

## **CHAPTER III**

### **METHODOLOGY**

This chapter focuses on the overview of the methodology for the present investigation. It contains the research design, site, and participants, data collection, data collection procedures, and data analysis for the study. Additionally, it provides information on how the participants were chosen for the research.

#### **3.1 Research Design**

Employing a qualitative case study method, this research aims to explore how the use of AWE tools, for example, Grammarly, QuillBot, and DeepL, on tertiary-level English Education students' academic writing with different levels of academic writing proficiency. The case study approach was regarded as highly suitable for this investigation since, according to Cresswell and Poth (2018), the qualitative method is an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. Likewise, Kumar (2019) also stated that the case study approach is especially relevant when the focus of a study is on extensively exploring rather than confirming and identifying, as it provides an overview and in-depth understanding of the case, which aligns with the purpose of this study.

#### **3.2 Research Site and Participants**

The research was carried out at a university in Bandung, and the participants were English Education students, as they were expected to have higher English proficiency and have classes that focus on strengthening their academic writing. In the matter of case study design, Kumar (2019) noted that the attempt is not to select a random sample but a case that can provide the researcher with as much as possible to understand the case in its totality. Therefore, to identify the specific 3 participants needed for the study, a purposive sampling method was used.

The participants were selected based on the following criteria. Firstly, the student had been enrolled in the Grammar III: Advanced and Writing for Academic Purposes 1 course and had completed it. Secondly, the student had experience in using at least one AWE tool to assist in completing their past and current courses. A participant survey was employed to find participants with these criteria.

**3.3 Participants Context Overview**

This study involved three tertiary-level EFL students from the same academic institution. The following table presents an overview of the participants' academic background, which was derived from a purposive sampling survey of fourth-semester EFL students' utilization of AWE tools, past academic performance, and their interest in being studied, which was administered before the start of the research. Additionally, the AWE tools that the participants used throughout the course were also noted below.

**Table 3.1 Participants overview**

| Name (Pseudonym) | Proficiency Level | AWE Tools Used                     |
|------------------|-------------------|------------------------------------|
| Rafflesia        | High              | Grammarly, QuillBot, DeepL         |
| Asoka            | Moderate          | Grammarly Premium, QuillBot, DeepL |
| Zinnia           | Low               | Grammarly, DeepL                   |

Rafflesia is categorized as a high proficiency EFL student due to her consistent demonstration of academic writing competence in her draft. She has experience with AWE tools and strategically integrates them into her writing process. Her drafts show clear evidence of planning and notable control of revision. Furthermore, she has a clear idea of what she lacks in writing skills and how AWE could support her.

Asoka is an undergraduate student with a moderate level of EFL English writing, as both her grammar and writing class shows average performance. Ever since she reflected on the need to improve her grammar, she has regularly utilized AWE tools to support her writing. While she demonstrated a willingness not to rely on technological tools in the future, her drafts still suggested a need for improvement in coherence and critical editing before they can be sufficiently categorized as high-level academic writing.

Zinnia is an EFL student with a relatively limited proficiency in academic writing when compared to the other two participants. He reported understanding how AWE tools may have a negative effect in some parts of his writing, such as being detected as being heavily influenced by AI, but showed no signs of having a solid approach to counteract this fact. His drafts often contained errors and inconsistencies throughout the writing, even after being revised. It seems like his engagement with AWE was shaped more by necessity than strategy.

### **3.4 Data Collection**

In conducting this qualitative case study, the data were collected through students' academic writing documents and semi-structured interviews. The instruments were developed and adapted from relevant prior research and informed by theoretical frameworks on process writing, self-regulated learning, and CEFR-aligned language proficiency. The data collection process and instruments are elaborated further in the following subsections.

#### **3.4.1 Document**

The first step performed was collecting students' documents. Before this step was carried out, the participants had consented to access their academic writing drafts. Next, the students provided a copy of two consecutive drafts of their research proposal. These drafts were produced during the participants' regular coursework and

incorporated AWE feedback in their writing process. Each pair of drafts was obtained in digital format via file sharing.

These documents of students' drafts were chosen to provide direct evidence of how students engaged with AWE feedback during their writing process. The first draft represented the participants' initial writing before revisions, and the second draft reflected the changes made that may be facilitated by AWE-generated feedback. Upon collection, all files were organized by labeling each participant's pseudonym and draft number, and stored securely for subsequent analysis.

To categorize revisions, an adapted writing process rubric was used. Guided by Faigley and Witte's (1981) distinction between surface-level edits and meaning-changing revisions, as well as further informed by Mason et al.'s (2011) coding of planning and response strategies, the rubric captured the frequency and nature of changes in areas such as grammar and lexical-focused revisions. Interpreted through the lens of SRL, revision patterns were seen as indicators of how students planned, monitored, and responded to AWE feedback during their drafting process. Furthermore, following the rubric-based categorization, the CEFR writing descriptors (Council of Europe, 2020) were also applied as a complementary reference to interpret improvements in academic writing aspects across drafts. This allowed for changes in academic writing aspects, such as grammatical accuracy, mechanics, vocabulary, academic tone, content, and organization, to be described using recognisable proficiency benchmarks.

### **3.4.2 Interview**

The second instrument was interviews, which functioned as a follow-up to the outcome of the document analysis and to strengthen the data that had been obtained. This data collection method was performed to engage in an in-depth discussion with the respondents and explore their writing decisions more deeply. For example, participants were asked questions such as, "From your experience, what are the

advantages of the AWE tool that you found particularly helpful?” which can be further questioned with “Why was it so helpful at the time?” These questions aimed to explore students’ perceptions of AWE as a writing assistant, such as whether they found it helpful, distracting, or limited in their writing development. Furthermore, the interview was also used to check the students’ perception of their AWE use, including their perceived advantages and disadvantages of AWE as well as their appropriation of the tool, which was influenced by their belief about learning and preference for feedback according to their language proficiency.

In order to acquire the needed information, this study used a semi-structured interview, designed in alignment with Braun and Clarke's (2022) guidance on thematic analysis and qualitative inquiry with interviews, thereby fitting the case study context of this research. The interview lasted between 20 and 30 minutes and was done privately with each participant. Additionally, while the interview was expected to be carried out face-to-face in an offline setting, the option for an online meeting was arranged for the participants.

The collected interview data served to complement the document analysis by further exploring participants’ perceptions, reasoning, and experiences related to their use of AWE tools. It provided insights into how students engaged with the feedback and how they interpreted or misunderstood suggestions, thus revealing the perceived influence of AWE on their writing. Additionally, it enables the research to validate the document analysis findings through participants’ direct explanations of their revisions.

### **3.5 Data Analysis**

To explore how the students’ use of AWE tools influences the writing process of tertiary-level EFL students, the data analysis in this study concentrates on two sources: students’ drafts (documents) and semi-structured interviews. The primary

aim of this analysis was to examine the nature of revisions the students made between the two drafts and how AWE-generated feedback influenced the writing process.

### **3.5.1 Document analysis (students' essays)**

The analysis of students' writing focused on the revisions between the first and second drafts. Writing in the context of this study was approached as a recursive process that involves planning, drafting, revising, and responding to feedback, with each stage offering opportunities for writing development (Zimmerman, 2002). Therefore, rather than scoring each draft individually, the study examined how the writing evolved with the help of AWE feedback, identifying both the types of revisions made and the ways in which these revisions reflected students' engagement with the tool.

In terms of the procedure for document analysis, the analysis of the students' draft followed Cresswell and Poth's (2018) qualitative data analysis model. First, each pair of drafts was read multiple times to identify additions, deletions, reorganizations, and rewordings. Revisions were marked and highlighted for further classification, with particular attention to those made in response to AWE-generated feedback. Using the rubric as a coding guide, revisions were then grouped into five thematic categories: lexical revisions, grammar-focused revisions, structural revisions, surface-level revisions, and the use of AWE feedback. These themes enabled tracking of how students at varying proficiency levels engaged with revision, and how intensely they interacted with the feedback provided. After the revisions were categorized, their impact on the overall quality of writing was examined using the CEFR descriptors as a frame of reference, enabling a better understanding of how AWE feedback contributed to the development of students' academic writing at different proficiency levels.

### **3.5.2 Interview analysis**

The analysis of the data interview followed the reflexive thematic analysis constructed by Braun and Clarke (2022) for its flexibility and suitability for qualitative research that focuses on subjective meaning-making. This method was not used as a theoretical framework, but as an analytical procedure to systematically identify and interpret patterns of meaning across the dataset. Additionally, Creswell and Poth's (2018) framework was also used to structure the data presentation and align it with qualitative research standards.

In the first phase, the interview data were transcribed and read multiple times to gain familiarity. Notes were taken on key phrases, general view, and emotional tones related to AWE usage, feedback interpretation, and revision decisions. The second phase involved manually coding and labeling meaningful units of text to capture student attitudes, strategies, and challenges. These codes were inductively generated based on patterns found across interviews.

In the third and fourth phases, codes were grouped into broader candidate themes that represented the participants' engagement with AWE, their interpretation of feedback, the influence of AWE on their academic writing, and the impact of proficiency level on feedback use. These themes were then refined and named to ensure conceptual clarity and relevance to the research questions.

Finally, the themes were interpreted in connection with the participants' CEFR-based academic proficiency levels as seen in their draft and their actual revision behavior as seen from the development in between drafts, allowing for triangulation between the document and interview data.

## **3.6 Concluding Remarks**

This chapter has presented the research methodology used to explore the influence of AWE tools on the writing development of tertiary-level EFL students

with different levels of proficiency. It outlined the rationale for employing a qualitative case study approach, described the research site and participant selection process, and explained the data collection procedures. Each instrument was developed and adapted from prior research and grounded in the theoretical frameworks of process writing, self-regulated learning, and CEFR-aligned proficiency. Furthermore, the data analysis strategies were detailed, drawing on both rubric-guided document analysis and reflexive thematic analysis of interview transcripts, ensuring coherence between theoretical framing and methodological execution. The next chapter presents and discusses the findings that emerged from this analytical process.