CHAPTER III

RESEARCH METHOD

The methodological aspects of this study will be elaborated in this section which include the research design, research method, the participants, the research setting, techniques of gathering data, technique of analyzing data, and trusworthiness of the data.

3.1 Research Design

This study was conducted by applying qualitative research design in which the researcher served as the primary instrument in collecting and analyzing the data. The main data was collected by observing the natural setting of CLIL classroom interaction. In other words, natural setting observation is called "naturalistic inquiry" (Lincoln & Guba, 1985; Nunan, 1992; Cohen & Manion, 1994; Miles & Huberman, 1994; Silverman, 2005; Alwasilah, 2008; Nunan & Bailey, 2009) or "naturalistic observation" (Frankel & Wallen, 1990). Natural setting here means that the researcher did not manipulate every detail of the data. The entire data were taken in natural setting while the teaching and learning process were done in the classroom. As this study needs to analyze the natural setting happened in the classroom, then qualitative design was chosen.

In line with this, Merriam (1988: 16) mentions that 'A qualitative data consists of detailed description situations, events, people, attitudes, believes and thoughts, excerpts or entire passages from documents, correspondence, records and case histories'.

In the similar vein, Alwasilah (2008) states that some methods which are prevalent used are ethnography, phenomenology, rounded theory, and case study. Meanwhile, Heigham and Croker (2009) have another opinion based on the significancy of the study; they say that two methods, phenomenology and grounded theory, are the most frequent approaches to be found. However, the choice of the method used in the study is based on the purpose and the need to get the data. Therefore, this study used case study method as it was only conducted in one school and only researched the teachers who teach Mathematics and Science. In correspondence to this, Meriam (1998) mentions that 'a case study presents that the case, then, could be person such as a teacher, a student, a principles, a program, and so on'.

In this study, the researcher analyzed abundant of data description obtained from four teachers who teach in Mathematics and Science classes. This is one advantage of using case study, the researcher could present detail data concerning to the types of questions and elicitation types used by the teachers in the teaching and learning process (Bodgan & Biklen, 1982). The second advantage proposed is that a case study can represent multiplicity of viewpoints and can offer support to alternative interpretation. The next advantage is if the result of a case study is presented properly, it may provide database which may be used and reinterpreted by the future researchers. And the last one is that the findings of case study can be beneficial for immediate practice.

1.2 The Participants

To get the data of elicitation types used by Content and Language Integrated Learning (CLIL) classroom teachers, this study involved four teachers in SMP N 1 Margahayu who teach Mathematics and Science, Biology and Physics. The four teachers were selected by the school committee to be the respondents as they have adequate experience in teaching Science and Mathematics using English as a means of communication and they were also selected based on accessibility (Kvale, 1996).

1.3 The Research Setting

The setting of the present study was conducted in SMP N 1 Margahayu, Bandung. This school was chosen because of the accessibility (Kvale, 1996) for the researcher to conduct the research there. Besides, it was chosen after the researcher did some observations to two SMP N RSBI in Bandung, and it was found that SMP N 1 Margahayu is the one in which English is used in teaching Math and Science throughout the classes. For this reason, this study was conducted there.

There were four teachers with six classes as the focus of observation. The first two classes were 8B and 8D with Math as the subject, the next were 8C and 8H with Biology, and 8G and 8I with Physics. The duration of each meeting was 75 minutes. However, the observation sometimes ended before the time up as the teacher had ended the lesson.

1.4 Data Collection Technique

The data were collected by observation and interview as they are dominant in collecting the data in qualitative research (Bashir et al., 2008: 38). The observation was done twice, in two meetings, for each teacher except the Biology teacher as there were two teachers chosen. It means that this study needs six meetings to observe in order to obtain adequate data to analyze.

1.4.1 Observation

To get the data from observation, the researcher used audio and video recording. Although in most circumstances, audio data were sufficient, the use of audio is highly recommended and needed as visual corroboration will increase the validity of the data (Wray et al., 2001:154). Besides, observation was done to gain the data which could not be elicited by questionnaire and interview (Maxwell, 1996) and it was intended to know the meanings, events, actions or processes being done by participants (Alwasilah, 2008). As this study needs natural data from the teachers utterances as well as the students' responses, then non-participant observation was used. In this phase, the researcher was not involved in the classroom activities. She only gave the audio recorder to the teacher to use along the teaching and learning process and recorded the whole activities using video-recorder from the back of the class. Therefore, there was no intervention at all in the process of teaching and learning (Cohen & Manion, 1994).

The observation itself was conducted in the classroom; there were six classes and four teachers observed for this study and it was done in May 2012. The detail schedule for observation is as follows:

Table 3.1 The class observation schedule

No.	Subject	Teacher	Date	Duration
1.	Math	Teacher A	May 7th, 2012	59 minutes
2.	Math	Teacher A	May 14th, 2012	72 minutes
3.	Biology	Teacher B	May 14th, 2012	43 minutes
4.	Biology	Teacher C	May 16th, 2012	73 minutes
5.	Physics	Teacher D	May 22nd, 2012	48 minutes
6.	Physics	Teacher D	May 24th, 2012	36 minutes
Total				**331 minutes**

1.4.2 Interview

The semistructured interview was done in this study to increase the validity of the data got from observation. In this study, semistructured interview was applied as by using this type of interview the possibility to get the data required was high as it did not limit the interviewees in giving their opinion (Heigham & Croker, 2009). Furthermore, they say that this type of interview offers 'sufficient flexibility to probe some aspects in depth and, where necessary, to let the respondent lead in much the same way as in open interview' (p. 186). Regading this, Merriam (1998: 74) says that the use of less structured questions has made the semistructured interview more flexible. It makes the interviewer has big possibility to get deep data. In line with that, Gall et al. (2003: 240) states that 'the semistructured interview involves asking a series of structured questions and then probing more deeply using open-form questions to obtain additional information'.

The interview was scheduled after each teacher has been observed. Therefore, besides from the research question, the interview guide was also taken from the recorded data got from the observation (Heigham & Croker, 2009: 183). The detail schedule for the interview can be seen as follows:

Table 3.2 The interview schedule

No.	Teacher/Subject	Date	Duration
1.	Physics	May 24nd, 2012	11 minutes
2.	Mathematics	May 26th, 2012	7 minutes
3.	Biology (TC)	May 26th, 2012	14 minutes
4.	Biology (TB)	May 27th, 2012	10 minutes

In each interview, the researcher used interview guide which contains 'an outline of topics to be covered (Heigham & Croker, 2009: 186) with some suggested questions' (Kvale, 1996: 129). Besides, some of types of interview questions suggested by Kvale (1996: 133-135) were used to gain more trustworthy data. In this study, the types of question used in interview were probing questions, direct questions, structuring questions, silence, and interpreting question.

In terms of the way of collecting the interview data, the researcher recorded the whole data by using MP3 as suggested by Silverman (2005), therefore, the recorded data could be replayed while they were being transcribed. Then, the interview data were interpreted to answer research questions and compared to the theory unperpinning the study (Emilia, 2007 in Emilia, 2008: 197).

1.5 Technique of Analyzing Data

There were some steps in the process of analyzing the data. First of all, the data from observation were transcribed based on those of Gail Jefferson (cited in Wray et al., 2001: 202-211). The key of the convention symbols used in this study are as follows:

T : Teacher
S : Student
Ss : More than one student speak
((pause)) : It is used if the pause occurs within a speaker's turn.

((gap))	:	It is used if the pause occurs between different speakers' turns.
:	:	A colon will be used immediately after the lengthened sound (in certain syllable), the longer the sound, the more colons will be used.
=	:	This latching, equals sign, is used at the end of the first component and the beginning of the second one.
(mekka bunit cor)	:	It is used when the writer can hear the sounds but cannot work out what the words are.
//	:	A double oblique line put into the established speaker's line at the point of interruption, and start the new speaker on the next line.
[[	:	A double opening square bracket is used when more than one speaker speak.
Italic	:	If the language used is not English, the transcription will be written in italic.
()	:	The bracket is used to give more explanation on what the students do in responding the questions (transcriber's comments), e.g. (nod).
-	:	A dash is used when the speaker has not finished the word uttered.

After having transcription and convention, the next step was classifying the utterances into questions and their responses. The questions were categorized based on Kagan's (1999) as they are based on Bloom taxonomy. However, they are more detail. Those types of questions are skinny question, fat question, high-consensus question, low-consensus question, true question and review question. Despite the similarity of some questions with some others from other authors, however this categorization was used as it was more representative used in RSBI class.

Meanwhile, the students' responses were classified to know the elicitation types used by the teachers based on the prospected responses (Tsui in Coulthard, 2002: 102). Those subcategories of elicitation are elicit:inform, elicit:confirm, elicit:agree, elicit:commit, elicit:repeat and elicit:clarify. However, as the categorization is not complete, then one type of elicitation proposed by Lightbown

and Spada (2006: 127) was also used in this study. This type of elicitation is completion. Therefore, there are seven elicitation types of teachers' utterances that were analyzed in this study.

1.6 Trusworthiness of the Data

The validity and reliability in qualitative research is important as well as in quantitative research. It was done to reduce the researcher's biases, opinions, and prejudices. In qualitative research the terms are different from the quantitative research; credibility, transferability, dependability, and confirmability.

1.6.1 Credibility/ Internal Validity

Credibility in qualitative research concerns the truthfulness of the inquiry's findings. Credibility or truth value involves how well the researcher has established confidence in the findings based on the research design, participants, and context (Ary, 2002:452). This statement is supported by Krefting (1991: 215 in Ary, 2002: 452) that "a qualitative study is considered credible when it presents such accurate descriptions or interpretations of human experience that people who also share that experience would immediately recognize the description".

The researcher uses structural corroboration to enhance the credibility of the research. According to Ary (2002:452), "Structural corroboration uses different sources of data (data triangulation) and different methods (methods triangulation). When these different procedures or different data sources are in agreement, there is corroboration". Related to the term of structural corroboration, Eisner (1991:55) says that structural corroboration is the same as triangulation.

Meanwhile, to enhance the credibility, the researcher uses two methods in collecting the data, observation and interview. Besides, the credibility of the research is enhanced by spending a large amount of time in the field and using supported instrument to collect the data such as tape recorder (Usman et al., 2000:88-89). In this study, audio and video recorder were used to collect the data.

1.6.2 Transferability/ External Validity

Transferability refers to the degree to which the findings of a qualitative study can be applied or generalized to other contexts or to other groups (Ary, 2002:454). According to him, enhancing the transferability of qualitative research can be conducted by providing sufficiently rich, detailed, thick descriptions of the context. To get the rich data, the researcher recorded two meetings for every lesson, and by spending the amount of time, the data got have been saturated.

1.6.3 Dependability/ Reliability

In qualitative research, the dependability is seen as the extent to which variation can be tracked or explained (Ary, 2002:455). As proposed by Ary (2002:455), the researcher used audit trail and triangulation. In audit trail the researcher kept thorough notes and records of the entire activities, and kept the data well organized and in retrievable form. To conduct the audit trail, the researcher gave all of the raw data, the analysis result, and the synthesis result such as summary or conclusion to the advisor. As Usman and Akbar (2000: 89) propose that the audit trail was conducted by the advisor of the research. In conducting the audit trail, the advisor read the transcription, listen the audio

recording and watch the video recording, then he gave some suggestions concerning the data that should be transcribed and the symbols should be used in the transcription.

Meanwhile, triangulation was applied to crosscheck the data from observation and interview. In this study triangulation was applied as it was used to control the bias of the data and its analysis as it was proposed by Mathison (1988). In accordance with Mathison's statement, some researchers such as McMillan & Schumacher, 2006; Lincoln & Guba, 1985; Seale, 1999; Stenbacka, 2001, just to mention few, also agree that triangulation is typically a strategy for improving the validity and reliability of research or evaluation of findings.

1.6.4 Confirmability/ Objectivity

Confirmability (neutrality) is the extent to which the research is free of bias in the procedures and the interpretation of result (Ary, 2002:456). To demonstrate the confirmability or objectivity, the researcher used audit trail and triangulation as it was done to enhance dependability.

1.7 Concluding Remarks

This chapter discusses the how-and-why the data were collected. The primary data were taken from the transcription of observation in the classroom which was done for six times/meetings, with two meetings in Physics class, two meetings in Mathematics class and two meetings in Biology class. Meanwhile, the secondary data were from the interview with the teachers. Then, the data gathered from two sources were transcribed, identified, and classified using Tsui's classification of elicitation and Kagan's types of questions.

The research method used in this study was qualitative case study. It was applied as this study needed natural data which only can be gathered by applying qualitative design. And this study is a case study as it was done only in one school with certain teachers chosen based on the need of the study.