

CHAPTER III RESEARCH METHODOLOGY

This chapter presents the research design, site and participant, data collection and also data analysis.

3. 1 Research Design

This aims of this study were to portray the implementation of web-based courses during post-COVID 19 pandemic, the teacher's considerations in implementing it, the benefits as well as the challenges she found while implementing it in the classroom. Therefore, to fully capture it, a case study research design was employed in this study providing an in-depth picture of a person, the teacher, and social situation (Stewart, 2014). It allowed the researcher to focus on an experienced English teacher as suggested by Stake (2008) that the case study helped the researcher to concern on an "individual unit". Other reasons for choosing a case study were: Firstly, contextual Analysis: To understand how web-based courses are conducted and the considerations that go into them, these activities must be analyzed within their respective educational contexts. The case study method facilitates this by allowing for a close investigation of real-life situations. Secondly, rich data collection: The case study technique allows for the collection of rich, qualitative data through interviews, observations, and document analysis, revealing the complexities of teacher decision-making as well as educators' and students' lived experiences. Last but not least, comprehensive insights: The method's ability to thoroughly investigate complex phenomena is well aligned with the study's goal of giving a nuanced understanding of the behaviors, considerations, benefits, and challenges associated with web-based courses in the post-pandemic era.

Thus, the case study technique is the most appropriate strategy for this research because it gives depth, context, and flexibility to investigate the varied character of web-based course implementation in the post-COVID-19 pandemic educational setting. It guarantees that the study's findings are based in real-world activities, providing useful insights that might drive future educational methods and policies.

Besides, this was also in line with the purpose of the study which was intended to figure out how the teacher implemented web-based courses in the learning process during post-covid 19 pandemic, the considerations, benefits as well as the challenges faced. It enabled the researcher to have various sources for gathering the data needed including interview transcripts, classroom observation, and the website used by the teacher as the main documents to be analyzed. Classroom observation gave a real illustration of how the teacher instructs or guides the students to use the website for the learning activities. During the observation, the researcher became an outsider since she did not take part in the classroom activities, she was there to see the teacher and students' activities related to the practice of web-based courses, take notes for some important things, without having any kinds of interaction (Cresswell, 2007).

Even though the researcher might also be seen as an insider since she is also working with the teacher in the same institution making it possible for her to involve her own feelings as a friend or colleague, she did not intervene on what the teacher needs to do in her classroom. Therefore, here are some steps taken by the researcher to avoid bias; First, Methodological Triangulation: This study used interviews, observations, and document analysis. By collecting data from various sources, the researcher can compare and contrast findings to detect patterns that are consistent across methodologies, lowering the possibility that the results are influenced by a single method. Second, member checking; After completing interviews and initial data analysis, the researcher presents the findings or summaries to the participants and asks them to confirm or explain the information. This stage assists in identifying and correcting any misinterpretations, ensuring that the data appropriately reflects the participants' perspectives. Third, reflective journal; Throughout the study process, the researcher maintains a detailed reflective notebook, recording any personal reactions, thoughts, or worries that arise throughout data collection and analysis. By reflecting on these entries consistently, the researcher can detect potential biases and adapt their

approach as needed. This continual self-reflection ensures that the research is as objective as feasible.

Another source was used by the researcher to get the data is the website itself which is designed by the teacher to figure out what kind of materials, activities, or assessment included in the website that would be beneficial to the to get richer information about the practice of web-based courses in the classroom. Meanwhile, the interview transcripts was used as the result of verbal communication between the researcher and the teacher regarding the practice of web-based courses, its benefits, and challenges. Semi-structured interviews with open-ended questions were designed to help the teacher express what she had in mind more freely regarding the web-based courses conducted.

3. 2 Site and Participants

A private senior high school in Bandung was selected to conduct this study based on some criteria. First, it is based on the result of the pilot study conducted to be used as the consideration in selecting the most appropriate school for the observation—the pilot study conducted to see the general implementation of the web-based course in Bandung area. Therefore, the researcher used a questionnaire to get the information by distributing a questionnaire to English teachers in Bandung area including Bandung city, Bandung Regency, Bandung Barat Regency, and Cimahi. The questionnaire was targeted to have eighteen questions that can generate the web-based implementation during covid-19 and post-covid 19 pandemic as the main purpose of this study. The result of the questionnaire can be shown below;

Type of Web-based Course	Statement	Percentage			
		Always	Often	Rare	Never
Full web-based course (during pandemic)	I implemented full web-based course for online learning	45.7% (16 teachers)	37.1% (13 teachers)	11.4% (4 teachers)	5.7% (2 teachers)

	The frequency of web-based course implementation	51.7%	44.8%	3.4%	0%
	I created my own website to deliver materials, websites, and also assessments for the students.	3.4% (1 teacher)	0%	32.7%	64.3%
Web-enhanced course (during pandemic)	I asked the students to access materials from a website, but the instructions were delivered through other media such as online communication applications.	39% (11 teachers)	57% (16 teachers)	3.6% (1 teachers)	0% (0 teachers)
	I created my own website to deliver materials, websites, and also assessments for the students.	3.4% (1 teacher)	0%	32.3% (13 teachers)	64.3% (22 teachers)
	I used other media such as PowerPoint, poster, videos, animation, graphs, and other delivered by online communication applications such as WhatsApp and asked them to find additional materials from any websites.	32.1% (9 teachers)	60.7% (17 teachers)	7.1% (2 teachers)	0% (0 teachers)
Emergency remote teaching (during pandemic)	I distributed a module of learning materials and assessments to the students, then they needed to turn it back to school when it was completed.	10.7% (3 teachers)	32.1% (9 teachers)	28.6% (8 teachers)	28.6% (8 teachers)
	I used other media such as PowerPoint, poster, videos, animation, and etc through online communication application to give the instructions and evaluation to the students.	35.7% (10 teachers)	57.1% (16 teachers)	7.1% (2 teachers)	0%
	I used virtual conference application such as Zoom, Google Meeting, WebEx, etc, to deliver the material, instructions, and evaluation to the students without having a particular website that should be accessed by the students.	28.6% (8 teachers)	51.7% (16 teachers)	10.7% (3 teachers)	0%

Full web-based course (during the post-covid 19 pandemic)	I still implemented a full web-based course even in a face-to-face classroom.	6.9% (2 teachers)	37.9% (11 teachers)	44.8% (13 teachers)	10.3% (3 teachers)
	During post-covid 19 pandemic, I implemented web-based courses as my media to provide materials, instructions, and evaluations for the students	10.3% (3 teachers)	6.9% (2 teachers)	37.9% (11 teachers)	44.8% (13 teachers)
	During the pandemic, I invited students from other schools or regions to be involved in my online class.	3.4% (1 teachers)	20.7% (6 teachers)	17.2% (5 teachers)	58.6% (17 teachers)
	I created my own website to deliver materials, websites, and also assessments for the students.	3.4% (1 teacher)	0%	32.3% (13 teachers)	64.3% (22 teachers)
Web-enhanced course (during the post-covid 19 pandemic)	During the post-covid 19 pandemic, I combined the web-based course with traditional class with the majority of the instructions is delivered directly to the students in the physical class.	20.7% (6 teachers)	37.9% (11 teachers)	34.5% (10 teachers)	6.9% (2 teachers)
	I created my own website to deliver materials, websites, and also assessments for the students.	3.4% (1 teacher)	0%	32.3% (13 teachers)	64.3% (22 teachers)
	During the post-covid 19 pandemic, I give additional articles, videos, or texts on the website that I created	3.4% (1 teachers)	0%	32.3% (13 teachers)	64.3% (22 teachers)
	During post-covid 19 pandemic, I implemented a web-based course to provide a chance for the students to relearn the materials every time and everywhere they are.	17.2% (5 teachers)	41.4% (12 teachers)	31% (9 teachers)	10.3% (3 teachers)
	During the post-covid 19 pandemic, I implemented a web-based course for giving extra materials to the students due to the time limitation in the classroom.	6.9% (2 teachers)	31% (9 teachers)	41.4% (12 teachers)	20.7% (6 teachers)
Web-enriched Course (during the post-covid 19 pandemic)	During the post-covid 19 pandemic, I implemented a	3.4% (1 teachers)	20.7% (6 teachers)	34.5% (10 teachers)	41.4% (12 teachers)

web-based course for the students who missed the class sessions.	(1 teacher)	(6 teachers)	(10 teachers)	(12 teachers)
During the post-covid 19 pandemic, I implemented a web-based course as an enrichment for the student's independent learning.	6.9% (2 teachers)	34.5% (10 teachers)	17.2% (5 teachers)	41.4% (12 teachers)

Table. 1 The result of the questionnaire

Based on the result reflected in the table 1, it can be seen that most teachers implemented web-based course during the Covid 19 pandemic. Some of them implemented a full web-based course and web-enhanced course during that time. This is also similar to the condition in post-covid 19 pandemic where the variation of web-based course types; full web-based course, web-enhanced course, and web-enriched course are found. However, the thing that can be highlighted based on the result is the consistency of the participant who created her own website for delivering the materials, instructions, and evaluations for the students both during covid 19 pandemic and post-covid 19 pandemic. The rest of the teachers used a website created by others which is considered suitable and relevant to their teaching and learning process. Therefore, this becomes the first consideration in selecting the main participant for the study.

Besides, after having more discussions as the follow-up actions from the questionnaire with the participant, it was found that she is an experienced English teacher with more than eight years of teaching experience will be involved in this study. Her professional teaching career is in line with her educational background since she graduated from the English Education Department of a reputable university in Indonesia. She started her teaching career by becoming an English teacher for grades X and XI. But then, after years of teaching experience, she is assigned to be a homeroom teacher for a class, a supervisor for an extracurricular, and also one of peer tutors for non-English teachers. Then, she was trained to design her own website to facilitate the students to learn during the online learning caused by Covid-19 pandemic. Her consistency in designing and exploring the most suitable materials, activities, and

assessments for the website and her commitment to implementing the website encouraged her curiosity to get involved in this study. She conveyed that this study would help her reflect on what she had done so far with the website so that she could think of better possible ways that would benefit her students. Therefore, this respectable attitude towards the study was an expected matter of having good communication between the researcher and her so that the process of data gathering could run well.

Meanwhile, for the school itself, it was found that out of 120 private schools in Bandung based on Data from Data Pokok Pendidikan, Direktorat Jendral Pendidikan Anak Usia Dini, Pendidikan Dasar dan Menengah year 2022, this school has shown its commitment to facilitating students' learning activities for students with the use of the website. Besides, the school has implemented web-based courses for almost three years which is the longest period compared to the other schools. The implementation was started at the beginning of the Covid 19 pandemic in 2020, but then, it has continued until now, 2023. Therefore, it was safe to say that the school fulfilled the criteria for conducting this study.

3.3. Data Collection

3.3.1 Instrumentation

The key instruments used in this study were questionnaires for the pilot research, observation, interviews, and document analysis to enable cross-case comparison and to facilitate cross-case analysis which is beneficial to answer all of the previously specified research questions.

Observation

Observation refers to a data gathering approach that involves documenting and noting specific behaviors, activities, discussions, and interactions during an episode of interest (Mathison, 2005; Rosen and Underwood). Bush (2012) identifies this method as a valuable tool for studying leadership and management difficulties. The technique is appropriate for this study since it completes the data collection through interviews

(Creswell, 2013) and identifies how web-based courses were implemented in the classroom during post-COVID 19 pandemic (Newby, 2014).

Therefore, in this study, the teacher was observed for seven times to examine how she implemented web-based courses in the classroom as if it were a real circumstance or setting. The first observation was used to form an initial impression of web-based course implementation, the rest of the observations focused on clarifying, confirming, or strengthening what was seen or noticed. During those observations, the researcher took careful notes on any noteworthy behavior or occurrence in the classroom.

Interview

This study used semi-structured interviews rather than closed or structured interviews with Indonesian language as the main language used during the interview sessions. The Indonesian language was chosen to make the teacher more comfortable and to avoid misunderstanding between the teacher and the researcher. The interviews were semi-structured, with a guide of predetermined but open-ended questions that could be modified based on the flow of the conversation.

Additional unplanned questions could be asked to follow up on the participants' responses (Ayres, 2012; Creswell, 2014; Robson and McCartan, 2016). The interviews were topic-based, but deviations from the interview guide were permitted to prompt extra questions (Newby, 2013). The researcher used prompts and probes to guide the interview (Creswell, 2014; Newby, 2014). Therefore, the questions are designed based on the guide from Frechtling and Sharp (1997) to make the teacher talk deeply about web-based course implementation. The other thing that should be noticed about the interview is that it was divided into three sections, before, during, and after observation. However, the interview sections recorded and transcribed were after the observation interview sections. The interview that was conducted before the observation was not

recorded because it was an informal talk about what the teacher was going to do in the classroom.

Meanwhile, the during-observation interview was not recorded because it was only used to ask, clarify, or confirm any important issues found by the researcher during the class. So, it took a very short time and the information gathered will be included in the field notes.

Document Analysis

The last instrument was document analysis. The document used in this study was the website itself designed by the teacher. The website provided information regarding the materials, activities, and assessments given to the students. By meticulously analyzing the website, the researcher can have a general pattern or trends used by the participant, in this case, the teacher, in facilitating the students to learn through the website as it is recommended by Bowen (2009).

Moreover, by having those instruments involved in this study, the research questions could be answered comprehensively. The last thing about the instrumentation is that all of those instruments used in this study including the list of questions for the questionnaire and interview as well as the field note guide have been validated by an expert from the education technology field.

3. 3. 2 Procedures of the Data Collection

The first thing that the researcher did was a pilot study. This pilot study was conducted for getting general information about the implementation of web-based courses for teaching English at schools in Bandung area. The areas included were Bandung city, Bandung Barat Regency, Bandung regency, and Cimahi. The information about web-based courses implementation was gathered from a questionnaire distributed to English teachers in those areas. The questionnaire was designed to be *main-topic-based survey* which was generally open, short, clear, and unambiguously adapted from Braun, et al (2011). The result of the questionnaire which

was similar to the result of the pilot study gave information about how web-based courses was implemented by most English teachers in Bandung area and it also became major consideration for choosing the site and participant of this study. After distributing and analyzing the result of the questionnaire, the researcher continued to the next step called pre-observation interview stage. Before the observation, the researcher asked several questions regarding the web-based courses implementation and also the teacher's lesson plan for the class. This interview allowed the researcher to have background knowledge on what activities the class had and how the web-based course will be implemented and integrated with the materials prepared.

Then, the first observation was conducted. During the observation, if there is something urgent to be clarified or confirmed, the researcher asked to the teacher directly. However, the major activity that the researcher did during the observation was taking notes on some important things beneficial for answering the research questions or getting beyond those questions. After having the observation done, the participant was followed up by an after-observation interview session. This time, the interview focused on getting, clarifying, confirming or even strengthening particular issues or occurrences that happened during the observation and all the things available on the website.

All of the activities from the pre-observation interview, and observation, to the after-observation interview, were also repeated in the second, and third observation phases. Then, the website was also analyzed to get the information about what was included in the website made by the teacher. The last thing done was facilitating the participant to review the data that had been analyzed. This was used to know her perception of the result that was going to be presented so that misunderstanding or misinterpretation of the data gathered could be avoided.

3. 4 Data Analysis

This study used a thematic analysis approach to generate themes from the various sources of data starting from making the researcher familiar with the data,

making sense of the whole database and reflecting on their overall meaning, generating and organizing the data by labelling them, going beyond the data to extract meanings from the data, and the last stage is constructing the data (Creswell, 2014). The process might be described as follows;

1. Familiarization with the Data

This stage suggested the researcher to become very familiar with the data. This entails reading and rereading data, such as interview transcripts, observation notes, and also the website as the document to be analyzed to acquire a thorough understanding. The researcher takes notes on early thoughts, concepts, and potential codes that may emerge from the data.

2. Generating Initial Codes

The second stage was generating initial codes meaning that the data was systematically categorized by labelling to the relevant elements. The labels represented important aspects of the data. The researcher highlighted any information related to the practice of web-based course, the considerations, benefits and the challenges faced by the teacher. Therefore the overall initial codes used were *Practice*, *Considerations*, *Benefits*, and *Challenges*.

3. Searching for Themes

In this stage, the researcher identified the initial codes and searched for the most appropriate themes. The first theme from *Practice* label was broken down into several themes such as Full web-based course, Web-enhanced course, and Web-enriched course. Meanwhile, the second label *Considerations* was specified into three themes called learning goals, technical resources, and students' interests and needs. The next *Benefits* label was broken down into several themes such as authenticity, capability, durability, and transparency. Then, the

last label, *Challenges*, was divided into two themes; connectivity and time management.

4. Reviewing and Defining Themes

Once potential themes have been found, they are evaluated and refined. This step includes two levels of review:

Level 1: Reviewing the themes in connection to the coded data extracts to ensure they follow a consistent pattern.

Level 2: Examining the themes in connection to the complete data set to ensure they capture the overall story of the data.

5. Integration of Data from Different Sources

Here is the procedure of data integration conducted by the researcher;

- Cross-Referencing Codes: Codes from several data sources such as observation, interview, and document analysis were compared to detect similar trends and discrepancies. This helped to ensure that the themes were robust and not source-specific.
- Triangulation was the process of analyzing and contrasting data from several sources to ensure the consistency of themes. This improved the validity of the analysis.
- Synthesizing facts: Themes were created by combining information from numerous sources to ensure that they accurately represent the facts. This included combining similar themes from several sources or emphasizing differences that provide useful insights.

6. Producing the Report

The final stage was to create a report that conveyed the story of the data using the discovered themes. The report contained thorough descriptions of each

theme, accompanied by data extracts, and explained how the themes met the research questions.

1.5 Ethical Considerations

This study was committed to maintaining the highest ethical standards throughout the research process. Ensuring the rights, privacy, and well-being of all participants is critical. The following ethical considerations were carefully considered during the design and implementation of this study.

1. Informed consent.

Informed consent was an essential component of ethical research practice, and this study had taken all required precautions to ensure that participants were fully informed of their participation in the study. The participant received a detailed description of the study's aim, procedures, and any potential risks or benefits connected with participation. This information was given via an information sheet and a consent form, both of which were written in simple and understandable English.

2. Confidentiality

Maintaining the confidentiality of participants' data was an important feature of this study. To preserve all participants' privacy, personal identifiers such as names, locations, and other identifying information were anonymized during the data gathering and reporting processes. Pseudonyms were used to ensure that no individual participants could be identified in published results. All data gathered, including interview recordings and transcripts, was securely stored on password-protected devices and encrypted digital platforms. Any physical data copies were maintained in lockable cabinets that only the research team had access to. The participants' confidentiality was maintained throughout the study, and only anonymized data was shared with third parties such as peer reviewers.

3. Protection of Participant Rights.

The rights of participants were important to the design and implementation of this study. Participants were informed that they might withdraw from the study at any moment, and this choice was reaffirmed throughout the data collection procedure. The study was intended to minimize any potential harm or pain, with special care used when discussing delicate themes. Participants had the option of skipping questions or pausing the interview if they were uncomfortable. A debriefing process was also created, during which participants were educated about the study's results and how their data will contribute to the research conclusions. This helped to ensure transparency and that participants had a clear knowledge of the study's objectives.

4. Ethical approval.

Before conducting this study, ethical approval was requested and granted from the school and the participant. The research proposal submitted for approval described the procedures used to gain informed consent, maintain confidentiality, and protect participant rights. The trial was subject to continual ethical review, which allowed any emergent ethical problems to be addressed quickly. By following these ethical guidelines, the study not only protected participants' rights and well-being, but also maintained the integrity and credibility of the research findings. These indicators demonstrated the commitment to conducting research in a courteous, responsible, and ethical manner.

