

CHAPTER III

RESEARCH METHODOLOGY

This chapter elaborates the methodology of the research. This chapter consists of the research design, statements of the problem, data collection, and techniques of data collection which consist of observation and interview. This chapter also describes data analysis methods.

3.1. Statements of the Problem

The present study tried to identify patterns of classroom interaction that appear in an EFL classroom and describe how those patterns create the interactions during the teaching and learning process. Also, the study tried to gain students' responses toward the teaching and learning process. They were further elaborated in the following research questions.

1. What patterns of classroom interaction appear in the teaching and learning process in an EFL classroom of a senior high school?
2. How do those patterns create the interactions which appear during the teaching and learning processes?
3. How do students respond to the teaching and learning processes?

3.2. Research Design

Discourse Analysis makes use of qualitative method in which it studies classroom transcripts and assign utterance to predetermined categories (Ellis, 1997: 566). One of qualitative

method characters is to explore people's life histories or everyday behavior (Silverman, 2005: 6). Therefore, qualitative method is suitable with this study. The only object worthy of investigation inside the classroom is classroom interaction (Allwright and Bailey, 1991: 2).

In accordance with the statements of the problem, this study applied pedagogical microscope in systemiotic approach as the basis to identify and analyze the patterns of classroom interaction. For that reason, a pedagogical instrument is an ideal guiding framework as Suherdi (2009: 5) defined it as 'systemiotic approach toward classroom discourse analysis.'

3.3. Data Collection Method

To gain the data which is necessary to answer the statements of the problem, this study applied several data collection techniques, such as, observation in the forms of video recording and classroom observation, and guided interview. To analyze the patterns of classroom interaction, the pedagogical microscope was used as a guidance of analysis (Suherdi, 2009).

3.3.1. Site and Participants

Site of the study was a senior high school in Bandung. The school was chosen based on several reasons. First, the school is considered as one of the schools in Bandung that have good achievements in term of teachers' and students' qualities. Therefore, by conducting the research there, it was assumed that the interactive classroom interaction patterns which were useful for the data of the research could be gained and revealed. Second, the policy of the school allowed the researcher to conduct study and gain useful data of the study there. Third, the school also

provided one class to the researcher to be observed and allowed the researcher to conduct the interview to some students that became the participant of the study.

Participant of this study was one class of first grade of the senior high school in Bandung. The class was chosen based on the policy and decision of the school official after having a brief meeting with the researcher about the study that would be conducted. The class was suggested to be the object of the research because it was assumed that the students of the class were active during the teaching and learning processes that have been conducted so far. By having active students in the classroom, it was hoped that the research would reveal active and interactive classroom interactions. The other participants were ten students of the class to gain their responses to the teaching and learning process. The participants were chosen randomly so that they could provide the useful data for the research that might represent the responses of most students in the classroom.

3.3.2. Data Collection Procedures

To gain the data which is useful for the analysis, this study employed some procedures. To begin the process of collecting the data, classroom observation in form of video recording was done to record the teaching and learning process which later would be transcribed and analyzed to answer the research's question about patterns of classroom interaction. Observation in this study was conducted in one class of first grade of the senior high school to observe and identify the patterns of classroom interaction that occurred in the class. The data was gained through video recording. Video recording is a type of data collection method in qualitative research. Video recording was used as the instrument to answer both statements of the problem

in this study which was identifying what patterns of classroom interaction occurred in the classroom.

To gain naturalness of teaching and learning activities in the classroom, the recording was done several times in order to make the teacher and students get used to it therefore teaching and learning process could occur naturally. Video recording was done two times in order to gain naturalness of the teaching and learning process. After recording the teaching and learning process, the video then was transcribed into transcript to be analyzed using pedagogical microscope instrument to reveal the patterns of classroom interaction which occurred during the teaching and learning process.

After doing classroom observation, interview was done with the students to gain their responses toward the teaching and learning process they experienced in the classroom. The result of the interview then was analyzed using the theories related to classroom interaction to answer the research question about the students' responses toward the teaching and learning process.

3.3.2.1. Observation

Observation is a fundamental way of finding out about the world around us. As human beings, we are very well equipped to pick up detailed information about our environment through our senses. However, as a method of data collection for research purposes, observation is more than just looking or listening. Research, simply defined, is “systematic enquiry made public” (Stenhouse, 1975). Classroom observation, specifically, refers to the study of investigating what was happening inside the classroom (Allwright and Bailey, 1991: 2). Doing observation is significant in which it helps the researcher to analyze theory in use and participant

view point of which is not revealed during an interview (Alwasilah, 2006: 155). The aim of an observation is to gather first-hand information about social processes in a naturally occurring context (Silverman, 1993). One of the reasons why an investigator gathers data through observation is to notice things which may lead to understanding the context (Merriam, 1988). Observation is seen either as a much needed component of experimental research or as the basic research tool for entire projects (Allwright, 1988).

As Marion Dadds (cited by Stoll, 2003: 93) says:

Observation work had been a valuable part of the research and learning process. More looking had led to more seeing. More seeing had led to more understanding and changes in professional perception. 'I've learnt observation techniques', she said. 'I know stand back and observe the children, myself, and other staff. I see more and I understand more.

Therefore, the study first employed classroom observation in the form of video recording to gain the data which later was transcribed and analyzed using the pedagogical microscope analysis instrument to reveal the interactions which occurred during the teaching and learning processes. The data from video recording was crucial since it would be used as the main instrument to reveal the classroom interaction.

The observational data gathering continues until theoretical saturation is reached (Adler and Adler, 1994). Silverman (1993) suggests five stages in organizing an initially unstructured observational study: beginning the research (where a set of very general questions is proposed), writing field notes (usually beginning with broad descriptive categories, but later developing more focused codes and categories), looking as well as listening, testing hypotheses and making broader links. In this study, the codes and categories of observation sheet which were used to

analyze the video recording were based on the pedagogical microscope instrument as seen in the following table.

Table 3.1

The codes and categories of exchanges in Pedagogical Microscope in Systemiotic Approach

(From Suherdi, 2009: 59 adapted from Berry, 1981)

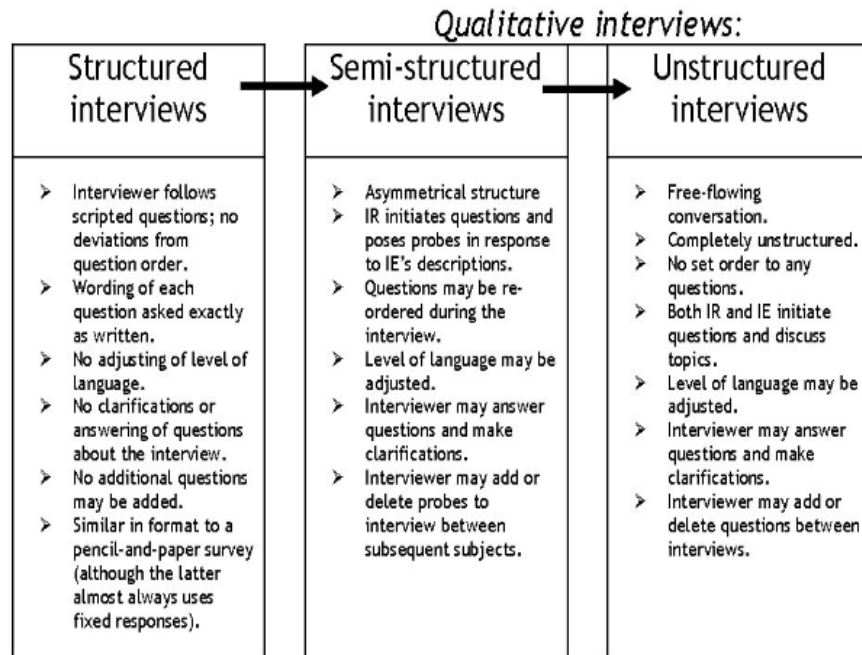
	No	New Code	Meaning
Knowledge Exchange	1	JL	Teacher gives explanation/student answers the teacher actual question.
	2	TB	Teacher gives actual question.
	3	TU	Teacher gives display question.
	4	KaJ	Teacher/student comments on JL.
	5	Kak	Teacher/student comments on KaJ.
Action Exchange	6	TA	Teacher gives action example/student does an action based on teacher instruction.
	7	MA	Teacher asks students to do a non-scored action/student does action based on teacher instruction/student asks teacher to give example of an action.
	8	SA	Teacher asks student to do an action.
Skill Exchange	9	KaA	Teacher/student comments on TA.
	10	KaKa	Comments on action comment.
	11	TK	Teacher gives example of language communication/student does language communication based on teacher's request.
	12	MK	Teacher asks student to do non-scored language communication/students asks teacher to give an example of language communication.
	13	SK	Teacher asks student to do action.

	14	KaTk	Teacher/students comments on TK.
	15	KaKtk	Comments on comment on KaTk.

3.3.2.2. Interview

Understanding the world from the subjects' point of view, unfolding the meaning of people's experiences, uncovering their lived world prior to scientific explanation are the attempts of qualitative research (Kvale, 1996: 1). Interview can be defined as a conversation with purpose (Kahn and Cannell, cited in Marshall and Rossman, 2006). Interview process was done to gain the necessary data dealing with the research (Alwasilah, 2006: 191). Interview was also done to gain in-depth information that couldn't be accessed through observation (Alwasilah, 2006: 154). The researcher used interview as research instrument to gain the verification and validity of data gained from classroom observation.

Nunan (1992) categorized interviews based on their degree of formality, namely: structured, semi-structured, and unstructured. Some differences among structured, semi-structured, and unstructured interview can be seen from the following table.



IR = Interviewer; IE = Interviewee

Table adapted from Berg, B. L. (2004). *Qualitative Research Methods for the Social Sciences* (5th ed., p.79) Boston: Pearson.

Table 3.2

The Differences among structured, semi-structured, and unstructured interview

(Adapted from Berg, B. L. (2004). *Qualitative Research Methods for Social Science* 5th ed, p. 79)

The interview that was conducted in this study could be seen in the following table.

No	Interview Questions
1.	Sudah berapa lama adik belajar bahasa Inggris? (How long have you been studying English?)
2.	Adik suka belajar bahasa Inggris? Kenapa? (Do you like learning English? Why?)
3.	Bagaimana menurut adik belajar bahasa Inggris disini? Apakah menyenangkan? Kenapa? (What do you think about learning English here? Is it fun? Why?)

4.	Kalau sedang belajar bahasa Inggris di kelas, gurunya berbicara menggunakan bahasa Inggris terus-menerus atau dicampur dengan bahasa Indonesia? (Does the teacher use full English or mixed Indonesian-English when learning English in the classroom?)
5.	Yang mana yang lebih mudah dimengerti menurut adik, guru mengajarkan bahasa Inggris dengan full-English di kelas atau dicampur dengan bahasa Indonesia? Kenapa? (Which one is easier for you, full-English or mixed Indonesian-English learning? Why?)
6.	Apa saja kegiatan yang sering di lakukan di kelas kalau sedang belajar bahasa Inggris? (What activities do you often do in the classroom when learning English?)
7.	Bagaimana pendapat adik tentang game yang tadi dimainkan di kelas? Apakah membantu adik dalam belajar?" (What do you think about the game you played in the class just now? Did it help you to learn?)
8.	a. Apakah gurunya sering menyuruh adik dan teman-teman belajar dan bekerja dalam kelompok di kelas? (Does your teacher often ask you to learn in groups in the classroom?) b. Menurut adik apakah belajar dalam kelompok bisa membantu adik lebih mudah belajar dan berbicara bahasa Inggris? (Do you think group learning makes you easier to learn and speak English?)
9.	Bagaimana menurut adik tentang cara gurunya mengajar selama ini? Apakah mudah dimengerti? (What do you think about the way the teacher teaches you? Is it understandable?)
10.	Cara belajar bahasa Inggris yang seperti apa yang adik mau agar adik bisa lebih cepat belajar bahasa Inggris? (What way of English learning do you want to improve your English?)

Table 3.3 Interview Questions

In this study, semi-structured interview was used. As it is argued by Berg (2004), in conducting a semi-structured interview, there are some things that may be done by an interviewer, such as, reordering the questions, adjusting the language, answering the questions, and adding or deleting probes to the interview. In conducting the interview of the study, the researcher also did those things in order to gain a comprehensible interview data. The opportunities to change the words but not the meaning of questions provided by a semi-structured interview schedule acknowledges that not every word has the same meaning to every respondent and not every respondent uses the same vocabulary (Treece & Treece 1986).

Clearly, in this type of interview, validity and reliability depend, not upon the repeated use of the same words in each question, but upon conveying equivalence of meaning (Denzin, 1989). By using semi-structured interview, the interviewer has a general idea of where s/he wants the interview to go, and what should come out of it, but does not enter the interview with a list of predetermined questions (Marshall and Rossman, 2006).

Barriball and While (1994, p.329) listed some advantages of semi-structured interview which were argued by some researchers. First, it has the potential to overcome the poor response rates of a questionnaire survey (Austin, 1981). Second, it is well suited to the exploration of attitudes, values, beliefs and motives (Richardson et al. 1965, Smith, 1975). Third, it provides the opportunity to evaluate the validity of the respondent's answers by observing non-verbal indicators, which is particularly useful when discussing sensitive issues (Gordon, 1975). Fourth, it can facilitate comparability by ensuring that all questions are answered by each respondent

(Bailey, 1987). Fifth, it ensures that the respondent is unable to receive assistance from others while formulating a response (Bailey, 1987).

In formulating the questions for interview, Bloom taxonomy was used as the fundamental base to compose the questions. Bloom (1956 in Dalton, J. & Smith, D., 1986) has provided us with his taxonomy to assist us to compose questions on different levels of thinking. This taxonomy ranges from lower to higher levels of cognitive thinking. These levels are:

1. Knowledge
2. Comprehension
3. Application
4. Analysis
5. Synthesis
6. Evaluation

Dalton and Smith (1986) also provided some useful verbs that could be used to formulate questions on different levels of thinking based on Bloom's taxonomy as seen in the following table.

Table 3.4. Some useful verbs in formulating questions on different levels of thinking based on Bloom's taxonomy

(Adapted from Dalton and Smith, 1986)

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Tell	Explain	Solve	Analyse	Create	Judge
List	Interpret	Show	Distinguish	Invent	Select
Describe	Outline	Use	Examine	Compose	Choose
Relate	Discuss	Illustrate	Compare	Predict	Decide
Locate	Distinguish	Construct	Contrast	Plan	Justify
Write	Predict	Complete	Investigate	Construct	Debate
Find	Restate	Examine	Categorise	Design	Verify

State	Translate	Classify	Identify Explain	Imagine	Argue Recommend
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Based on what Dalton and Smith (1986) elaborated about level of thinking in questioning rooted from Brown (1956 in Dalton and Smith, 1986), the interview questions and their levels of thinking could be seen from table 3.5.

In conducting the interview of the study, the researcher reordered the questions, adjusted the language, answered the questions, and adding or deleting probes during the interview process, in order to gain comprehensible data of the interview. As it is argued by Berg (2004), in conducting a semi-structured interview, there are some things that may be done by an interviewer, such as, reordering the questions, adjusting the language, answering the questions, and adding or deleting probes to the interview. The opportunities to change the words but not the meaning of questions provided by a semi-structured interview schedule acknowledges that not every word has the same meaning to every respondent and not every respondent uses the same vocabulary (Treece & Treece 1986).

Table 3.5. Interview questions and their level of thinking

No	Levels of thinking	Interview Questions
1.	Knowledge	Sudah berapa lama adik belajar bahasa Inggris? (How long have you been studying English?)
2.	Knowledge	Adik suka belajar bahasa Inggris? Kenapa? (Do you like learning English? Why?)
3.	Evaluation	Bagaimana menurut adik belajar bahasa Inggris disini? Apakah

		menyenangkan? Kenapa? (What do you think about learning English here? Is it fun? Why?)
4.	Knowledge	Kalau sedang belajar bahasa Inggris di kelas, gurunya berbicara menggunakan bahasa Inggris terus-menerus atau dicampur dengan bahasa Indonesia? (Does the teacher use full English or mixed Indonesian-English when learning English in the classroom?)
5.	Analysis	Yang mana yang lebih mudah dimengerti menurut adik, guru mengajarkan bahasa Inggris dengan full-English di kelas atau dicampur dengan bahasa Indonesia? Kenapa? (Which one is easier for you, full-English or mixed Indonesian-English learning? Why?)
6.	Comprehension	Apa saja kegiatan yang sering di lakukan di kelas kalau sedang belajar bahasa Inggris? (What activities do you often do in the classroom when learning English?)
7.	Evaluation	Bagaimana pendapat adik tentang game yang tadi dimainkan di kelas? Apakah membantu adik dalam belajar?" (What do you think about the game you played in the class just now? Did it help you to learn?)
8.	Knowledge Comprehension	a. Apakah gurunya sering menyuruh adik dan teman-teman belajar dan bekerja dalam kelompok di kelas? (Does your teacher often ask you to learn in groups in the classroom?) b. Menurut adik apakah belajar dalam kelompok bisa membantu adik lebih mudah belajar dan berbicara bahasa Inggris? (Do you think group learning makes you easier to learn and speak English?)
9.	Comprehension	Bagaimana menurut adik tentang cara gurunya mengajar selama

		ini? Apakah mudah dimengerti? (What do you think about the way the teacher teaches you? Is it understandable?)
10.	Evaluation	Cara belajar bahasa Inggris yang seperti apa yang adik mau agar adik bisa lebih cepat belajar bahasa Inggris? (What way of English learning do you want to improve your English?)

The interview was conducted to answer the third statement of the problem of the study which was about gaining students' responses toward the teaching and learning process. Therefore, the interview focused on gaining the data about how the students gave their opinions about the teaching and learning they experienced in the class. The interview was recorded and transcribed to be processed in data analysis. Premature judgments about the importance of content were also made in order to save the time of transcribing the interview (Seidman, 115). In addition, it is crucial to understand that transcription is neither neutral nor value-free. As Arksey & Knight (1999) wrote, "transcriptions are, quite unequivocally, interpretations."

3.4. Data Analysis

The data analysis was done to get the answers of the research questions. It was presented in the form of research finding. Pedagogical microscope was applied as the instrument of analysis in order to analyze the data gained from data collection instruments.

3.4.1. Data from Observation

Data from observation was taken in the form of recorded classroom activities. The recorded data was gained through filming the teaching and learning process from the beginning until the end of the lesson using handy cam. After getting the recorded data, it was then transcribed in form of transcription to be used in the analysis of the data.

The transcription was analyzed using pedagogical microscope as the instrument of analysis (Suherdi, 2009) by categorizing the exchanges and counting the percentage of each category. The instruments that were used in the analysis process of classroom interaction patterns were the categories of exchanges from Suherdi (2009), which are, knowledge discourse, action discourse; and skill discourse. The categories were followed by sub categories as described in table 3.6. .

All categories of classroom interaction patterns were used as symbols for the utterances or exchanges from video transcription. The symbols were calculated to find out the tendency of specific exchanges. Then, after gaining percentage of the particular exchanges, the final conclusion of what patterns that occur in the classroom interaction was discussed and analyzed in accordance with theories related to pedagogical microscope analysis to answer the first statement of the problem which focused on revealing patterns of classroom interaction that appeared during the processes of teaching and learning. By revealing the patterns of classroom interaction, it would show some patterns that dominated the teaching and learning processes. Therefore, the patterns of classroom interaction that appeared in the classroom could be drawn. The dominating patterns that appeared during the teaching and learning processes also answered the second

statement of the problem which focused on how those patterns created the interactions in the classroom to reveal whether they were interactive teaching and learning or not.

Table 3.6
The categories of exchanges in Pedagogical Microscope in Systemiotic Approach
(From Suherdi, 2009: 59 adapted from Berry, 1981)

	No	New Code	Meaning
Knowledge Exchange	1	JL	Teacher gives explanation/student answers the teacher actual question.
	2	TB	Teacher gives actual question.
	3	TU	Teacher gives display question.
	4	KaJ	Teacher/student comments on JL.
	5	Kak	Teacher/student comments on KaJ.
Action Exchange	6	TA	Teacher gives action example/student does an action based on teacher instruction.
	7	MA	Teacher asks students to do a non-scored action/student does action based on teacher instruction/student asks teacher to give example of an action.
	8	SA	Teacher asks student to do an action.
	9	KaA	Teacher/student comments on TA.
	10	KaKa	Comments on action comment.
Skill	11	TK	Teacher gives example of language communication/student does language communication based on teacher's request.
	12	MK	Teacher asks student to do non-scored language communication/students asks teacher to give an example of language communication.
	13	SK	Teacher asks student to do action.

Exchange	14	KaTk	Teacher/students comments on TK.
	15	KaKtk	Comments on comment on KaTk.

3.4.2. Data from Interview

Interview process was conducted in order to answer the third statement of the problem that was gaining students' responses to the teaching and learning process. Interview was done by using voice recorder as the media to record the interview process. After gaining and transcribing the recorded data, the next process was analyzing it by using theories related to classroom interaction to reveal how students responded to teaching and learning processes conducted by the teacher. The data from the interview was also analyzed to reveal how the game that was conducted during the processes of teaching and learning affect the existences of codes and categories and patterns of classroom interaction which were supported by the students' statements..

Therefore, the data from interview was useful to reveal how students' perceptions toward the game and the processes of teaching and learning process triggered the appearances of the codes of classroom interaction patterns. The findings from the interview were also useful to find out whether students responded positively to the teaching and learning processes or not by analyzing it from the students' point of view.

3.4.3. The Validity of the data

Ade Purna Nugraha, 2015

ANALYZING PATTERNS OF CLASSROOM INTERACTION

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Validity is one of the important points in conducting qualitative research. There are some strategies that can be applied to meet the validity of qualitative research, such as, triangulation, member checks, long-term observation, peer examination, participatory or collaborative modes of research, and research's biases, thick description, typicality or modal category, and multisite designs (Merriam, 1998; Alwasilah, 1998). In accordance with those strategies to meet the validity of the data, McMillan and Schumacher (1997) states that there are some strategies to enhance the validity of qualitative research design, such as, prolonged and persistent field work, verbatim accounts, low-inference description, multiple researchers, mechanically recorded data, participant researcher, member checking, participant review, and negative cases or discrepant data. In this study, the researcher used thick description to provide detail description of where the study was conducted, who were involved in the study, and how the study was conducted (Merriam, 1998; Alwasilah, 1998).

Besides that, this study also applied member checking technique and used mechanical recorded data in the form of video recording to meet the validity of the data (McMillan and Schumacher, 1997). member checking is a procedure largely associated with qualitative research whereby a researcher submits materials relevant to an investigation for checking by the people who were the source of those materials (McMillan and Schumacher, 1997) . Probably the most common form of member validation occurs when the researcher submits an account of their findings (such as a short report or interview transcript) for checking (Emerson and Pollner, 1988). In this study, the researcher submitted a short report including the transcript of video recording of the research to the teacher who taught in the observed and recorded class. Besides

that, the researcher gave the interview transcript to the students who were interviewed during the study.

3.5. Concluding Remarks

This chapter elaborates the qualitative method which was applied in conducting the research. It explains how pedagogical microscope analysis which was used as the instrument of analysis related to the qualitative method. Pedagogical instrument is an ideal guiding framework as Suherdi (2009: 5) defined it as ‘systemiotic approach toward classroom discourse analysis.’ Discourse Analysis makes use of qualitative method in which it studies classroom transcripts and assign utterance to predetermined categories (Ellis, 1997: 566). One of the qualitative method characters is to explore people’s life histories or everyday behavior (Silverman, 2005: 6). Besides that, this chapter also elaborates data collection, and techniques of data collection which consist of observation and interview. Furthermore, this chapter describes how the data of the research were analyzed using pedagogical microscope. Finally, this chapter explains the strategies which were used to meet and enhance the validity of the research.

