	8

Efficacy in the Use of Computers	25 – 32	8
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As seen in the table above, each subscale consists of 8 items. Each subscale has a different focus: Student Engagement subscale focuses on the ability to involve students in the learning process and make the class enjoyable; Instructional Strategies subscale focuses on the ability to implement learning strategies; Classroom Management subscale focuses on the ability to control the learning environment; the Use of Computers subscale focuses on the ability to use technology for teaching and learning activities. Since self-efficacy deals with the confidence people have to execute the tasks given, the participants were asked to rate their confidence regarding their abilities in teaching with regards to the four subscales above using a five-point Likert scale, ranging from 1 (Highly Unconfident) to 5 (Highly Confident). As Atay (2007) stated, in most studies, the sense of self-efficacy measurement typically asked teachers to express confidence judgments on classroom management and student learning. The example item from the questionnaire includes “How confident are you to help your students think critically in an online class?”. More details on the questionnaire items are presented in the appendices section.

The questionnaire was distributed to the participants using *Google form* link through *Whatsapp* and *Line* platforms since the Covid-19 pandemic situation makes it impossible to distribute the questionnaire directly. The participants were required to read each item carefully and choose a five-point Likert scale which indicates their confidence in their ability. To avoid misinterpretation, the questionnaire was translated into the Indonesian language.

3.3.2 Interview

Another method of collecting data in this study was an interview. The interview was conducted to gain more detailed information for further insight into the answer provided in the questionnaire. As Creswell (2014) suggested, interviews can be used to elicit more information from participants. Moreover, Hatch (2005, as cited in Anggia, 2013) stated that interviews reveal information that does not appear in the instruments and provide a more in-depth understanding

of the participants' perspectives. In this study, the interview was aimed to find out factors that may influence pre-service teachers' sense of self-efficacy in the online teaching practicum. The type of interview used in this study was a semi-structured interview. A semi-structured interview was employed to gain detailed information in which the interviewer will not be restricted to predetermined set of questions, but instead, the interviewer will interpose with probes aimed to elicit more elaborate responses (Mann, 2016). Therefore, this type of interview is not only structured but also more flexible (Burns, 2010, as cited in Anggia, 2013).

The interview was conducted with six pre-service teachers selected purposefully using their self-efficacy score resulting from the questionnaire. Using ordinal data category, each pre-service teacher's self-efficacy score was categorized into three levels: high, moderate, low. Two pre-service teachers represented each level. The interview was conducted one week, from September 5th, 2021, until September 12th, 2021, and took approximately 30 – 40 minutes for each interviewee. The interview includes pre-service teachers' perceptions of self-efficacy, their perceived self-efficacy results, and the factors influencing their perceived self-efficacy.

Moreover, due to the pandemic situation, the interview was done online through *Whatsapp* and *Zoom* platforms. The researcher contacted each participant to invite them for one-on-one interviews and documented the interview by note-taking and tape-recording. The responses were then analyzed using Bandura's (1997) four principal factors of self-efficacy. To avoid misunderstanding, the interviews were conducted in Indonesian language, and then transcribed and translated into English.

3.4 Data Analysis

After collecting the data required for this study through questionnaires and interviews, the data were described and analyzed separately. First, the quantitative data from the questionnaire were analyzed using SPSS 25.0 to interpret the data. It was further processed through the ordinal data category to determine the range of self-efficacy levels (high, moderate, low). Second, the qualitative data from the interview were transcribed, translated, coded, categorized, interpreted, and

elaborated in detail. To make it in detail, each data analysis step is described below.

3.4.1 Questionnaire

The data collected from the questionnaire were descriptively analyzed using SPSS 25.0. First, the researcher compiled the data from *Google form* and calculated the total score of each participant's answer in the questionnaire. The data was then arranged in order from the highest to lowest score. The next step of the data analysis was analyzing the data using SPSS 25.0 and processing the score using the ordinal data category formula to determine the range of pre-service teachers' sense of self-efficacy level. This study used three categories of ordinal category formula: high, moderate, and low. As Bandura (1994) proposed, people's self-efficacy can be categorized into three levels. Hence, the self-efficacy results from the questionnaire were categorized into three levels. Finally, the data were reported and interpreted by relating the data to the theories and previous studies of pre-service teachers' self-efficacy. Moreover, the data were reported based on the self-efficacy in overall results and self-efficacy in the four subscales: Efficacy in Student Engagement, Efficacy in Instructional Strategies, Efficacy in Classroom Management, and Efficacy in the Use of Computers.

3.4.2 Interview

The interview was conducted with six pre-service teachers, who were selected purposefully based on their self-efficacy scores. Using the categorization processed using the ordinal category formula in the previous section, the self-efficacy scores of each pre-service teacher were categorized into three levels: high, moderate, and low. Two pre-service teachers represented each level. The data from interviews were analyzed separately in order to find out the factors that influence pre-service teachers' sense of self-efficacy. The first step of analyzing data from interviews was transcribing the audio recording into written form and translating it into English. The next step was reducing inappropriate data which are not relevant to this research. Then, the data was coded and categorized based on the principal self-efficacy factors by Bandura (1997). In coding and

categorizing the data, the deductive analysis was conducted. The deductive analysis relies on themes from previous literature. In this study, codes identified from the transcript were categorized into themes that have formed from the previous literature. Finally, those were used to report the result by interpreting and elaborating the data to the result of the questionnaire, the theories, and previous studies to validate the data.

3.5 Concluding Remarks

This chapter has discussed the research methodology used to answer the research question in this study. This chapter provides a sight of research design, participants of the research, data collection techniques, and data analysis procedures. The next chapter will present the findings and discussions of pre-service teachers' self-efficacy in online teaching practicum as well as the factors that influence their self-efficacy.