

CHAPTER III

RESEARCH METHODOLOGY

This chapter covers a detailed description of the research methodology, which is relevant to the research questions and objectives of the study. In the following chapter, the explanation begins with the research design, which is chosen based on its appropriateness to the research questions and objectives. Then, the rest of the sections includes a description of the research site, the participants, the data collection, and the data analysis.

3.1 Research design

This study was designed to investigate the teachers' attempts to promote students' higher-order thinking skills in an online environment along with the challenges. Hence, this study was conducted under qualitative research designed to describe and investigate the quality of (an)issues, namely promoting higher-order thinking skills in online learning (Berg & Lune, 2017). Specifically, this study adopted a case study that narrated the issue from real people's perspectives in the actual setting without any treatments (Cohen et al., 2000).

The researcher conducted an interview, class observation, and document analysis to obtain information regarding the teachers' attempts to promote students' higher-order thinking skills in online learning. The participants were not given any special treatment to reveal the condition that had existed regarding the issue. These attempts aimed to describe the participants' ideas and opinions regarding the phenomenon without any interference from the researcher. The data obtained would be in the form of documents and interviews as well as observation results which were then analyzed descriptively.

3.2 Research site

This present study was conducted in one of the public high schools in Depok, Indonesia. This research site was chosen for several reasons. First, the school had conducted the distance learning longer than the other public schools as the city was the first to be affected by the spread of the Covid virus, where schools had been mandated to conduct total distance learning earlier than other schools in Indonesia

The concerned site conducted full online classes due to the government protocols dealing with the Covid-19 pandemic. Second, as online classes are usually associated with delivering assignments through asynchronous media, the school had facilitated the teachers to commence synchronous online learning as their attempt to provide a more realistic learning experience. Hence, it is considered relevant with one of the research objectives regarding online learning challenges that are typically related to limited interaction in both asynchronous and synchronous media.

The third reason was the accessibility. The researcher considered that permission to conduct the study was accessible. Accessibility is one of the necessary aspects that provided trust and allowed this study to be carried out in the research site (Creswell, 2012). Last but not least, the decision to choose this site was motivated by the gap in online learning studies in Indonesian contexts, which is rarely conducted in the research site.

3.3 Participants

This study involved two English teachers of senior high school. The participants' selection was based on purposive selection. The principal directed some available teachers to participate in the present study. Then, two teachers of grades X and XI were selected. The researcher selected those teachers who had already attended HOTS-based teaching training. The selection was also based on convenience, which might not sufficiently represent the population but still provided helpful information to answer research questions (Creswell, 2012). The participants included a relative novice teacher and a senior teacher. They represent two different generations in which the younger generation is usually advantaged in the technology used in online teaching.

3.4 Data collection

To answer the research questions, this study utilized observation, interviews, and documents. The researcher chose interviews and observation as the main instrument to collect the data and the documents as the secondary source.

3.4.1 Class observation

Researchers obtained the data directly as the first-hand report through observation without relying on participants' views (Merriam & Tisdell, 2016). The data would support the answer to the first question of the study, "How do the English teachers promote students' higher-order thinking skills in online learning?". The researcher used a class observation checklist as a guide during class observation. The checklist contained the nature of activities that encouraged higher-order thinking skills to likely occur.

The typical learning process contained three phases,,: opening, main activities, and closing. Several activities in the opening phase focused on building affective and cognitive aspects with the students, including providing the overview of the learning objective and motivating students (Jensen, 2001; Puteri, 2018). To bridge the opening and the main activities, questioning or problem was utilized to build students' understanding of the context and context of the lesson. Thus, teachers were expected to provide understanding questions in the early phase (Anderson et al., 2001; King et al., 1998). Despite the learning method, the main activities should encourage students to be involved in the higher-thinking questions or activities, such as analyzing, evaluating, and creating (Anderson et al., 2001). The types of higher-level questions might also be in open-ended and Socratic questions (Paul & Elder, 2007; Resnick, 1987; Yusoff & Seman, 2018). Besides questioning, another strategy to promote students' higher-order thinking skills was online discussion through asynchronous media (McCombs, 2015; Mustapha et al., 2019). The last was the closing phase that contained drawing conclusions, providing follow-up activities, and the next lesson topic. The complete observation checklist is available in the appendix.

The observation of the online learning through synchronous media was one meeting for each participant. One participant had one more video conferencing, but the video was excluded from the observation since it was only for attendance checking. The teachers sent the video conference link 10 minutes before the learning process and admitted the researcher to sit in the online class. Each meeting lasted for one hour and was screen-recorded by the researcher.

3.4.2 Interview

The purpose of interviews in qualitative research was to determine what participants think or how they feel about something (Fraenkel & Wallen, 2009). Therefore, this instrument was chosen to answer the second question of the study regarding the challenges of the HOTS teaching practices in the online environment. The interview format was semi-structured. The participant was given predetermined questions (Cohen et al., 2000). This type of Interview was used due to its flexibility that, according to Lune and Berg (2017, p. 69), "...interviewers are permitted (in fact, expected) to probe far beyond the answers to their prepared standardized questions". The interview questions were self-constructed and developed based on relevant theoretical frameworks that covered the teacher's teaching planning and practice to promote students' HOTS and assessment process to measure HOTS in online learning.

The Interview was conducted after all the learning sessions had finished. It was after meeting 3 and 4. The questions covered three main areas: lesson plan, teaching practice, and assessment. Regarding the lesson plan, the researcher tried to find out how the teachers designed their online teaching to promote students' HOTS, including their understanding of HOTS concept, the choice of the learning method, sources, and media. The teaching practice area covered the teachers' strategies to promote HOTS in the online learning process and the challenges. Lastly, the assessment area revealed the availability of higher-order thinking questions and activities in the assessment process and its challenges.

The Interview was conducted through asynchronous media, an instant massaging application. The researcher delivered the questions to each participant separately in a document. The teachers, then, responded either by instant messenger or directly written the responses in the document.

3.4.3 Documents

The secondary instrument was documented. It provided supporting evidence of how teachers planned, taught, and assessed students. The documents obtained were the lesson plan, assignment, and assessment items. The lesson plan revealed the teaching challenges based on the congruence of the teaching plan and practice.

Meanwhile, The assessment items showed the types of questions selected by the teacher to promote students' higher-order thinking skills.

3.5 Data analysis

The following section describes how the data collected through class observation, interviews, and documents were analyzed.

3.5.1 Analysis of class observation

Following the observation checklist, the researcher wrote down the activities and questions that appeared during the learning process. Those activities and questions were sorted out based on the time occurrences (opening, main activities, and closing phase). Then, the researcher categorized them into thinking process levels based on the higher-order thinking skills taxonomy (Anderson et al., 2001). This analysis revealed which strategies and learning methods teachers used and which higher-order thinking levels were being promoted.

3.5.2 Analysis of interview

The interviews were conducted in the written form and analyzed in five stages: organizing the data, transcribing and translating, coding, representing, and interpreting the analysis results. In the organizing stage, the data were organized into computer files based on the participants' name. The participants' responses were transcribed and translated for practical purposes, which was also served as a checking process in case some words were mistakenly written. The next stage was coding the data, including segmenting and labelling (Creswell, 2012). The responses were segmented into five sections: teaching preparation, HOTS concept, the attempt to promote students' HOTS, the assessment process, and the challenges. The data, then, were represented in the form of narration that constructed the findings of the study, including teachers' understanding of HOTS, learning overview, assisting students to understand, questioning, and challenges. The last stage was data interpretation, which was the process of making sense and forming meaning to the data based on comparison with the previous studies or justification from the theories. It was presented in the discussion section of this study.

3.5.3 Documents

The documents were gathered from the research included lesson plans, assignments, and assessment documents in digital form. The data were categorized to support the main findings. For instance, the lesson plan contained the data of the learning objectives, the learning method, and the main activities. Those data would support the learning overview categories in the finding section. Meanwhile, in the assignment and assessments documents, the researcher labelled the activities and questions based on the higher-order thinking taxonomy. The data were represented in the findings section and interpreted in the discussion section.