

CHAPTER III

METHODOLOGY

Every research undertaking entails an appropriate research methodology for the sake of attaining supporting data to acquire and to analyze the research problems. Thus, this chapter presents an overview of the research method adopted in this study and the rationale underlying the selection of the research design and the participant(s) of the study. This chapter comprises six major sections that are: (1) research design; (2) respondents and site; (3) instruments; (4) data collection; and (5) data analysis.

3.1. Research Design

This study embraced qualitative research, which is to explore and describe participants' understanding and interpretations of social phenomena in a way that captured their inherent nature (Robson, 2011). This study then sought to uncover teachers' digital literacy, teachers' use of technology in their teaching as well as their programs to enhance their digital literacy. Case study is used as the research design for this study. The core value of case studies lies on the potential of achieving thorough explanation with "a thick description of a complex social issue embedded within a cultural context", offering "rich and in-depth insights that no other method can yield" (Dörnyei, 2007, p. 155). Targeting a unique EFL context in Indonesia, with this method, the researcher managed to obtain an insightful understanding of English teachers' cognition and actual proficiency in terms of their understanding about digital literacy, their technology integration in classroom practices as well as an in-depth look into how they develop their digital literacy.

3.2. Respondents and Site

The overall respondents involved in this study were 20 English teachers from several senior high schools. Those English teachers were from several high schools in Sumedang. The researcher then selected five teachers from the questionnaire stage to continue to the interview and observation stage. The top five English teachers were predicted to be intermediate users of ELT technologies and more experienced TELL practitioners. They were chosen for interview and observation stages since as the purposive sampling of this study, they were potentially relevant and rich sources of data; and hence, provided sufficient data for well-informed interpretation (Duff, 2008).

3.3. Instruments

To find out the answers to the research questions, a set of questionnaires, observation and interview sessions are employed to conduct the study.

3.3.1. Questionnaire

The respondents who were potentially relevant and rich sources of data were needed for this study. Therefore distributing questionnaires was conducted to gain those respondents. A set of questionnaire contains a series of questions designed to gather particular information (Cohen et al., 2011). By distributing questionnaires in the first stage of the study, the information regarding English teachers' current technology use, digital literacy, and their professional development to increase digital literacy were obtained.

The questionnaire sheets were divided into three parts:

- Part 1 Current Technology Tools Used by Teachers in Classroom

The items of questionnaire were several technology tools that can be used by English teachers as learning media and sources to improve their students' English skills. From the result of questionnaire, it can be seen which technology tools that are the most frequently used and the technology tools that are rarely used by teachers. The questionnaire items were adapted from Son et al (2011).

- Part 2 Teachers' Activities in Integrating Technology in Classroom

The items of questionnaire were several activities that English teachers usually do in their classroom practices. It was adapted from TESOL Technology Standards Framework (Healey, 2008). Based on the responses from the questionnaire, it can be seen the general picture of English teachers' digital literacy whether they have achieved the adequate digital literacy or not as standardized by TESOL.

- Part 3 Teachers' Programs in Enhancing Digital Literacy

The items of the questionnaire were several programs that the teachers have done in improving their digital literacy. Based on the responses from the questionnaire, it can be figured out what programs that the teachers used as their professional development in enhancing their digital literacy. The program/activities were standardized by TESOL Technology Standards Framework.

3.3.2. Observation

With the intention of uncovering a more informed picture of English teachers' current practice in technology integration and digital literacy, the researcher carried out classroom observations. The observation sessions were employed for its potential to provide a rich source of information by enabling the capture of what English teachers are actually doing rather than what they said they are doing (Dörnyei, 2007).

The observation sheet was adapted from Nguyen (2014) and Healey (2008). It included the settings of the respondents (date, time, number of students, and length of observation interval). The situation of learning process was also mentioned such as class, learning topic, learning objectives, learning materials, learning media, and ICT tools used by teachers. The researcher also listed several activities that English teachers usually do in their technology-integration classroom. It was adapted from TESOL Technology Standards Framework (Healey, 2008). Based on the data observation, it can be seen the general picture of English teachers' digital literacy whether they have achieved the adequate digital literacy or not as standardized by TESOL.

3.3.3. Interview

The interviews collected qualitative data with the main focus on in-depth investigation into perceptions, beliefs and experiences. Practically, it guaranteed a potentially high response rate since answers were given directly by the respondents in person (Duff, 2008). Specifically, the interviews with English teachers in this study sought explanation for their understanding about digital literacy, their own classroom practice in technology use as well as the teachers' viewpoints about their support programs to enhance their digital literacy.

The interview questions were divided into three parts: 1) questions about current understanding and level of digital literacy; 2) questions about current situation of technology use in teaching practice; and 3) questions about current professional development in digital literacy. All the question items were adapted from Nguyen (2014).

3.4. Data Collection

Based on the instruments, there were several steps in conducting this study. First, the researcher distributed questionnaires in order to choose more relevant respondents for next stages in collecting data. After that, other data were derived from observation and interview sessions. The description of the data collection is as follows.

3.4.1. Distributing questionnaire

A set of questionnaire was distributed to 20 English teachers of high school in Sumedang in the first stage of the study. Before asking the teachers to answer the questionnaires, the researcher first socialized the current issues regarding the roles of technology in teaching English and the importance of teachers' digital literacy to promote effective English learning.

3.4.2. Conducting observations

Accordingly, 5 teachers were observed in different classes, for 100-110 minutes each. Furthermore, to better record data, the researcher utilized note-taking techniques and fresh memory recalling to write up notes right after each observation session ended. Moreover the processes of conducting observations as well as interpreting data were kept consistent.

3.4.3. Conducting interviews

The interviews involved semi-formal discussions ranging from 20 to 30 minutes involving 5 English teachers. First, the researcher asked all interviewees for permission for audio recording before conducting the actual interviews. Furthermore to ensure the success of the interviews, the researcher combined audio recording using two recording devices with post-interview note taking. This strategy was necessary in supporting subsequent data processing and interpreting.

3.5. Data Analysis

The following is the process of analyzing and exploring the results data from instruments of the study including questionnaires, observations and interviews.

3.5.1. Results of questionnaire

The questionnaire was divided into two parts. The first part was related to the current technology tools used by teachers meanwhile the second part was about the teachers' activities that reflect their digital literacy level. The data from the first part of the questionnaire were analyzed to gain a picture about technology tools that are frequently used by the teachers in their teaching practice. Furthermore a predicted level of the teachers' digital literacy was obtained by analyzing the data from the second part of the questionnaire.

3.5.2. Results of observation sessions

Structurally, the observation data comprises teachers' as well as students' activities in using technology in their classroom practices. Therefore the current situation of technology use in teaching practice of the teachers were explored by observing notes and comments

concerning such information as what technologies were used by the teachers in their classroom practices and how they used them. The students' responses from the data were also analyzed to know the students attitude regarding their teachers' technology-integrated learning.

3.5.3. Results of interview sessions

The interviews consist of three main part questions. The first part of the questions was about the current understanding and level of digital literacy. Based on the first data, the awareness of the teachers regarding the importance of digital literacy for their teaching was analyzed. For the second part of the questions, the researcher tried to explore the teachers' response regarding their current situation of technology use in teaching practice. This second data explored strategies and challenges faced by the teachers in utilizing technology in their classroom practices. Meanwhile for the last question part, the teachers' current programs that are effectively used in enhancing their digital literacy were gained. The last data enlightened the information about whether they had received any formal and/or informal education and training in this aspect. Additionally, the advices and suggestions of the teachers regarding their programs were also investigated.