

CHAPTER III

RESEARCH METHOD

3.1 Introduction

This third chapter discusses the methods used to conduct the study. It begins with the research question; all of these were covered in section 3.2. The questions also served as the focus as well as determining the scope of the research. As the questions were introduced, a research design as the plan to answer them was elaborated in section 3.3. It provides a specific reference to the qualitative philosophy and the concept of 'case study' as the strategy of inquiry. The chapter concludes by presenting the strategies and methods of data collection, the kinds of instruments used and the different phases of the research.

3.2 Research Question

This study was directed towards describing issues related to innovative design and development processes. It focused upon exploring the features of a website as a set of learning materials. Therefore, it was guided by the following question: *What features does a Moodle-site have to support the teaching of writing using the genre-based approach at the eighth grade level of Junior high school?*

For this purpose, a website was developed using Moodle. This Moodle-site was hosted as <http://www.widyanarko.com>. Then, the exploration was initiated to answer the research question.

3.3 Research Design

3.3.1 Overview on the concept of Qualitative research

The nature of the research questions led to the assumptions similar to the characteristics of a 'qualitative research' put forward by Sherman and Webb (1988). They summarize that the aim of a qualitative research is to "understand the experience as nearly as possible as its participants feel it or live it" (Sherman & Webb, 1988 p. 7). With reference to such an understanding, a plan or blueprint giving procedural details on how to accomplish the aim was required. Creswell (2009, p. 3) uses the term 'research design' for such plan or procedure. The term 'research design' is also viewed as 'the logic involves the links among the research questions, the data to be collected, and the strategies for analyzing the data (Yin, 2011, p.75).

Given the above explanation, this study incorporated the concept of "qualitative research design." Unlike the quantitative research, the one with explicit design often stated beforehand, Yin (2011) states that research design is a 'choice' in qualitative research as there is no consensus among researchers on whether there is value in creating research designs before data collections begins.

3.3.2 Defining the term 'case study'

With the purpose of exploring the process of developing a website as a set of instructional materials, this research uses the term 'case study' as strategy of inquiry which Creswell (2009) defines it as 'a strategy of inquiry in which the researcher explores in depth a program, event, activity, process, or one or more

individuals (p. 13). The case as the central object in this study was the development of the site. With this in mind, this case study also has the following characteristics, such as:

- a. Qualitative because it "aims to explore and to discover issues about the problem on hand, because very little is known about the problem." (Domegan & Flemming, 2007, p. 24).
- b. Naturalistic for it "attempts to make sense of, or to interpret, phenomena in terms of the meaning people bring to them (Denzin and Lincoln, 2003, p. 4)
- c. Intrinsic since it "represents a unique case, deserving to be studied on its own right" (Stake, 1995 quoted by Yin, 2011, p.18).
- d. Single case as it is "the representative or typical case...to capture the circumstances and conditions ... represent a typical project among many different projects..." (Yin, 2009, p. 48)
- e. Illustrative since it is "intended to open up points, ideas, or situations for discussions and understanding" (Reardon, 2006, p. 184)
- f. Descriptive as it 'presents a complete description of a phenomenon within its context." (Yin, 1993 cited in Bassey, 1999, p. 29)

3.3.3 A qualitative case study in educational technology research

Among other experts of educational technology research, Savenye and Robinson (2004, p. 1047), proposes the traditional term of qualitative research for a study such as this one for it may use qualitative perspectives and data collection methods as well as qualitative methods to evaluate and describe the use of media

in the classroom. Moreover, Savenye and Robinson indicated that there was a more specific term of a qualitative case study which better fit the approach to this present study. They commented:

Researchers often conduct a case study to learn more unobtrusively about students, teachers, and trainers who use a new technology. Case studies present detailed data that create a picture of perceptions, use, attitudes, reactions, and learner/teacher environments. Case study data cannot be generalized, however, they may be used to derive questions later to be investigated in an experiment. Evaluation researchers have long used qualitative methods, in particular, surveys, interviews, observations, and historical and document analyses.

(Savenye and Robinson, 2004, p. 1047).

3.4 Research Site

For this present study, the term research site refers to at least two concepts. First, the virtual research site is the exemplary website (www.widyanarko.com) where the exploration of Moodle features took place. In this virtual site, the web pages were described in relation to the available features. Second, the physical website was the school where the try-out sessions were implemented. All in all, these virtual and physical sites provided various types of data for this research.

3.5 Research Participants

The research was carried out at a state Junior High School in Cianjur, West Java, Indonesia. There were nine classes of the eighth graders. A class consisted of 26 students (male: 9; female: 17; age range: 12-14 years old). These students took English as a subject with the time allotted of 4 lesson periods per week or

approximately 160 minutes in a week. The English lessons delivered for them was guided by a school based curriculum under the competencies stipulated by a government issues called Peraturan Menteri Pendidikan Nasional No. 26 in 2006 concerning the national standard for content.

The students were asked to participate in answering the questionnaire, think- aloud protocol and interviews. They were considered as the users with the given role as student in the Moodle site. They were also expected to discover the difficulties they may have when using the site to perform certain tasks. The eighth grade students were chosen because they have been introduced to use the computer laboratory for language learning activities in their seventh grade. Moreover the subject on computer technology and information and connection to the internet also became a very important basis for the site selection because the subject and the internet connection would make online interactions possible. This ensured the researcher that the students were familiar with the use of computer and internet.

3.6 The researcher's role

According to Creswell (1994), another feature to consider was that the use qualitative approach led this study to be interpretive research where biases, values, and judgments of the researcher have to be stated explicitly. He went on stating that in the discussion of the researcher's role gaining entry to the research site and ethical issues become the elements (p. 147).

Access to the research site, a state junior high school in Cianjur, was obtained naturally since the researcher was registered as a teacher therein. He had been teaching English for about five years at the school continuing his fifteen years of experience in teaching English in other school before moving into this school. Therefore as a matter as subject being taught at school, English was not hard to explore. He had been teaching Information and Communication Technology (ICT) as well including frequent use of ICT in teaching English. Therefore, it can be concluded that he was familiar with the topic (English and ICT), the setting (the school) and the participants (the students).

As the entry to the research site was achieved, the ethical issues were addressed by asking permissions to the 'gatekeepers', in this case the headmaster and the teachers. For their approval written letters were sent with the following statements, such as the reason for choosing this site, activities done during the research study, this research will not be disruptive, any name included will be pseudonyms, and benefits for the gatekeepers from this study.

Practically, the roles of the researcher 'change over time' (Cohen, Manion, & Morrison, 2007, 179). Apart from acting the generic role as a researcher, several precise roles were taken during the study, they are:

1. Designer: creating flow of activities, organizing the activities according to the context of user and the context of use, setting the layout.
2. Developer: installing the Moodle software package both in offline and online environment with features relevant to the objectives.
3. Manager: controlling the interaction in the whole Moodle system.

4. Teacher: creating courses and managing students and activities in the Moodle system.
5. Student: trying out the functionalities during the design and development phases.
6. Administrator: conducting and managing the evaluation stage.
7. Analyst: managing data gained from the evaluation stage
8. Interpreter: making sense of results and recommendations from the evaluation stage.
9. Designer and developer of the final product based on the results and recommendations from the evaluation and revision stages.

3.7 Validity

A case study, as a kind of empirical study, should address the matter of validity unless it would be considered worthless (Cohen, Manion, & Morrison, 2007, p. 133). For the concept of validity, other writers use the term 'quality control issue' (Nunan & Bailey, 2009, p. 170) and 'trustworthiness and authenticity' (Creswell 1994, p. 158). In more details Winter (2000) as cited Cohen, Manion, & Morrison, (2007) claims that validity can be addressed through the "honesty, depth, richness and scope of the data achieved; the participants approached, the extent of triangulation; and the disinterestedness or objectivity of the researcher" (p. 133) Yin (2009) believes that there are four types of validity in relation to a case study, viz. construct validity (the concepts being studied are identified correctly), internal validity (certain causal relationships being proven by

the study), external validity (the domain in which the study can be generalized), and reliability (the operations of a study—such as the data collection procedures—are replicable with the same results). However, he claims that for a descriptive case study internal validity is not a matter of concern (see also Nunan & Bailey, 2011, p. 171).

To follow Yin's proposal, in this study construct validity is achieved through extensive explanation of the concepts mainly discussed in Chapter II.. For the 'internal validity', a plan for triangulation presented in section 3.9 (consisting source of information, different investigators, and different data collection methods) was introduced. In addressing the 'external validity', this study represents a unique case. The nature of this single-case study led to its limited generalizability. Any interpretation made would fit the case only both in terms of the product (the website) and the process (designing, developing, and evaluating). The extent of reliability is described in the following section.

3.8 Reliability

For the concept of reliability, this study was limited to the uniqueness of the case, the participants, the setting, and the values of the researchers on investigators involved (Creswell, 1984, p. 159). Therefore, this study would be replicable if any following researchers considered the central assumptions, the selection of participants and the detailed protocol for data collection. This is relevant to the arguments from LeCompte and Presslie (1993). They state that replication should include repeating the status position of the researchers

- the choice of the informants/respondents
- the social situations and conditions
- the analytic constructs and premises that are used
- the methods of data collection and analysis"

LeCompte and Presslie (1993) in Cohen, Manion, & Morrison, (2007, p. 148).

3.9 Triangulation

The concept of triangulation in this study is viewed as "a strategy for improving the validity of research or evaluation findings" (Mathison, 1988, p. 13). Denzin (1978) defines the term triangulation as "the combination of methodologies in the study of the same phenomena." According to Jick (1979), the basic assumption for triangulation is founded on the premise that the weaknesses in each single method will be compensated by the counter-balancing strengths of another; or any bias resulted in particular data sources, investigators, and method would be neutralized when used simultaneously with other data sources, investigators and method."

3.10 Data Collection

Data can be defined as unorganized, unanalyzed facts or figures (Davis & Botkins, 1994). It means that data is raw, unorganized facts that need to be processed. Data can be something simple and seemingly random and useless until it is organized. On the other hand, information can be degraded as data that are

processed, organized, structured or presented in a given context so as to make them useful. Therefore, information is "frequently generated to answer some type of question" (Pinard & Romer, 2011, p. 4).

In line with the research question presented in section 3.2, this study was directed to present information about the features of Moodle most appropriate to support the teaching of writing in the eighth grade level of junior high school.

Data for this present study were mainly obtained in the form of web pages accessed from the Moodle-site (widyanarko.com). These web pages consisted of texts, images, and interactional functionalities (hyperlinks, databases, and structures). The pages also described in terms of the function as supports for learning activities. Therefore, they were explored in relation to the purpose of teaching writing in the context given.

As this study described the web pages in the website, the data collection technique used was the document analysis. In other words, the web pages were considered as the documentary or archival data. The web pages were also considered as electronic documents which provided up-to date, dynamic information (Denscombe, 1998).

The next concern was to determine the potential supporting role the Moodle features. A series of simple try-out sessions was prepared using real participants. After several meetings were completed the participants were given questionnaires about the perception of the features. A sample of 5 students were also taken for the interview to provide more in-depth data on user perception.

3.11 Data Analysis

The web pages collected were displayed and described in simple narratives. Extensive explanation were given for the feature suspected as the most appropriate potentials. Another co-analyzer was also asked to give second-opinion analysis. The questionnaires provided quantitative data which were discussed in descriptive statistics. Interview results, on the other hand, were used to confirm the findings.

3.12 Summary

This chapter describes the "how" of this research. It begins with introducing the research questions as the focus followed by the research design, the approach, the setting, the participants involved and data collection techniques and analyses employed in the study. This chapter also functions as directions to present the answers for the question which will be provided in Chapter IV.