

CHAPTER 3

RESEARCH PROCEDURES

This chapter presents the methodology employed in this study. It describes seven parts of research procedures: the research method, setting and participants, data collection, data analysis, steps of the research, and research schedule.

A. Research Design

A descriptive case study was performed as a method in this investigation. A case study is an empirical investigation that examines a contemporary event in its real-life environment, particularly when the limits and contexts are not easily understood, according to Yin (2014) (p. 16). Furthermore, a descriptive case study aims to explain a phenomenon in its actual setting, according to Yin (2018). The case study approach was selected because it makes it the easiest to develop a thorough, in-depth understanding of the subject under study. Research using case studies can interact with the intricacy of actual occurrences (Stake, 1995). Furthermore, this research examines students' perceptions of using the Cake Application in English language learning for their self-directed learning.

B. Research Setting and Participants

This research was conducted at one of the junior high schools in Tasikmalaya, West Java, Indonesia, during the researcher's school-based internship program. There were three participants in this research. The participants were purposely chosen based on some characteristics, namely: The participants had prior experience using the Cake application for 2-4 months to support their self-directed English learning. Their motivation for using the app stemmed from a perceived lack of English proficiency, and they considered the application helpful. Based on this experience, they agreed to take part in the research. They were also chosen irrespective of their gender. Moreover, the chosen participants could give sufficient information to answer the research questions.

This study ensured that all ethical aspects were addressed correctly. The participants were informed about the purpose of the research and the procedures involved. They gave their informed consent voluntarily before taking part in the

study. They received guarantees regarding their privacy, anonymity, and the flexibility to withdraw from the study at any time without any consequences. All data collected was treated confidentially and used solely for research purposes. The participants' identities were changed to P1, P2, and P3. Additionally, the participants were notified beforehand of the dates and times for the interview.

C. Data Collection

In collecting data, the researcher used a semi-structured interview in this study. Semi-structured data were used due to their adaptability, which balanced the limitations of statistical analysis. It allows participants to express their ideas and highlight areas of special interest and abilities they possess. Its method of inquiry provides incredibly comprehensive descriptions of actual experiences (Howitt, 2016). Furthermore, a semi-structured interview was applied to investigate junior high school students' perception of using the Cake Application in English language learning toward students' self-directed learning using several questions adapted from Douglass and Morris (2014).

The interview was held in the participants' native Indonesian language, allowing them to freely express their opinions without potential language barriers and avoiding misunderstandings or miscommunications. Furthermore, the interview was arranged face-to-face with the participants. The data were also transcribed to emphasize the statements significant to the research issues of the study. To obtain valid and meaningful data, the researcher conducted the interview twice. The first interview was carried out to gather initial responses regarding students' experiences in using the Cake application. However, the responses in the first session were still general and lacked clear indicators of self-directed learning (SDL). Some answers were also inconsistent or too vague to be analyzed effectively. After evaluating the results, the researcher decided to conduct a second interview to gain deeper insights. In the second session, the students were able to provide more detailed explanations related to their English language improvement as well as their self-directed learning behaviors, such as how they set goals, selected learning materials, and evaluated their own progress while using the application.

To ensure the validity and credibility of the data, several techniques were applied. These included data triangulation, by comparing responses among participants; member checking, by confirming and clarifying responses with the students; and designing interview questions based on established indicators, particularly focusing on perceived usefulness, perceived ease of use, and self-directed learning. These steps were taken to ensure that the data collected were trustworthy, relevant, and aligned with the objectives of the research.

D. Data Analysis

In analyzing the data, this study sets up a thematic analysis by Braun and Clarke (2006). According to Braun and Clarke (2006), thematic analysis is a tool for systematically identifying, organizing, and offering insight into patterns of meaning (themes) across a data set. While other specific analysis methods are inextricably linked to particular theories, thematic analysis can be employed with any theory chosen by the researcher. Due to its adaptability, thematic analysis makes the data description rich, detailed, and complicated. Several steps are taken in conducting thematic analysis, as follows:

1. Familiarizing with the Data

In this step, the researcher familiarized herself with the data by reading it several times. Before that, the data were presented as audio recordings of interviews, so the researcher had to listen to them, transcribe them, and read the transcribed results.

2. Generating Initial Codes

In the second step, the researcher began to arrange the data by assigning codes to the data related to the study's aim. The researcher used the coloring method to differentiate each aspect indicated by participants, which generated the initial codes. Furthermore, the researcher related the data based on the aim of the research and then categorized it using initial codes (Speaking correction feature, Helpful in pronunciation, Provides video and subtitle, Attractive application design, Interactive learning through mini games, Gain new vocabularies, Adjusting English level material, and Flexible in choosing topic) that were colored (Green, Blue, Purple, Light magenta 2, Light purple 3, Light green 3, Red berry, Light red berry

3) to highlight the students' perceptions toward the use of Cake Application in English language learning to their self-directed learning.

Table 2 *Generating Initial Codes*

Interview Data	Codes
P1 : Di fitur speaking, aku bisa ngerekam suara dan nanti Cake kasih nilai pengucapan aku. Kalau salah, bisa dicoba ulang sampai bagus. Itu membantu aku memperbaiki cara ngomong aku. Terus itu ada fitur yang kalau kita kirim video itu bisa ada scriptnya orang itu ngomong apa.	Speaking correction feature Helpful in pronunciation Provides video and subtitles
P2 : Jujur aja, iya. Soalnya tampilannya warna-warni dan ada semacam badge kalau kita rajin belajar tiap hari. Rasanya kayak dapet reward gitu. Jadi aku sering keinget buat buka aplikasinya tiap hari, lumayan mengisi waktu luang dan mini games nya seru bisa buat nambah kosakata baru.	Attractive application design Interactive learning through mini-games Gain new vocabulary
P3 : Bisa disesuaikan kok. Aku tinggal pilih level Beginner soalnya masih belajar dasar. Terus bisa milih juga topik yang aku suka, kayak video game atau action movies.	Adjusting the English level of the material Flexible in choosing a topic

The participants' interview transcription showed that 16 initial codes represented different aspects. Here is the list of initial codes and their frequency.

Table 3 *List of Initial Codes and their Frequency*

No.	Initial Codes	Total
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1.	Gain new vocabulary	5
2.	Provides video and subtitles	2
3.	Helpful in pronunciation	7
4.	Speaking correction feature	3
5.	Flexible study plan	2
6.	Adjusting the English level of the material	2
7.	Flexible in choosing a topic	3
8.	Many video recommendations	3
9.	Interactive learning through mini-games	2
10.	Provides contextual learning	2
11.	Helpful in listening	1
12.	Provides native conversation	1
13.	Easily understand	2
14.	Feel more confident	1
15.	Attractive application design	1
16.	Learning flexibility at home	1

3. Searching for Themes

In this step, the study selects the transcript of the interview data and looks for anything remarkable or engaging about the data from the nine interview questions. The researcher then analyses and coordinates the data and codes all related data for each theme into relevant themes.

Table 4 Searching for Themes

No.	Initial Codes	Potential Themes
1.	Gain new vocabulary Provides video and subtitles Helpful in pronunciation Provides contextual learning Helpful in listening Provides native conversation	Language skill development through the Cake Application
2.	Adjusting the English level of the material Flexible in choosing a topic Many video recommendations	Flexibility learning access
3.	Speaking correction feature Interactive learning through mini-games Attractive application design	Engaging and interactive features in the Cake Application
4.	Flexible study plan Easily understand Feel more confident Learning flexibility at home	Personalized learning using the Cake Application

4. Reviewing Themes

In this step, the researcher reads all the data for each theme to ensure the codes have been grouped into the appropriate theme. In reviewing themes, the researcher refers to the learning by the Technology Acceptance Model (TAM) by Davis (1989), which consists of Perceived Usefulness (PU) and Perceived Ease of Use (PEOU).

Table 5 Reviewing Themes

No.	Potential Themes	Themes
1.	Language skill development through the Cake Application Personalized learning using the Cake Application	Perceived Usefulness of Cake Application
2.	Flexibility learning access Engaging and interactive features in the Cake Application	Perceived Ease of Use of Cake Application

5. Defining and Naming Themes

The researcher defined and named the theme based on the data obtained to answer the research question.

Table 6 Defining Themes

No.	Definition	Themes
1.	Perceived Usefulness refers to how participants believe and feel using the Cake App can improve their English language learning skills. This includes the app's ability to improve specific language skills such as new vocabulary, pronunciation, listening comprehension, and speaking accuracy, and its role in providing a personalized, fun, and practical learning experience customized to individual goals.	Perceived Usefulness of Cake Application
2.	Perceived Ease of Use describes the extent to which participants found the Cake App easy to access, navigate, and use in their daily English learning routine. This reflects the app's intuitive interface, flexible learning options, and engaging features	Perceived Ease of Use of Cake Application

(e.g., mini-games, video content, and subtitles), minimizing the effort needed to learn and encouraging consistent use.

E. Research Schedule

As shown in the table, this study was conducted from September 2023 to July 2025. It took place in one of the junior high schools in Tasikmalaya, where the learners study their formal education. Below is the researcher's research schedule.

Table 8 *Time and Place of the Study*

No	Description	Sept 2023	Oct 2023	Nov 2023	Apr 2025	May 2025	Jun 2025	Jul 2025
1.	Research proposal writing							
2	Research proposal examination							
3	Data collection							
4	Data analysis							
5	Thesis Result Seminar							
6	Thesis Examination							