

## **CHAPTER III**

### **RESEARCH DESIGN**

This chapter presents methods that used in this research, the research design, data preparation (participants, types of data, source of data, and inform consent), data collecting technique, data analysis, and trustworthiness of the research are included in this chapter.

#### **1.1. Research Design**

Akhtar (2016) defined research design as a plan of the proposed research work'. Since this research is concern to investigating the phenomenon on how TPACK framework used during Microteaching performance, qualitative approach will be employed to capture it. Qualitative approach is an interpretative and humanistic approach in understanding such human beings' experiences (Jackson, Drummond, & Camara, 2007). According to Creswell (2014) Qualitative approach is presented in words, drawings and designs and having data analysis in a unique way. Therefore, the researcher will present the data of particular phenomena in form of words.

This research focuses on the analysis of TPACK framework to integrate technology during Microteaching performance. The researcher explores the perspective, behavior, experiences from the EFL pre-service teachers in implementing TPACK framework during Microteaching performance. Further, the steps in conducting a qualitative approach include: data preparation, data

collecting technique, data analysis, and data trustworthiness. Therefore, the outcome of the study presents the detail explanations from the phenomena in this study.

## **1.2. Data Preparation**

In data preparation, the researcher address several points include the research setting, the participants of the research, types of data, source of data, and informed consent.

### **1.2.1. Research setting and participants**

The research setting is the place or environment where the phenomenon is being studied, while participants are chosen to be involved and contributed in this study. As identified by Miles & Huberman (1994) in Creswell (2014) that the setting refers to the area of the research took place, while participants or actors who are interviewed and observed by the researcher. In this research, the researcher conducted the research in Microteaching course at English Language Department, Faculty of Psychology and Socio-Cultural Science, Islamic University of Indonesia who use TPACK framework. The decision to choose the class (Microteaching) was made by considering that Microteaching class fits the requirements and needs of the recent study. In addition, in Microteaching the EFL pre-service teacher have their teaching practice which can be considered to implement any approaches or strategies in their teaching practice such as TPACK framework. The participants come from EFL pre-service teachers who participated in Microteaching class. There are four classes of this course, class A, B, C, and D. These classes consist of 28

meetings in a semester which conducted twice a week. The participants in this research included two EFL pre-service teachers (one male and one female) in Microteaching class. Since this research is used purposeful sampling technique therefore, these participants were chosen based on their engagement and cooperativeness in classroom which expected to give rich data upon their views and understanding about TPACK framework during microteaching performance where they attend. Besides, the participants were categorized based on high performance and average performance in their teaching practice. It is expected to capture both performances of the whole EFL pre-service teachers in four classes of Microteaching subject. The categorization was made based on the consideration of the overall EFL pre-service teachers' grades in Microteaching class. Thus, the data can be categorized into two namely a high level and average level. It can be seen in appendix 2.

### **1.2.2. Types of Data**

According to Creswell (2012) the nature from qualitative data were varied. All can be obtained through observations, interviews and questionnaires, documents, and audiovisual materials. While in this research, the data were gained from interview transcripts, observation, and document analysis. In observation session, the researcher will conduct video observation of Microteaching class then transcribe the video into sequences according to the themes of the research. Hence, the researcher will conduct face to face interview with the participants. In terms of document analysis, it comes from

any document related to the use of TPACK framework during Microteaching performance to support the data. The data is in the form of descriptive text.

### **1.2.3. Sources of Data**

In this study the data was gathered from the participants and sources. The researcher applied the purposeful sampling to select the participants in order to provide rich information related to the study. The participants in this study were two EFL pre-service teachers which consist of one male and one female who participated in Microteaching class at English Language Department, Faculty of Psychology and Socio-Cultural Science, Islamic University of Indonesia. The primary data was gathered from in-depth interviews with the participants, while the secondary data came from observation and document analysis. The observation is consisting of participants' performances during Microteaching performance and document are consisting of participants' lesson plans, teaching materials and self-reflections (feedback). Finally, the data collection is done by achieving data saturation.

### **1.2.4. Informed Consent**

After deciding the setting, participants, type of data, and source of data, the researcher needs to do the next process which is to gain permission in the form of informed consent. Since the researcher is one of the students in English Language Department of Islamic University of Indonesia, the issue of informed consent is not an obligation. Therefore, the researcher gain permission to observe the class is easier. However, the issue must to be paid attention in terms of gaining permission for the participants in this research.

The researcher should inform the participants to be involved as the interviewees. In this case Wiles, *et al.* (2005) argued that researcher should consider many things such as in providing information related research that will be conducted, approval to engage in the research, as well as the time execution. Thus, clear information related to the research is necessary for participants in order to provide them with brief understanding from the objective of the research.

### **1.3. Data Collecting Techniques**

Data collecting approach involves observation, interviews and questionnaires, documents, and audiovisual materials (Creswell, 2012). Similarly, Creswell (2014) argued the data collection presents how the researcher limits the issue of discussion in the research and gathers information through structured or unstructured interviews and observations, documents, and other materials. In this research, the researcher applied in-depth interview, conducted video observation, and analyzed the documents which gathered from multiple techniques of data collection. Hence, in this research the researcher use interview as the primary data while lesson plan, teaching materials, and EFL pre-service teacher's self-reflection on teaching practice used as document review to compare with interview transcript and observation.

#### **1.3.1. In-depth Interview**

Interview is a method to collect data from participants directly about various aspects such as experience, assessment and others (Showkat &

Parveen, 2017). In this research, the researcher applied semi-structured interview in order to gain the data from the participants about the phenomena. Hence, in-depth interview model was applied in this research to gain dept information from the participants in this research as Showkat & Parveen (2017) stated that in-depth interview is a process of seeking more information about a phenomenon being studied. The interview involved two EFL pre-service teachers. In the interview session, these participants need to answer several questions related to their views on TPACK framework to integrate technology in microteaching class. The interview questions consist of 20 questions which involve TPACK framework and microteaching in teacher education variables as shown in table 3.1. Furthermore, the researcher used bilingual during the interview in order to get more information from the participant easily and deeply.

**Table 3.1** Interview Questions

Construct	Conceptual Definition	Component	Interview Question
Technological Pedagogical Content Knowledge (TPACK)	Technological Pedagogical Content Knowledge (TPACK) is one model of framework that integrates the three components in it including content, pedagogy and technology (Mishra &	Technology	<ol style="list-style-type: none"> <li>1. Is it important to integrate technology, pedagogy, and content together into your teaching? Why? What did you think of it?</li> <li>2. What types of technology that you used to teach in your</li> </ol>

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Koehler, 2006).

teaching practice?

3. How did you believe those types of technologies could maximize your students' learning?

4. Were those technologies helpful for your students? How helpful it is?

5. Were those technologies challenging for your student? How challenging it is?

6. How did you minimize those challenges?

Pedagogy

7. What is your strategy in combining the knowledge of technology, pedagogy, and content into your teaching? Why did you combine those strategies in such a way?

	Content	
		<p>8. How did you include content of ELT into your teaching?</p> <p>9. How did you think the content (you have mentioned) in ELT would facilitate your students' language learning? in what way?</p>
<p>Microteaching in Teacher Education</p> <p>Microteaching is a short teaching session with limited people involved and more simplified aspects applied. Microteaching occurred in three or four distinct stages: 'the briefing', 'the teach', 'the critique', and 'the reteach'. (Wallace, 1991)</p>	<p><i>The Briefing</i> (of Microteaching with TPACK Implementation)</p>	<p>10. How did you prepare your teaching with TPACK in mind?</p> <p>11. Did you find any difficulty during preparing your teaching while implementing TPACK framework? What are they? Explain!</p> <p>12. How did you overcome those difficulties?</p>
	<p><i>'The teach'</i> (of Microteaching with TPACK Implementation)</p>	<p>13. How did you teach your students while implementing TPACK framework in the class?/What kind of activities did</p>



you use?

14. How did TPACK framework facilitate your teaching?

15. Did you think those opportunities (you have mentioned) while implementing TPACK framework have helped achieve your teaching-learning objectives?/ have helped your students to learn better?

*The critique (of Microteaching with TPACK Implementation)*

16. How was the teaching evaluation done in your microteaching class with regard to your use of TPACK framework in your teaching practice sessions?

17. What kinds of feedback did you get from your peers or lecturer after implementing TPACK framework in your teaching?

- 'The reteach'* (of Microteaching with TPACK Implementation)
18. How did you prepare your second teaching practice as you re-implement the TPACK framework?
19. How was your teaching practice of *'re-implementing'* the TPACK framework in this stage? Did it reach the criterion or met the evaluator's expectation? How?
20. Overall, based on your knowledge and experiences, what would make of an effective TPACK implementation?
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### 1.3.2. Observation

The secondary data came from observation. Observation is one of the data collection techniques where researcher is directly involved to observe the conditions of members of a daily culture in order to understand the behavior of those members (Kawulich, 2005). In this context, the observation is done by observing EFL pre-service teachers' performances in Microteaching class. In this case, the researcher observed the performances of EFL pre-service

teachers through a video. During a video observation the researcher took notes to be used in analyzing the data.

### **1.3.3. Document Analysis**

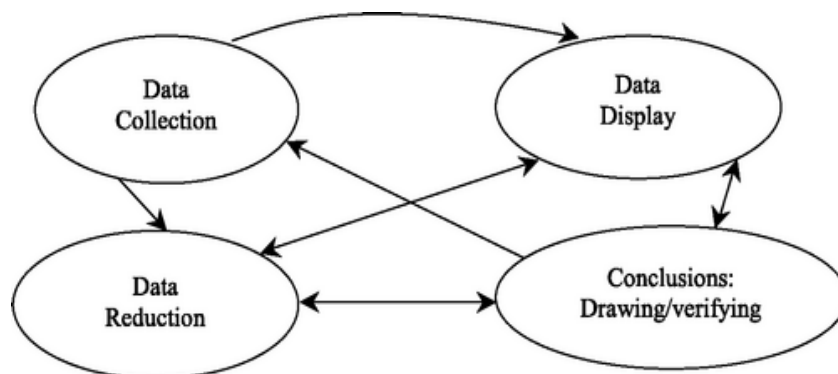
Document analysis is a systematic way used to analyze documents (printed or electronic) (Bowen, 2009). In this research the researcher used document related to Microteaching class including the participants' lesson plans, teaching materials, and their self-reflections during Microteaching performance. The document analysis is used to synchronize the participants' results of interview and all documents above.

### **1.4. Data Analysis**

The data analysis is done by analyzing the results from interview transcripts, observations, and document analysis through qualitative method. Data analysis is needed in order to understand the data both text and image which are displayed separately through multiple segments and re-merge them together (Creswell, 2014). In this research, the researcher applied a general thematic analysis approach based on the model by Ritchie and Spencer (1994) to organize the data. Lacey & Luff (2009) argued through a general thematic analysis approach it can presents a systematic analysis framework for the analysis process. The stages are including transcription, organizing data, familiarization, coding, and themes. In transcription stage the researcher transcript the data of interview from audio or video recording. After transcription, the researcher organized the data in the form of units based on the results of interview. The next step is familiarization which includes the

process of listening the audio or video recording and re-read the transcription to be familiar with the data. Then do coding of the interview transcripts to group the data based on its commonality before the final process of analysis. Finally, the researcher developed themes based on the participants' responses in interview.

In addition, the data will be analyzed through the three stages of interactive model by Miles and Huberman (1994) where the data gathered from interview, observation and document. These steps are data reduction, data display, and drawing conclusion (see Figure 3.1).



**Figure 3.1** Components of Data Analysis: Interactive Model (adopted from Miles & Huberman, 1994).

#### **1.4.1. Data Reduction**

In this research the data is gained through interview, observation and document. Those data are still complex, therefore it should be reduced based on the needs of this research. The data reduction process is done by the process of focusing, managing, simplifying, documenting and sorting data (Onwuegbuzie & Weinbaum, 2016) which in this research were gained from interview transcripts.

In other words, only data that appropriate to the interview question in this research will be used while the inappropriate data will be discarded.

The result of the interview, observation and data analysis were changed. There are many ways in reducing data such as through summary, selection, or any varied forms (Miles & Huberman, 1994). Then, the interview recording was changed into verbatim form; observation result was also turned into verbatim form, while data analysis was arranged into documents.

#### **1.4.2. Data Display**

After reducing data which become the first phase of data analysis model, the researcher displays the data in order to gain clear and organized information. Miles and Huberman (1994) defined data display as a process of structuring data that can produce conclusions or actions. Thus, through data display process, the researcher can easily analyze data to find out what is happening and to determine what decisions to do further. There are many types of data display such as text, matrices, charts, graphs, and networks (Miles & Huberman, 1994), while in this research the researcher applied narrative text and table.

#### **1.4.3. Conclusion Drawing or Verification**

The last step of analysis model based on Miles and Huberman (1994) is conclusion drawing. Conclusion drawing or verification is an ongoing process of the two previous stages, namely data reduction and data display (Miles & Huberman, 1994). This step is including the process of answering the research problem. In this research, the researcher first determines the variables which are

then analyzed through the reduction and display process. The last stage is the conclusion drawing to find out the final results or conclusion of the research. Hence, the conclusion is in the form of description from the object of the study.

## **1.5. Trustworthiness**

One step that must be done to determine the validity of a research and present a case is through the process of trustworthiness (Shenton, 2004). In this case trustworthiness is checked through four criteria namely credibility, transferability, dependability, and conformability.

### **1.5.1. Credibility**

Shenton (2004) defined that credibility is internal validity where researcher test what is actually happens. According to Merriam, Lincoln, and Guba as stated in Shenton (2004), credibility relates to the relationship between the facts found in the research with the real situation, so the credibility of both can result trustworthiness. There are several ways that researcher can apply to test the credibility of the findings they have obtained. In this research, the researcher used triangulation to check the validity of the findings. In addition, the types of triangulation included different individuals, types of data, theories, and methods to collect the data. The researcher applied individual interview. The interview is conducted with EFL pre-service teachers which involve EFL pre-service teachers as the primary source, observation to study those participants' behavior in the classroom as second sources, and document analysis to check any literature that suits the topic as secondary sources. The types of data are interview transcripts, lesson plans,

and participants' self-reflections during Microteaching performance. Hence, in term of theory the researcher build instruments based on the theory in the literature which suits the topic. The instruments are constructed according to Mishra & Koehler (2006) about technology integration through TPACK framework in classroom and Wallace (1991) about microteaching in teacher education, and other scholars that related to the topic. Finally, the methods of data collection are gathered from interview, observation, and document analysis to make the data saturated.

### **1.5.2. Transferability**

Merriam as stated in Shenton (2004) defined transferability as an external validation process where a finding in research can be applied to other situations or populations. Since this research investigate technology integration through TPACK framework during Microteaching performance, thus pre-service teacher or lecture can relate the result form this research into similar situation, phenomenon or characteristic. In addition, the finding from this research also can be used as the references to extend research.

### **1.5.3. Dependability**

Dependability check is done through the process of reporting the study in detail (Shenton, 2004). Besides, Shenton (2004) also argued this process aims to explain the readers about the studies that have been conducted. In this research, the researcher ensured that the results obtained are in accordance with the research question by ensuring the data collection process and data analysis. Furthermore, in order to gain triangulated findings from the research

the researcher consulted and discusses it with the thesis supervisor as an expert.

#### **1.5.4. Conformability**

Lincoln & Guba (1985) as cited in Pandey & Patnaik (2014) conformability is a process of data adjustment that has been obtained to achieve neutrality or objectivity of the data. In this study, the researcher provides all data and needs peer-review in order to provide the researcher with comment, opinion or suggestion related to data analysis. Further, the result of the study is reviewed by the lecture and thesis supervisors as the experts.