

CHAPTER III

RESEARCH METHOD

This chapter explains the research methodology used in this study. It describes the research design, participants, research instruments, data collection procedures, and data analysis techniques employed to answer the research questions.

A. Research Design

The method to be used is Explanatory Sequential Design with a mixed methods approach. This approach follows two phases of data collection, namely quantitative and qualitative (Creswell, 2018). It starts with the quantitative phase, which focuses on discovering patterns or relationships in the data, while the qualitative phase explains or expands on the findings from the previous phase. Quantitative data contains student engagement, motivation, and student interaction when using QR codes in English textbooks, that collected in the first phase by giving questionnaires to students. In the second phase, English teacher was interviewed regarding their experiences and perceptions in integrating QR codes in the classroom and the corresponding teaching strategies.

This qualitative phase provided more detailed insights into the quantitative findings and thus enable a comprehensive understanding of how QR code integration affects teaching strategies and classroom interactions in the context of the Independent Curriculum.

B. Research Setting

This research was conducted over two days, on November 26, 2025, in Class XII-B and on November 27, 2025, in Class XII-C at Yabis Integrated Islamic Senior High School in Bontang. The interview was conducted with the English teacher of Class XII-C after the classroom learning activities.

Yabis Integrated Islamic Senior High School was selected as the research setting because it has implemented the Independent Curriculum and integrated QR Codes into English learning books as part of the teaching and learning process. The school was considered suitable for this study since the English teacher had experience in utilizing QR Codes to support classroom instruction through digital learning resources such as audio materials and supplementary content. In addition, the students had been familiar with the use of QR Codes during English lessons, allowing the researcher to investigate their perceptions and classroom interactions based on actual learning experiences. Therefore, this school provided an appropriate setting to explore both the effects of QR Code integration on students classroom interaction and the teaching strategies employed by the teacher in implementing QR Code-based learning.

C. Research Subjects

This research involved 12th-grade students at Yabis Integrated Islamic High School, which has three classes: XII-A, XII-B, and XII-C, with a total of approximately 96 students. The participants in this study consisted of only two classes, namely XII-B and XII-C, with a total of 62 students. For quantitative data collection, the sample will consist of 34 students from class XII-B and 28 students from class XII-C.

Meanwhile, for qualitative data collection, the sample consists of one teacher the English teacher who was interviewed.

D. Research Instruments

This research used a mixed method which is Explanatory Sequential Design so that, there are 2 research instruments :

1. Questionnaire

The questionnaire was shared via WhatsApp groups in the form of a Google Form, which utilised the QR codes found in their English learning book. The questionnaire consisted of 15 questions designed to examine the students experiences of using QR codes, their motivation for learning English through the integration of QR codes, and their perceptions of the effectiveness of QR codes in improving both their listening and speaking skills. In addition, the questionnaire collected data on students experiences of using QR codes in the learning process. A five point Likert scale, ranging from “Strongly

Disagree” to “Strongly Agree”, was used to measure participants responses and to support the statistical analysis.

2. Interview

An English teacher in Yabis IT High School was participated in interviews to deeply realize their points of view and experience. Apart from exploring the learning motivation, students interaction, and engagement of students with the QR Code enhanced resources in their English learning book, these interviews was seeked to explore the methods the teacher applies in integrating QR Codes into English teaching and their opinions on the benefits and challenges that accompany such integration. Open ended questions were used in these semi structured interviews for freedom in responses to elicit in depth data Creswell (2023) and Stake (1995) .

E. Data Analysis

The data analysis is refers to collected information from participants that serves as a basis for answering the research questions. As this study employs a sequential explanatory mixed-methods design, quantitative and qualitative data were analysed systematically and then integrated to provide a comprehensive understanding of the role of QR codes in English language learning books within the Independent Curriculum.

Quantitative analysis was used to answer the first research question. Using questionnaire data, the researcher examined students perceptions

regarding their interest in learning, engagement, motivation, collaboration, independent learning and the development of English language skills following the use of QR codes.

Meanwhile, qualitative analysis was used to answer the second research question. The interview data provided deeper insights into teachers' experiences, teaching strategies and classroom practices relating to the integration of QR codes.

The results of the quantitative and qualitative analyses were integrated to gain a more comprehensive understanding from both perspectives of how QR codes influence student interactions and how teachers apply this technology in English language learning. This integration enabled the researchers to explain the quantitative findings through qualitative evidence and to strengthen the overall interpretation of this study (Creswell & Creswell, 2018).

1. Quantitative Analysis

The quantitative data were obtained from questionnaires distributed to students. The analysis was conducted through the following stages:

a. Collecting the Responses

The researcher collected all questionnaire responses submitted by students through Google Forms.

b. Classifying the Data

The responses were grouped based on the questionnaire indicators, namely learning interest, student engagement, ease of use, time efficiency, and flexibility of information access.

c. Calculating the Percentage of Responses

Each response category (Strongly Disagree, Disagree, Agree, and Strongly Agree) was calculated into percentages to determine the tendency of students' perceptions toward the use of QR Codes in English learning books.

d. Interpreting the Findings

The percentages were interpreted descriptively to identify students' perceptions regarding the effectiveness of QR Codes in supporting English learning, increasing motivation, improving engagement, and enhancing classroom interaction.

e. Drawing Conclusions

The results were summarized to answer the first research question concerning the effects of QR Code integration on students' interaction and learning experiences in the Independent Curriculum.

2. Qualitative Analysis

The qualitative data were obtained interview with the English teacher. The interview data were analyzed using thematic analysis adapted from Braun and Clarke (2006). The analysis consisted of the following stages:

a. Transcribing the Interview

The interview recording was transcribed into written text to facilitate the analysis process.

b. Reading and Familiarizing the Data

The researcher read the interview transcript several times to gain a deeper understanding of the teacher's responses.

c. Coding the Data

Important statements related to teaching strategies, QR Code implementation, classroom interaction, and learning activities were identified and coded.

d. Identifying Themes

Similar codes were grouped into broader themes, such as collaborative learning, problem-based learning, flexible learning activities, reflection and feedback, and teacher support.

e. Interpreting the Themes

The identified themes were interpreted to explain how the teacher integrated QR Codes into English language learning and how these strategies supported the implementation of the Independent Curriculum.

f. Drawing Conclusions

The findings were summarized to answer the second research question concerning the teaching strategies used by teachers in integrating QR Codes into English learning.

After both the data had been analysed, the researchers compared and integrated the quantitative and qualitative findings. The questionnaire results provided information on the students perceptions and experiences, while the interview results explained the teaching strategies under those perceptions. The integration of these two sets of findings enabled the researchers to gain a comprehensive understanding of the role of QR codes in English language learning books within the Independent Curriculum.