

## **CHAPTER III**

### **METHODOLOGY**

This chapter informs the details of the procedures that were adopted for this study. This chapter presents the research design, research site, participants, data collection, and data analysis. The methodology of this research would answer the research questions of challenges teachers faced in preparing learning materials for vocational students in online teaching and how they solve the challenges in preparing learning materials that meet vocational students' needs

#### **3.1 Research Design**

In regard to seeking information on challenges in preparing and providing English learning materials for the vocational classroom in the online classroom setting, this study applied the qualitative case study method. This research adopts the qualitative case study research method because the approach allows the researcher to use multiple kinds of evidence to identify a broader attitudinal and behavioral issue of this study (Yin, 2003 as cited in Kohlbacher, 2006). In addition, the use of online learning materials in vocational high school has become a case because of COVID-19 pandemic, which suddenly forces teachers to adapt to online teaching in a short time.

This case study research also adapts the content analysis approach to grasp the social situations and participants' opinions and attitudes (Drisko & Maschi, 2016; Kohlbacher, 2006) by applying inductive content analysis from Mayring (2000). The inductive content analysis is used to address the contents and themes and ideas in the text (Mayring, 2010 as cited in Drisko & Maschi, 2016). The inductive approach is often used in qualitative research as it displays the broadness of qualitative research (Yin, 2016). The inductive process is used to categorize data based on themes found from data collection. The inductive process in this study is adapted from Mayring (2000), a German scholar who developed the qualitative content analysis.

Therefore, this case study research with a content analysis could help the researcher identify and investigate challenges in preparing online learning materials and teachers' responses toward the challenges. In doing so, as supplementary data to validate the data, this research also used Hutchinson and Waters' (1987) materials evaluation.

### **3.2 Research Participants and Research Site**

This study investigated teachers' challenges in preparing online learning materials for the vocational classroom. In doing so, this study only involved four English teachers from an engineering vocational public high school in Bandung, Indonesia. Four teachers were involved as participants for this study as there was no specific ESP course for each vocational major in that vocational high school.

The participants and the research site were chosen because the school has been accredited by the state with A grade and the school often participates in students' competency competition for vocational high schools. Moreover, the site was accessible to the researcher, so it helped the researcher to communicate with participants more easily and flexibly. As for the participants, there are four English teachers on the research site. Two teachers confirmed that they have been teaching in the vocational high school for more than ten years and have participated in workshops hold by West Java English teachers' forum for years, while the others stated they have been teaching for less than five years. For the coding process, the four participants will be labeled as T1, T2, T3, and T4 that stand for Teacher no 1, and so on.

### **3.3 Data Collection**

In regards to answering the research questions of this study, to investigate challenges in preparing online learning materials for the vocational classroom, this study used two kinds of instruments that are semi-structured interviews and learning materials documents. The learning materials documents include PowerPoint slides, e-book, textbook, pdf documents, and videos. The consideration to use those data collection due to reflecting previous research on learning materials and online learning that mostly used semi-structured interviews to gather

participants' perspectives. To be specific, the semi-structured interviews allowed the researcher to gather teachers' perceptions and information of challenges in preparing online learning materials for vocational classrooms. Meanwhile, the document analysis of learning materials allowed the researcher to evaluate the learning materials made to validate the teachers' statements in the interviews.

The semi-structured interview was used to probe participants' responses about the challenges they faced while preparing learning materials. The interviews were done in one-on-one offline sessions in the research site, with applying health protocols to prevent the spread of the COVID-19 pandemic. The semi-structured interviews were recorded as Cohen and Crabtree (2006, as cited in Brown, 2020) stated that recording semi-structured interviews allowed the researcher to probe the more in-depth discussions that are not included in the prepared interview guide. Each session took about up to thirty minutes as teachers have a strict timetable.

In a semi-structured interview, the participants are seen as meaning makers, and the interview itself allowed researchers to get and conclude interpretations (Gubrium and Holstein, 2002, as cited in Brown, 2020). The instrument adopted the interview questions from Brown (2020), Liton (2015), and Widodo (2015). The questions of the interviews were chosen based on this research purpose and compiled. However, the instrument did not go through to validation from expertises.

The semi-structured interviews with English teachers were done face-to-face interviews in the research site. Each interview took about 20 to 30 minutes with several questions about challenges in preparing learning materials in the online learning environment. After the interviews were done, the recorded interviews were transcribed with the help of an online speech-to-text recognizer application, VoiceNote II. The data were analyzed with inductive content analysis to get information on what challenges teachers faced while preparing learning materials for online learning for vocational students.

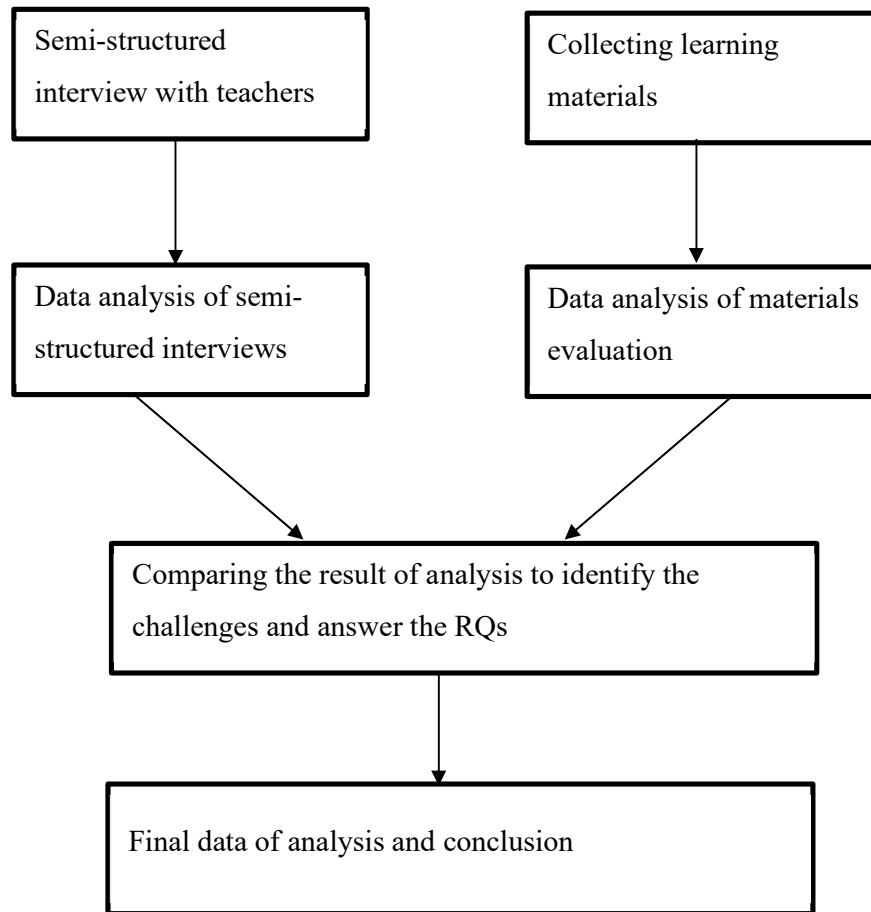
Other than interviews, learning materials prepared or provided by teachers were analyzed with Hutchinson and Waters' (1987) framework of materials evaluation and adopted the content analysis approach. The document analysis includes all learning materials provided by teachers, assessment tools, and

textbooks used in the classroom, which are PowerPoint slides, English e-books for high schools published by Indonesian Ministry of Education, English book titled *Practise Your English Competence* for 11<sup>th</sup> grade from Erlangga, videos, summary of materials in docx and pdf files, digital images used in online meetings, assignments posted in google classroom, and quiz posted in google form. The analysis was conducted to see the relevancies of the learning materials with the course so it could be used to validate the result of semi-structured interviews. In addition, the result of documents analysis was used to validate teachers' statements in the semi-structured interviews session.

### **3.4 Data Analysis**

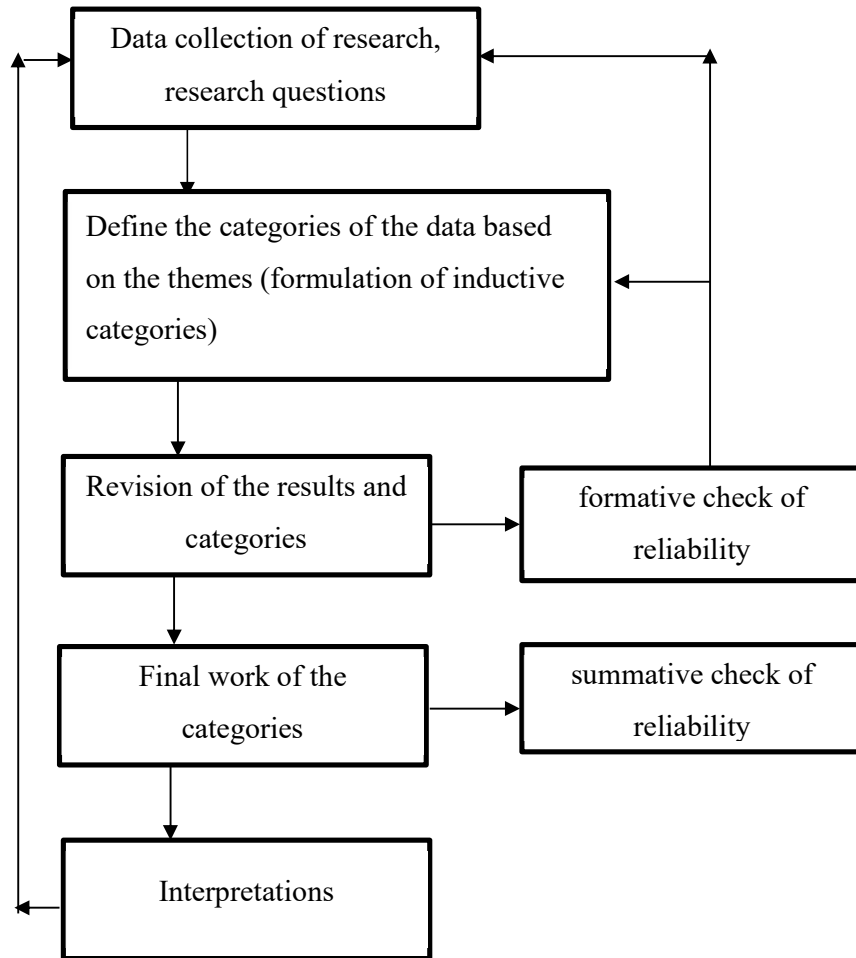
This qualitative case study research used the inductive content analysis method to answer the research questions raised. The data was collected from semi-structured interviews and documents analysis. As for the stages in this research, the analysis was divided into several segments. This subchapter is where the collected data analysis of the research is analyzed and interpreted.

The figure 1 below shows the illustration of the stages of the data analysis of this study. In the first stage, the data was gathered from the interview and all learning materials documents, and then the data were analyzed with the inductive content analysis method. In the next step, the results were interpreted, compared, and synchronized to answer the research questions of this study. Last, the researcher sums up the findings.



**Figure 1. The procedure of data analysis**

At the first stage, the researcher asked for participants' permission for the interview. The purpose of the interview is to get teachers' experiences, opinions, and responses to the challenges they encountered in preparing learning materials for the vocational classroom in the online teaching setting. The interviews were recorded with the participants' permission. The interviews' transcriptions were analyzed with the content analysis method, using inductive content analysis adapted from Mayring (2000).



**Figure 2. Step model of inductive category development (adapted from Mayring, 2000)**

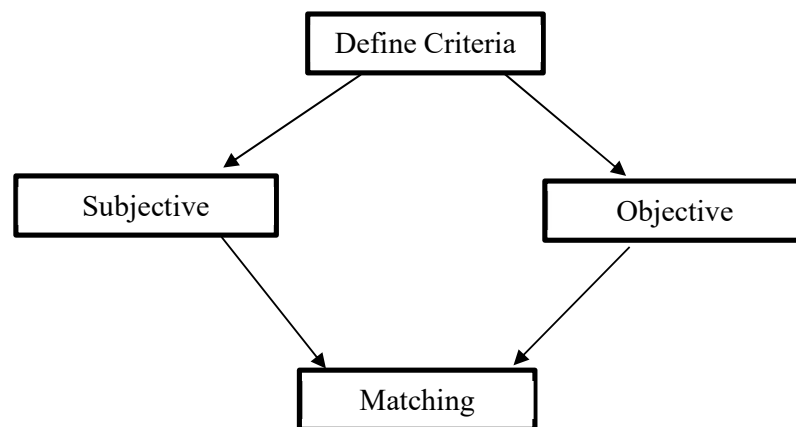
By adapting and following the step model in Figure 2 above, after the data was transcribed, the data of semi-structured interviews was decoded and categorized into two main categories, which are challenges and responses toward challenges. Then, the data were categorized into several themes, as follows:

1. Teachers' background knowledge and strategies in preparing learning materials,
2. Teachers' understanding of ICT,
3. Challenges teachers faced in preparing learning materials,
4. Platforms and sources that teachers used to prepare materials,
5. Teachers' responses toward the challenges.

After the researcher categorized the data into themes mentioned above, the data was synchronized and categorized again to answer the research questions. Furthermore, the data were categorized into two main themes, which are teachers' challenges and teachers' responses in regards to preparing learning materials for vocational high school.

After the data from the interview were gathered, the learning materials were analyzed. The analysis adopted the analysis from Hutchinson and Waters' (1987). The documents were analyzed to validate teachers' statements and see how far the materials meet the vocational students' needs.

As for the document analysis, the learning materials were evaluated to see whether the materials have met vocational students' needs or not. In doing so, the learning materials prepared by teachers were analyzed, adapting the materials evaluation process by Hutchinson and Waters (1987).



**Figure 3. Materials evaluation process by Hutchinson and Waters (1987)**

In doing so, the subjective and objective analyses of materials evaluation adapted the criteria or indicator presented by Hutchinson and Waters (1987) and reflected on several previous research of needs analysis. At first, the researcher did the subjective analysis by doing a literature review of vocational students' needs, reflecting on the researcher's experience as a vocational student, also voicing opinions of how learning materials are supposed to be. After that, the learning materials were analyzed to answer the objective analysis. The last step was

comparing the subjective and objective analysis, then awarding the result with 0 (does not match the desired feature), 1 (partially matches the desired feature), and 2 (closely matches the desired features). Therefore, the indicator worked as follow:

**Table 1. The sample of a checklist for Materials Evaluation (adapted from Hutchinson and Waters, 1987)**

Criteria	Subjective Analysis	Objective Analysis	Score
Audience	Who are the learners?	Who is the materials intended for?	
Aims	What are the aims of the course?	What are the aims of the materials?	
Contents	What language points and skill should be covered?	What language points do the materials cover?	
	What text-types should be included?	What text-types that are included in the materials?	
	What subjects or context are required?	What subjects or context that are included in the materials?	
	What types of topic needed in the materials?	What topic that mostly appeared in the materials?	
Methodology	What kinds of exercise/task are needed?	What kinds of exercise are included in the materials?	
	What teaching-learning techniques are to be used?	What teaching-learning techniques can be used with the materials?	
	What aids are available for use?	What aids do the materials require?	



After the analyses of all data were done, the researcher interrelated the themes, documents analysis, and descriptions. The researcher also interpreted the themes and descriptions and validated the accuracy of the results with other previous related studies.

### **3.5 Concluding Remarks**

This chapter has discussed the methodology of this research and the procedures of the analysis of this study. In regards to answering the research questions, this study used case study research methodology as this study investigated teachers' perspectives in a vocational high school. This case study identified challenges in preparing online learning materials for vocational classrooms and teachers' responses in solving the challenges. This research used semi-structured interviews and documents analysis in order to answer the research questions. Hence, this study also applied content analysis by Mayring (2000) and materials evaluation by Hutchinson and Waters (1987).