

CHAPTER III

RESEARCH METHOD

A. Research Design

The research design used in this study is qualitative. According to Cresswell (2014) defines qualitative research as a methodical inquiry process focused on comprehending and examining social or human concerns. This process can manifest itself through various forms such as shapes, qualities, relationships, similarities, activities, changes, and differences between phenomena.

The researcher utilizes content analysis as the methodology in this study. Krippendorff (2004) defines content analysis as a research method that allows for the creation of reliable and accurate conclusions based on texts or other significant material, taking into account their specific context of use. Content Analysis is a dependable method for analyzing text. Julien (2008) identifies multiple paradigms of Content Analysis:

1. Content Analysis, in relation to data, relies on empirical facts presented in the form of written text or symbols.
2. Content Analysis, in terms of its purpose, seeks to elucidate the variables of actual phenomena, rather than pursuing the goals of interpretive paradigms that try to comprehend phenomena.
3. It is a predictive process that uses the study of occurrences to make generalizations and foretell future events.

B. Object

The object of Artificial Intelligence (AI) in this study is online websites created from current technology. These websites utilize artificial intelligence for grammar resources. The objectives of the object vary, focusing on Grammar Checkers supported by Grammarly's website, improving grammar skills with script writing supported by ChatGPT, and other AI supporting English language learning and paraphrasing sentences with good language structure, namely Quillbot and ProWritingAid. The researcher selected these websites because they are readily accessible without subscription and are easy for students to access. The researcher understands that these AIs can facilitate students in learning English, especially in grammar proficiency, due to features such as checking grammar errors, creating, and scanning texts with various grammatical structures, and also paraphrasing texts.

C. Data

The data in this study consist of the content from four AI-Driven websites: ChatGPT, Grammarly, Quillbot, ProWritingAid. The researcher found many current AIs that caught attention; however, considering various factors and suitability for the functions of these AIs, the researcher chose the four websites mentioned above as the data for this study.

D. Technique of Data Collection

The data collection technique used in this study is Documentation. According to Suharsini Arikunto (2010), documentation technique refers to a method of gathering data through the use of various forms such as records, books, transcripts, newspapers, inscriptions, magazines, minutes of meetings, agendas, and photographs of events. The gathered data is subsequently examined through the processes of data reduction, data display, and conclusion drafting.

This study involves the researcher doing documentations and data collection by analyzing the content of specific websites. Upon concluding the data documentation, the researcher acquires notes pertaining to the data and elucidates the data substance to facilitate a more lucid and effortless presentation. Afterwards, the researcher derives fundamental inferences from the data findings in order to address the research questions.

E. Data Analysis

In qualitative research, data can be gathered from multiple sources utilizing a variety of data gathering methods until the point of maximum research discovery is reached. Taherdoost (2020) defines data analysis as the systematic transformation of collected data into significant and useful insights. Data analysis is performed subsequent to the completion of the data collection procedure. The obtained data undergo additional processing using descriptive data analysis.

The initial stage of data collection in this study involves closely observing the research subject. Upon careful examination, the data are categorized and the information contained inside the data thoroughly evaluated. The researcher utilized the interactive model developed by Miles & Huberman for data analysis.

Miles & Huberman (2014) proposed that qualitative data analysis comprises multiple components, which included:

1. **Data Reduction:** This involved the selection, concentration, simplification, abstraction, and transformation of data from various sources such as field notes, interview transcripts, papers, and empirical materials. This study aimed to thoroughly investigate the selected websites as research subjects in order to confirm their impact and influence on English language abilities, specifically in the area of grammar.
2. **Data Display:** Data presentation involved the arrangement, integration, and concise representation of information. Data presentation in this setting facilitated comprehension of the research context through thorough analysis. During this phase, the researcher rephrased and documented the findings gathered from the websites before moving on to the subsequent phase.
3. **Conclusion:** The researcher drew conclusions based on the data collected, including identifying patterns, documenting explanations, and analyzing cause-and-effect relationships. These conclusions ultimately summarized the overall data obtained by the researcher. At this stage, following the

documentation procedure and documentation of the collected data, the researcher analyzed the data findings in order to provide a more precise and comprehensible answer to the study questions.

The steps in the data collection to data analysis process can be summarized as follows:

1. The researcher selected AI according to the study's criteria, focusing on AIs that affected the grammar process.
2. The researcher observed and analyzed the selected website sites as research objects.
3. The researcher identified website research subjects capable of grammar processes.