

CHAPTER III

RESEARCH METHODOLOGY

This chapter discusses the research methodology applied in this research. The discussion of this chapter involves research design, site and participants, data collection technique, and data analysis. Firstly, the research design discusses the method employed in this study. Secondly, the site and participants discuss the place and person who contribute to this research. Thirdly, data collection emphasizes the technique used in collecting data. Lastly, data analysis explains the procedure of analyzing the data.

3.1 Research Design

Conducting the study in distance or online learning is interesting and related to the current trend of the teaching method. As COVID-19 pandemic outbreak at the beginning of March 2020, the Indonesian government started to enact distance learning at all levels of school. Distance learning is not only applied to high schools and universities but also to a lower level of the school, such as kindergarten. Therefore, the study related to distance learning in Indonesia becomes interesting because all elements of school are involved in this teaching method and need adjustment at a sudden and insufficient time.

To meet the aims of the research, a descriptive qualitative method was employed. According to Monsen et al., (2007), descriptive qualitative works effectively in gaining information to support planning hypotheses and suggesting association. In addition, descriptive qualitative provides comprehensive and integrated data from various sources to get a broad understanding of individual participants, including their opinions, perspectives, and attitudes (Nassaji, 2015). This method has a similarity with this research because the data were taken from various sources, which were observation and interviews. The data were also collected, categorized, analyzed, and interpreted in the last process.

Furthermore, this research employed a qualitative case study approach. Creswell (2012) categorized the case study as an approach to explore and understand the phenomenon around the participants and the way to present the participants' point of view. In this approach, the interaction between participants and researchers became important regarding the adjustment of the researcher in the field. This principle was in line with this research because this research aimed at identifying the interaction patterns occurring in online classrooms and finding out the way teachers engage their students during online learning sessions. Furthermore, interviews

for teachers and parents used to support the analysis. Based on that method, observation and interview (Merriam, as cited in Harrison et al., 2017) were conducted in this research.

3.2 Research Site and Participants

This research took place in an elementary school in Bandung. The school was chosen because it is a pilot school that had advantages in implementing national standards and/or international standards, developing various concepts and practices of education and learning through collaborative research, and also developing theories, research results, and collaborative learning innovations between lecturers and students and prospective teachers and students.

Therefore, it was easier to collect the data and submit all administrative permission. In addition, the school collaborated with the university language centre to conduct a program named habituation program. Thus, the university language centre sent some of their teachers to teach English in bilingual classes. This program aimed at preparing students to be familiar with the English language, so it would be easier for them to understand other subjects which were taught in English. The learning processes were carried out three times a week (Tuesday, Wednesday, and Thursday) for grade 4 and once a week (Tuesday) for grade 2.

Since the outbreak COVID-19 pandemic still happens in Indonesia, the government did not allow schools and other educational institutions to run learning sessions in classrooms. All the learning sessions were moved into online/virtual classrooms. The teachers usually used several applications, such as Zoom, Google Meet, and Google Classroom to conduct learning sessions. Therefore, it can be concluded that the data collection was predominantly online.

The participants involved in this study were an English teacher with her 22 students of grade 2 and two English teachers with their 43 students of grade 4.

3.3 Data Collection

The data were collected from observation and interviews. The observation was used to obtain the learning experiences provided by the teachers in online classrooms. Then, the interviews aimed to gain data related to the way teachers engaged their students in online classroom interactions.

The first data was collected through participant observation (Malik&Hamied, 2014) to examine the interaction patterns during online classes and provide detailed description including the context in which the observations were conducted. Nine meetings of English classes through Zoom application were recorded to avoid loss of information and each observation lasted for 45 minutes. The duration of each meeting was 40 minutes. After

collecting nine meetings, three meetings from 2nd grade and six meetings from 4th grade, the writer decided to take one meeting from each grade due to the limitation of this research.

During the learning process, the researcher observed and took note of every pattern occurring in online classrooms related to pedagogic relations and pedagogic activities of pedagogic register analysis. The time stamp was put on the dialogues between students and teachers. Then, the dialogues were analyzed using a pedagogic register framework.

The last data was collected through participants' interviews. The interviews were conducted to all teachers between thirty to sixty minutes. To avoid misunderstanding and get clearer data, *Bahasa Indonesia* was used during the interview session. Because the outbreak of COVID-19 still happened at the time the data were collected, the interview was conducted using Whatsapp application.

The questions for the interview were arranged, based on two of the three pedagogic register variables: pedagogic activity and pedagogic relation. In terms of pedagogic activity, The questions were arranged based on the five phases of learning activities: preparation, focus, task, evaluation, and elaboration.

The questions had been validated by four peer researchers and supervisors. The validation focused on testing question accuracy before giving it to the participants. The instrument revision included correction of ambiguous sentences by replacing verbs and names of interviewers. For example, replacing the pronoun "*Bapak/Ibu*" with the pronoun "*Anda*".

The questions of interview as a revised version are as follows:

Prepare	<ol style="list-style-type: none"> 1. What did you do in preparing the teaching materials? 2. What did you do before giving the assignment to the students?
Focus	<ol style="list-style-type: none"> 1. When giving assignments, did you guide your students? If the answer is yes, what was the form of the guidance? 2. When giving assignments, did you provide detailed instructions? If the answer is yes, what were some examples of instructions? 3. When giving assignments, did you give your students freedom to do it? 4. When compared to question number 2 and 3, which attitude got a better response from students? 5. How did you ask questions in online classes?

Task	<ol style="list-style-type: none"> 1. Do you know the display and referential questions? If the answer is yes, did you use it in the online class? 2. When compared between the 2 types of questions above, which type of question got a better response from students? 3. What types of assignments did you give to students? 4. Did the assignment you give encourage students to explore? If the answer is yes, please provide some examples. 5. Have you ever given assignments in the form of sustainable projects to students? If the answer is yes, how did the students respond while working on the project? 6. Have you ever given a task that must be completed in one or two meetings? If the answer is yes, how did the students respond while doing the assignment? 7. When compared to the two tasks above, which one received the most positive response?
Elaborate	<ol style="list-style-type: none"> 1. How did you facilitate students to think critically, analyze, and solve problems? 2. How did your students respond to these facilities? 3. How did you stimulate students so that they can explore the given task? 4. How did your students respond to the stimulation? 5. How did you guide students to conclude about the activities/tasks that have been done? 6. How did your students respond to these activities? 7. How did you help your students relate each concept they have learned? 8. How did students respond to these activities?
Evaluate	<ol style="list-style-type: none"> 1. When evaluating students' abilities, what methods did you use in class? (example: asking questions at the end of the session or assigning essay writing) 2. If the student's answer met your expectation, how did you respond? 3. If the student's answer did not meet your expectation, how did you respond? 4. How did you measure the progress of your students at the end of each lesson?

3.4 Data Analysis

The first data was collected through observation of several online classrooms through the Zoom application. The second data was collected through interviews with the two teachers of lower and upper elementary schools. The explanation of data analysis was conducted in two sections, namely data analysis of observation and data analysis of the interview. The following section will be elaborated as follows.

3.4.1 Analysis of Data from Observation

This research focused on identifying the interaction patterns occurring in online classrooms based on Pedagogic Register Framework by David Rose (2014,2018). The interaction between teachers and students was obtained from the author's observations through the zoom meeting. To avoid loss of information, the meetings were recorded. Then, the videos were transcribed using the Spext application and corrected manually. After transcribing the data, the changes of classroom interaction occurred significantly from offline to online environments. Several segments or phases were classified to be analyzed using Pedagogical Register Analysis by David Rose. The selected phases were considered to show significant changes occurred in the online classroom environment. The significant changes in online classrooms can be seen from the learners' responsibility that includes choosing their own learning goals, methods and materials, and reflecting on their learning achievement Here is an example of the significant changes of classroom interaction.

Table 3.1

Example of Online Classroom Interaction

Teacher:	Next. I will ask, maybe, Arsy.
Student 1:	Di chat, Sya. Lihat di chat.
Teacher:	Arsya, look at the chat box and please do this activity
Student 2:	*miming the gesture*

That segment was an example of the changes of classroom interaction. It can be seen from the word selection given by the teacher in giving instruction. In traditional classes, the teacher might give a paper or whisper the word to the students, then the students mimed the

gesture. However, that activity could not be done in an online classroom. Therefore, the activity moved into the “chat box” because the teacher typed the word in the “chat box.”

In the data analysis, two variables of Pedagogical Register Analysis, which were pedagogic activities and pedagogic relations, were employed. The other variable which was pedagogic modalities were not discussed in this research.

Pedagogical relation concerns the social relations set between teachers and learners, between text writer and learners, as well as relations between learners. Pedagogic relations are created around acts of consciousness and verbal or material behaviors. In pedagogical relation, teachers and students have their own roles, and also both of them may elicit acts from each other. The interaction between teachers and students consist of a set of conscious acts, which are attention, perception, knowledge (i.e. acts of knowing, including memory). These conscious acts are exchanged by interacts, which consists of inviting (attention), approving (perception), modelling (knowledge) and displaying (knowledge). The roles of teachers and students are presented in figure 3.1 (interact) and 3.2 (act) below.

Figure 3.1

Interact System

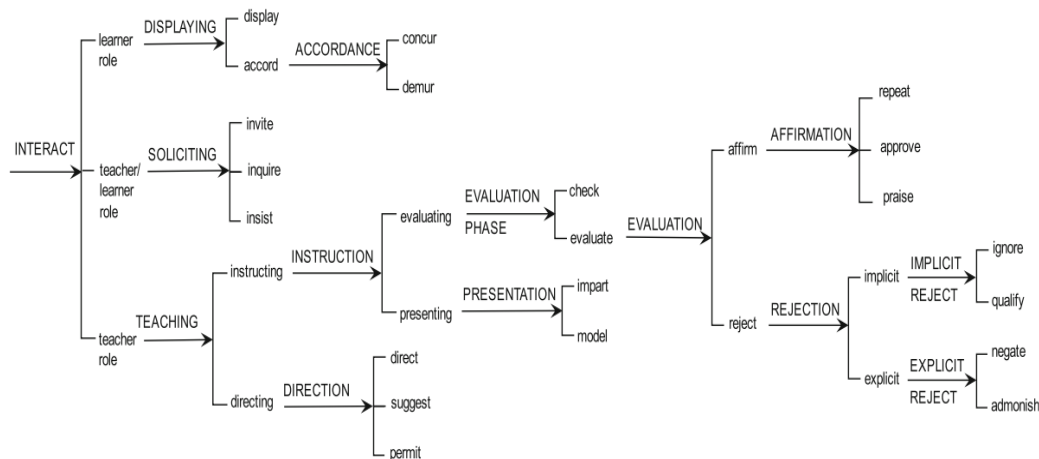
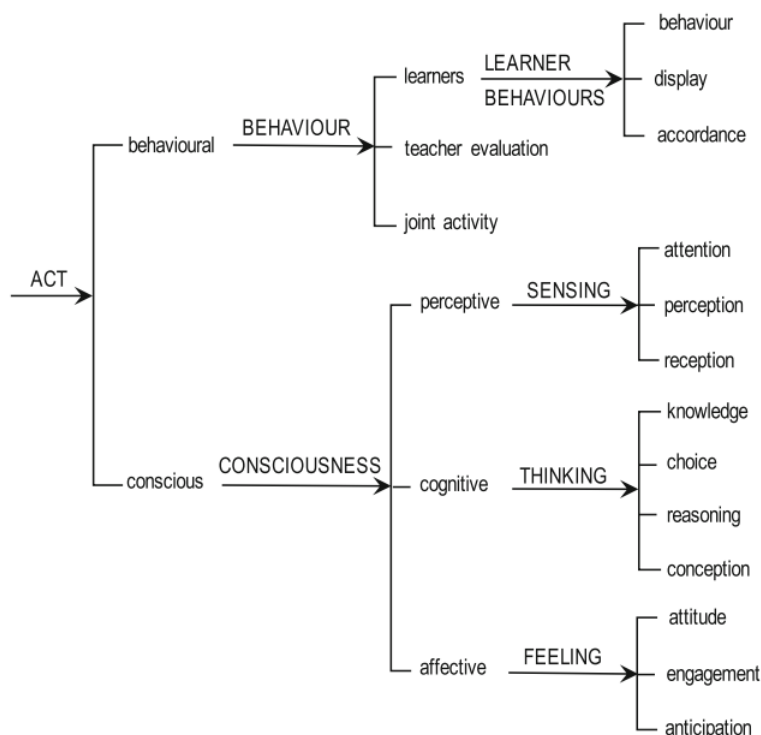


Figure 3.2

Act System



The figures provide criteria of interacts and acts. These criteria are used to label the exchanges that occur in online classrooms. The table 3.2 is an example of data presentation of pedagogical relations.

Table 3.2

The Example of Pedagogic Relation in Online Classroom

	Role	Interact	Act
T: I think you are ready with the first words.		Display	Attention
T: What did she do? (pointing power point).	dA1	Inquire	Knowledge
T: I will type something to someone here.	A1	Impart	Knowledge
T: OK, I think Gazi wants to do it first (typing)		Impart	Conception
T: Everyone look at Gazi. What did he do?	dA1	inquire	Knowledge

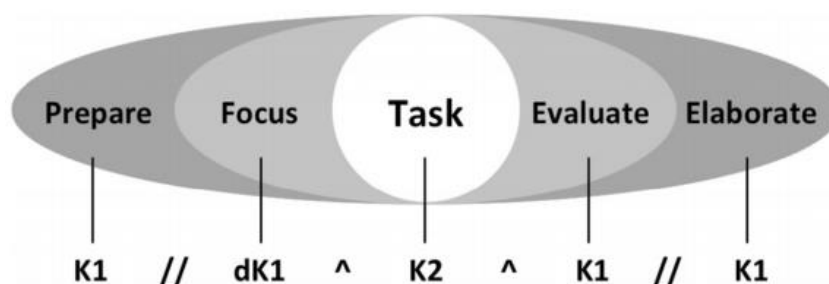
From the analysis above, the teacher carried out her role as an evaluator or K1 role. As stated by Rose, by carrying the K1 role, the teacher has the authority to evaluate a student's knowledge.

The next variable is pedagogic activities. Pedagogic activities focused on the type of knowledge and the arrangement of lesson order based on the negotiation content between

teachers and students. In this analysis, there were five phases of pedagogic activity, which are Prepare, Focus, Task, Evaluate, and Elaborate. The exchanges between teachers and students were categorized based on that phase. Then, the role of each conversation was also analyzed based on the options by the discourse semantic system of negotiation (Martin 1992, Martin and Rose 2007a, 2007b). They mention two dimensions, which are the roles of speakers and the type of exchange. The exchanges contain knowledge or action, and the speakers contain primary or secondary roles.

Figure 3.3

Orbital Structure of Learning Cycles, Created by Exchange Moves



The action exchange includes primary actor (A1), and secondary actor (A2) which may demand or be offered the action. In the same line, the knowledge exchanges include primary knowledge (K1), which provides knowledge, and secondary knowledge (K2), which demand or receive the knowledge. For the further option, there is a role that starts or initiates the exchanges. If A1 or K1 starts or initiates, the exchange may consist of just this role. However, if A2 or K2 starts, the exchange may be finished in two moves as A2^A1 or K2^K1. In contrast, A1 and K1 may also start by anticipating a secondary role. In this situation, the primary role is delayed and the exchange may contain three roles. This initiation or starting role is described as dA1 or dK1 (delayed primary role). The table 3.3 is an example of data presentation of pedagogical activities. This exchange was taken from the meeting in 4th grade when the teacher explained the activities carried out during the learning session. In the exchange below, the English teacher and a student were involved.

Table 3.3

The Example of Pedagogic Activities in Online Classroom

	Role	Phases

T: Then, the last activity we will do practice.	dA1	Prepare
S1: Miss.....		Reject
T: There will be no assignment, but instead I give you a link to game. SO, I will give you instruction to do the game. Question before that, Gazi?	A1	

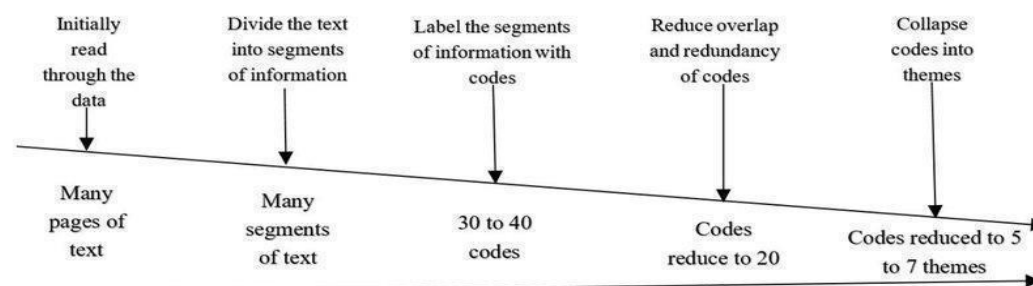
The table above showed the way an exchange was analysed. After transcribing the dialogue, the role of each speaker was decided, whether it was action or knowledge. Then, the phase of learning activities was also decided.

1.4.2 Analysis Data from Interview

The last data collection was the interview with teachers. The data consisted of the interviews with two teachers of lower and upper elementary school. The questions were arranged based on a variable of pedagogic register analysis which was pedagogic activities.

The interviews were analyzed using inductive thematic analysis to find out the question of how the teachers engage students in online interactions. An iterative process of reducing the database to a small set of themes or categories was employed in the procedures of conducting thematic analysis (Creswell, 2013). It consists of three steps of coding, which are open coding, axial coding, and selective coding (Creswell, 2014). The steps of coding can be seen in Figure 3.1 below.

Figure 3.4
Coding System



In the beginning of data analysis, open coding takes place to conceptualize and categorize data. Creswell (2014) state that open coding refers specifically to naming and categorizing phenomena through close examination of data. They add that open coding breaks down the data into discrete parts, precisely examined, compared for similarities and differences, and questions are asked about the phenomena as reflected in the data. Then, the phenomena were named and categorized.

Axial coding is the process of connecting the categories on the open coding to their sub-categories (Creswell, 2014). This coding focuses on determining a phenomenon in terms of the conditions that give rise to it. Creswell (2014) adds that axial coding was employed to re-integrate and arrange descriptive codes based on their interrelationships. In this research, the data were categorized and connected to their sub-categories related to pedagogic activities, a variable of pedagogic register analysis.

Selective coding is the process of pointing to the main categories validating the connection and filling in the categories that need additional improvement (Creswell, 2014). In this research, the main categories refer to the five phases of pedagogic activities of pedagogic register analysis.

The table 3.4 below illustrates the transition between open coding to axial coding. Open coding contains keywords from the analysis data of the interview. These keywords were categorized and described in axial coding.

Table 3.4

The Example of The Transition Between Open Coding to Axial Coding (following Damayanti, 2020).

Open codes	Axial codes	
	Categories	Properties
Syllabus, learning objective	Teaching material preparation	Factors that become references for learning process
Tell the benefits, give sentence, give picture	Task preparation	Activities that prepare students before receiving task

The combination of these codes produced a group of data under extensive conceptual categories (Creswell, 2013). Then, after the axial codes were discovered, the selective codes and generating themes were decided. The table 3.5 below illustrates the transition among open codes, axial codes, selective codes, and generating themes.

Table 3.5

The Transition among Open Codes, Axial Codes, Selective Codes, and Theme.

Open Codes	Axial Codes	Selective Codes	Themes
Syllabus, learning objective	Identifying the preparation of teaching material	Preparation Phase	Students' engagement in online learning environment
Give stimulation, describe picture	Providing specific activities before giving task	Focus Phase	
Complete sentences, fill the blank, draw, find things related to the topic, do the worksheet, make video, describe things, present	Listing of tasks in online learning	Task Phase	

From the table above, the open and axial codes were categorized into selective codes. The selective codes were taken from the five phases of pedagogic activities of pedagogic register analysis.

3.5 Concluding Remark

This chapter has presented a brief discussion of the methodology used in conducting the research, including research design, research site and participants, data collection, and data analysis. In the next chapter, the data analysis was presented by connecting it to the literature in chapter 2.