

CHAPTER III

RESEARCH METHODOLOGY

This chapter provides the methodology in conducting the research and a description of the research procedure in order to find out the answer of the research questions stated in Chapter I. This chapter presents research design, site and participant, data collection, and data analysis.

3.1 Research Design

This research employed a qualitative case study approach to find out students' perceptions of using Google Docs as a collaborative writing tool in writing narrative texts. A qualitative case study was conducted to investigate a bounded system, such as an event, activity, individual, or process, using extensive data from multiple sources (Creswell J. W., 2014). Therefore, a qualitative study is considered a suitable approach for this research as it enables the researcher to explore a phenomenon or topic by comprehending the experience of others analytically (Oranga & Matere, 2023). The qualitative approach analyzes and offers a profound insight into practical issues and problems by collecting people's perceptions and behaviour (Tenny et al., 2022).

This research focuses on social events which will be evaluated as students' perceptions of the use of Google Docs as a collaborative writing tool and using a case study to gather detailed information and insights into their attitudes towards using Google Docs in writing. In line with this, case studies enhance an in-depth overview of an actual problem or occurrence within a prescribed framework conducted on a person, a team, or an event (Coombs, 2022). In order to accomplish that, a case study enables the researcher to gather data from numerous sources and employ various types of instruments for data collection (Priya, 2021) rendering this approach suitable for this research.

3.2 Site and Participants of the Research

The participants in the research were students of 10th-grade science 1 from SMAN 1 Majalengka who were in their second semester and selected through advice from the English teacher. The researcher specifically chose the students of 10th grade science 1 due to several factors such as their familiarity with the lesson of narrative text and their motivation to participate in collaborative writing using Google Docs. This method was quite compatible with distance teaching and learning including less time-consuming due to face-to-face meetings being unavailable, contacted via WhatsApp, and completely validates the research findings. There were 26 students were chosen as the participants. The data were collected from them through questionnaires and open-ended interviews regarding their opinions on using Google Docs as a collaborative writing tool to create narrative texts. The researcher did a collaboration work with the English teacher of SMAN 1 Majalengka. During this research, the researcher positioned herself as a teacher and observer. She had to design the necessary online distance teaching and learning plans. In carrying out the online distance teaching and learning process via Zoom meetings, she had to be an observer whose aim was to analyze whether the strategies implemented were appropriate for students or not. On the other hand, she had to observe students when working on collaborative writing activities via Google Docs. These activities were done online at home via gadgets such as computers, laptops, or handphones. In another job as a researcher, she had to prepare a particular rubric about students' perceptions of using Google Docs as a collaborative writing tool.

3.3 Data Collection

Data collection is a crucial component of the research process. Data collection refers to systematically gathering data to obtain valuable insights related to the research topic (Taherdoost, 2021). On the other hand, Calistus (2018) stated that data collection is the process of gathering, measuring, and analyzing data from various sources in order to provide accurate answers.

Multiple methods can be used to gather the data, such as questionnaires or surveys, interviews, observations, document analysis, focus-group discussions, and oral histories (Domede & Dinkelman, 2022). In this research, the data was collected by conducting a questionnaire and an open-ended interview.

3.3.1 Questionnaire

The questionnaire used closed-ended questions with Likert scales to gather opinions on students' perceptions of social interaction in collaborative writing that ranged from "Strongly Disagree" to "Disagree," "Agree," and "Strongly Agree". This type of scales was developed by Rensis Likert (1901-1983) as cited in (Opuni & Alhassan, 2023). According to Taherdoost (2022), a questionnaire is an important instrument in research as it allows the researcher to get relevant data regarding the research topic which forms the main component of the survey, and involves a list of questions aimed to collect data from respondents. Meanwhile, Creswell & Poth (2018) claimed that a questionnaire is an instrument used to gather participant responses on a specific topic, allowing for an understanding of their knowledge, preferences, and thoughts.

This research used a questionnaire modified from a previous study by Wahyuningsih (2021) to analyze student responses during collaborative writing activities in Google Docs. The questionnaire was divided into six sub-themes that focus on students' perceptions; (1) The social interaction in collaborative writing, (2) Collaborative writing indicators, (3) Performance using Google Docs for collaborative writing, (4) The perception towards Google Docs' features, (5) The easiness of communication in Google Docs, and (6) The accessibility of Google Docs.

The respondents were asked to indicate their definitive stance on each statement. The researcher aimed to gain an explicit agreement or disagreement, excluding a neutral answer. The questionnaire consisted of 16 close-ended questions for respondents to fill out through Google Forms. The questionnaire was distributed based on their break time. The researcher shared the link to the questionnaire through the WhatsApp group. The

researcher gave respondents around 1 hour to complete the questionnaire. This process was stopped once the researcher obtained the desired data. In line with Budiastuti & Bandur (2018) suggested that if the response rate is below 50%, the time of data collection should be considered. Then, the data was analyzed systematically to determine the results. The researcher used Google Forms to calculate numerical and percentage outcomes for each statement, resulting in descriptive statistics for six sub-themes. The researcher organized statements into groups for a comprehensive assessment of questionnaire responses, represented as percentages and numbers. The research's findings included numerical and percentage results for each questionnaire statement.

3.3.2 Interview

Data collection from the students in this research also involved conducting interviews. An interview is an appropriate instrument for this research as it enables the researcher to gain insight into respondents' views and elicit explanations or arguments (Monday, 2020).

The interview was semi-structured. According to Pin (2023), a semi-structured interview is conducted to analyze the variations in views or perspectives between different groups through statistical analysis. It is also used to gather data that enables researchers to understand the unique experiences people or groups have in communicating with other individuals, organizations, or broader social phenomena. This type of interview offers more latitude and fosters discussion, resulting in a more creative and practical technique for conducting in-depth conversations (Kakilla, 2021). It also allows the researcher can enhance the inquiry by thoroughly exploring verbal and nonverbal responses, which can provide valuable insights for the final data analysis.

The interview guidelines consisted of 5 open-ended questions adapted from Wahyuningsih (2021). The following table provides the detailed information of the 5 open-ended questions.

No	Questions
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1	What makes you think collaboration learning with peers is helpful or inconvenient?
2	Would you like to share your thoughts after using Google Docs for collaborative writing?
3	Based on your opinion, what is/are the important elements for collaborative writing using Google Docs?
4	What abilities and skills that you learned from using Google Docs for collaborative writing?
5	What are the challenges you found when using Google Docs for collaborative writing?

Table 3. 1 Open-ended questions adapted from Wahyuningsih (2021).

The interview was conducted in Indonesian to minimize ambiguities and encourage the interviewees to answer freely. Moreover, it was recorded using WhatsApp Voice Notes, and the researcher also made a note highlighting key points from participants' comments. Once the interview was done, the researcher transcribed the audio into a written text in English.

3.4 Data Analysis

According to Taherdoost (2022) data analysis is simply the process of converting collected data into meaningful information or the process of converting data to a machine-readable numerical format that can be used in specific analysis programs like SAS or SPSS. On the other hand, data analysis is the process of organizing, grouping, coding, marking, and categorizing data to produce relevant results to the problems or questions.

The data obtained from different instruments was analyzed using the relevant methods. Following the data analysis from each instrument, a triangulation process was conducted to consolidate and verify the data derived from each method. This procedure was taken to decrease the risk that the research result solely indicates the biases or limitations of the

method used. Additionally, triangulation enhances the validity and comprehensiveness of the data interpretation (Bhandari, 2023).

3.4.1 Questionnaire

The questionnaire was analyzed using qualitative analysis, and it was presented in words to organize student responses into a more comprehensible form. Qualitative data analysis provides relevance to a collection of data, and they include several perspectives connected with a particular method, theoretical framework, research lineage, and domain (Lester et al., 2020).

The researcher constructed a set of sixteen (16) close-ended statements for the online questionnaire utilizing Google Forms as the platform. Google Forms provided numerical and percentage results for each statement. The researcher then calculated these results into descriptive statistical data, categorizing them into six sub-themes that focus on students' perceptions; (1) The social interaction in collaborative writing, (2) Collaborative writing indicators, (3) Performance using Google Docs for collaborative writing, (4) The perception towards Google Docs' features, (5) The easiness of communication in Google Docs, and (6) The accessibility of Google Docs.

The students' responses were transformed into percentages and numerical form. Next, the distribution of frequencies was calculated to determine the pattern of students' perceptions regarding each statement. Related statements were placed in categories under each theme to simplify the analysis of the participants' questionnaire results. Subsequently, the researcher comprehensively described each statement in the questionnaire and presented the numerical and percentage results in the research findings.

3.4.2 Interview

Thematic analysis was employed to analyze the data gathered from the interview for this research. Thematic analysis involves identifying, analyzing, and interpreting topics in qualitative data. This

analysis method has several advantages, including being easily accessible, flexible, and interactive while leading to the development of theories and easily plausible results (Christou, 2023).

The researcher interviewed four (4) students to gain detailed information about their views on the use of Google Docs in collaborative writing. The interview guidelines consisted of 5 open-ended questions from Wahyuningsih (2021) with four participants with differing levels of perception and different genders were included to offer various data. The participants included: one female student who was categorized as having a 'very positive (strongly agree)' level of perception, one female student was categorized as having a 'positive (agree)' level of perception, one male student identified as having a 'very less positive (strongly disagree)' level of perception, and the last one male student identified as 'less positive (disagree)' level of perception. The researcher recorded the online interview using WhatsApp Voice Notes and also made a note to highlight key points from participants' comments.

Once the interview was done, the researcher transcribed the audio into a written text. The data was analyzed based on responses to six sub-themes. While transcribing and translating the recorded data into English, the data traversed various processes involving selection, attention, and simplification to ease interpretation. The procedure was referred to as data reduction. During this stage, the researcher thoroughly reviewed the transcript of the interviewee's responses to understand how they were thinking.

After the data has been decreased, the next step is to display it or named data display. The researcher analyzed the results of the questionnaire and interview by displaying the data. Following that, the data will be arranged in the form of tables. The purpose of showing the data is to arrange and organize the information in a way that helps interpretation. Therefore, after completing the analysis, the researcher made a conclusion based on the data to deal with the problems identified. Concluding and validating these are part of an analytical

process. The researcher assesses the relevance of the data by identifying regularities, patterns, explanations, configurations, links between variables, and propositions.

3.5 Validity of The Research

Creswell (2018) stated that validity is the creation of reliable evidence to support the test's interpretation of the concept or construct that the test is intended to measure. In line with that, validity is the important key to effective research. Validity tests ensure consistency in research answers, serving as a basis for decision-making based on the value of the sample.

In the first stage for qualitative data, the researcher uses a questionnaire. The questionnaire was inspired by Wahyuningsih (2021) designed a modified questionnaire to measure students' perceptions of using Google Docs as media for collaborative writing, which has been validated by an expert to judge the validity of the questionnaire also the researcher added a translation of Indonesian language into the questionnaire. After the completion of the Google Form by 26 students, the researcher conducted validity tests using SPSS v.20. Each of the points from the questionnaire was considered to be valid. The validity calculations are presented in table 3.5.1 as follows:

Table 3.5 1 Validity Result of Students' Questionnaire

Items	<i>r hitung</i>	\approx	<i>r Tabel</i> Sig 5% (df=25-2)	Explanation
Q1	0.686	>	0.3961	Valid
Q2	0.902	>	0.3961	Valid
Q3	0.923	>	0.3961	Valid
Q4	0.902	>	0.3961	Valid
Q5	0.930	>	0.3961	Valid

Q6	0.923	>	0.3961	Valid
Q7	0.833	>	0.3961	Valid
Q8	0.934	>	0.3961	Valid
Q9	0.860	>	0.3961	Valid
Q10	0.941	>	0.3961	Valid
Q11	0.648	>	0.3961	Valid
Q12	0.946	>	0.3961	Valid
Q13	0.924	>	0.3961	Valid
Q14	0.645	>	0.3961	Valid
Q15	0.960	>	0.3961	Valid
Q16	0.765	>	0.3961	Valid

In the second stage, the researcher used methodological triangulation to validate the interview guidelines. Triangulation is the prominent technique employed to enhance data validity in qualitative research. Triangulation is a method used to verify the accuracy of data collected by the researcher from multiple points of view, with the purpose of minimizing bias amid data collection and analysis (Vivek et al., 2023). The researcher collected data through interviews and pre-observation techniques, ensuring the validity of the observed information. Furthermore, the researcher employed different types of respondents to enhance the credibility of the findings. Considering several perspectives, the data or information received can be enhanced in accuracy.

3.5.1 Reliability of The Research

Reliability is a crucial aspect of any measurement, indicating the degree of consistency and stability of the results and it is essential for good research as it ensures that the measures or observations used are reliable and appropriate for the research (Carey et al., 2022). Reliability means the stability of the test score. Therefore, reliability is a key goal in any measurement process. The validity and reliability of a research instrument are crucial factors to consider. To determine the validity of an instrument, compute the correlation coefficient between the instrument test and the

criteria test/product moment for each item. In order to assess the reliability of the questionnaire, the researcher used Cronbach's Alpha formula through the SPSS v.20 program. The process for calculating reliability is presented in table 3.5.2 as follows:

Table 3.5 2 Reliability Result of Students' Questionnaire

Reliability Statistics	
Cronbach's Alpha	N of Items
0.972	16

The reliability test resulted in a value of 0.972. The instrument was considered reliable if the correlation value (r-value) was more than 0.60 ($r_i > 0.60$). Therefore, this questionnaire was reliable.