

CHAPTER III

RESEARCH METHODOLOGY

This chapter explains the methodology of the research. To obtain the clearer picture of teaching Science in bilingual classes implemented in the setting of the research, the researcher engaged a qualitative study. Through this qualitative study, the researcher tried to answer the research questions; (1) *How do teachers use English in teaching Science in bilingual classes?* (2) *What are the difficulties encountered by those teachers in teaching Science using English in bilingual classes?*

Given those primary guiding research questions, as well as the purposes of the research, a qualitative study represented an appropriate means of obtaining data. In the first sub chapter of this chapter, the researcher begins with a description of the setting and participants of the research. Overall, this chapter presents setting, participants of the research, research design, data collection and data analysis. Each sub chapter is described as follow.

3.1. Setting of the Research

This research took place in one state junior high school in Cimahi. This school is an International Standard School which conducts bilingual classes and became an

International Standard School since 2006. The reason of choosing this school as the research setting was the accessibility of the researcher into this school. However, the most important consideration of choosing this school was based on the school's achievement to be included in the government's projects to implement a bilingual program and it was appointed to teach students bilingually.

3.2. Participants of the Research

In this research, the participants of the research were chosen purposively and voluntarily (Nunan, 1992). It was based on the purpose of the study, which was not to generalize the findings, but to find out the answer to certain case (Alwasilah, 2003). In addition, the participants in this research were chosen because 'of their convenience and availability' (Babbie, 1990 as cited in Creswell, 1994).

Based on the reasons mentioned above, the participants of the research were teachers of Physics and Biology (7th grade teacher). These teachers were involved in this research, mainly because the teachers had already had experience as teachers in bilingual program in this school. Furthermore, these teachers were chosen by the headmaster's recommendation to take part in this study. In this study, the teachers were coded as Teacher (T1) and Teacher 2 (T2). Teacher 1 was male and he has been teaching Physics in that school for more than twenty five years. Teacher 2 was female and she has been teaching Biology in that school for more than twenty years. Thus, those participants would give contribution to this research.

3.3. Research Design

Descriptive method was used in attempt to understand teachers' performance in bilingual classes. It is designed to describe and explore more about teachers' performance in teaching Science using English in bilingual classes in junior high school. Descriptive study does not manipulate any variable of the data. According to Alder (1987) cited in Oktafiga (2010) stated that the data in descriptive can be presented in the form of words, images, impressions, gestures, or tones which represent real events or reality as it is seen symbolically or sociologically.

This research was conducted under a qualitative study and was designed as an attempt to have better understand any phenomenon and particular namely a bilingual program in Junior High School. Furthermore, this research was grounded on the data obtained from the field (through observations, video recording and interviews,). Therefore, based on those reasons, the qualitative research design was employed in this research.

3.4. Data Collection

There were three main techniques used to collect data in this study, namely observation, video recording and interview. The observation was conducted to find out how teachers use English in teaching Science in bilingual classes. Video recording was utilized to "capture many details of lesson that cannot easily be

observed such as the actual language used by teachers or students during a lesson” (Richards & Lockhart, 1994). The interview was conducted to get further information from observation and video recording. Moreover, it was conducted to also find out the difficulties encountered by teachers in teaching Science using English in bilingual classes.

3.4.1. Observations

In conducting the observations, the researcher chose the role as a passive participant-observer (Sugiyono, 2005). It was because the researcher did not want to disturb the teaching-learning activities. The observations were carried out six times from May 2nd to May 6th 2011.

The observation was conducted to find out the general information about teaching Science using English in bilingual classes; kind of teacher’s talk, and teacher’s time of using English.

The data obtained through the observations were then explored. Not all data put into account. Rather, the researcher selected the relevant data by sticking to the research questions which had directed the researcher a lot in order to the researcher stood around the circle. The relevant data from observation is presented in chapter four of this paper.

3.4.2. Video recordings

In order to get “the actual language used by teacher and the students, as well as interpersonal dynamics and affective climate of the classroom” (Nunan, 1989), video recording was conducted six times.

Many details that cannot be easily observed during observation can be captured by conducting video recording and the observation can be supported by the data from video recording.

3.4.3. Interviews

The Interview is a meeting of two persons of exchange information and idea through questions and responses, resulting in communication, and joint construction of meeting about a particular topic (Sugiyono, 2005). Realizing the role as a passive participant-observer would influence on the nature of learning-teaching activities (Sugiyono, 2005), the researcher conducted some in-depth interviews to get further data.

The interviews involved two teachers; a Physics teacher (T1) and a Biology teacher (T2) of 7th grade. The interviews were mainly purposed to get further data about the teaching Science using English in bilingual classes and the difficulties encountered by those teachers in teaching Science in bilingual classes.

Interviewing the participants was beneficial to obtain the in-depth information related to the research questions. The research chose semi-structured interviews. The reason of choosing this kind of interviews were based on several bases as proposed by Nunan (1992) as cited in Oktafiga (2010), such as semi-structured interview gives the researcher “ a great deal of flexibility”.

In conclusion, to obtain the valid data through this data collection technique, the researcher recorded the interviews and wrote notes related to the interviews with the participants.

3.5. Data Analysis

Data analysis is a form of analysis that is used by the researcher after the data was collected (Hatch and Farhady, 1982). Referring to what was proposed by Hatch and Farhady, data analysis in this paper discusses what the researcher did with the data after the researcher collected them.

Since the data collection and the data analysis are highly intertwined in the qualitative research, so the researcher analyzed and interpreted the data simultaneously with the data collection (Creswell, 1994).

The data analysis in this research was purposed to find out how teachers teach Science using English in bilingual classes. In the process of data analysis, the

researcher systematically explored the video recordings, transcribed the interview tapes then analyzed and interpreted the transcripts of the interviews, then the researcher categorized, synthesized them, searched for the patterns, discovered what was important, and finally, decided what story the researcher would tell and how (Bogdan & Biklen, 1998).

3.5.1. Observations

The researcher adapted the steps proposed by Tsech (1999), as cited in Creswell (1994), to analyze the data from observation. The steps were:

1. Watching video recording many times.
2. Combining the finding from the transcription and field notes during the observation.

3.5.2. Video Recordings

In analyzing data from video recording, the researcher watched and observed the data from video-recording. The video recording was conducted six times during the observations. The data from video recording was used to provide more detail context and to support the observations.

3.5.3. Interviews

The researcher analyzed the data from interviews started from transcribing the interview tapes. Then, the transcripts were given to the participants of the research to

confirm what the participants were said before. The next step was combining the transcripts with the field notes and observation analysis. Then, the researcher analyzed and interpreted each case because each participant may “represent a different thematic finding”(Chapelle &Duff, 2003). The last step is the researcher looked for the similarities and differences among the participants. The interviews were conducted twice. (Physics and Biology teacher).

3.6. Clarification of Terms

1. Bilingual: a person who has some functional ability in a second language (Spolsky: 1998).
2. Bilingual program : an approach in which two languages are used in classes-by teachers or students or both-‘as media of classroom instruction for the same group of students” (McGroarty:2001)
3. International standard schools (SBI) :
a new education policy in Indonesia that was enacted with a main goal to prepare the students for global competitiveness.

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4. Second language:

an official or societally dominant language needed for education, employment, and other basic purposes (Muriel Saville-Troike, 2006).

5. Teacher's talk :

A special language used by teacher when addressing L2 learner in classroom (Ellis, 1985)

