CHAPTER III

METHODOLOGY

This chapter describes the research approach adopted in the whole study. It provides information about qualitative research with a case study design and the justification for using them into the study. The research design was used to craft how the data were collected and analyzed throughout the entire research process. In addition, the context of the study and the sources of data that meet ethical consideration are also described. Eventually, the issue of trustworthiness is construed at the end of the chapter to show how the results of this study can be trusted.

A. Research Design and Context

The primary objective of this study was to determine whether Indonesian EFL students prefer to have their peers evaluate their writing or to utilize an AWE (in this case, *Grammarly*) to correct their writing. Therefore, a qualitative research approach is utilized, as it is suited to fostering a comprehensive situation of a social setting or activity from the participants' point of view (Bloomberg & Volpe, 2016). In addition, as the purpose of this study was to investigate a case involving a group of students in real-world situations, a descriptive case study design was deemed appropriate. Ary et al. (2015) emphasize that case studies are appropriate for research that seeks a detailed description and comprehension of a case within a specific group.

Moreover, to collect the data, sequential explanatory design was employed by collecting quantitative data first and then augmenting the quantitative results with in-depth qualitative data (Creswell & Plano Clark, 2018). To address the first research question, questionnaires examining the frequency with which students receive peer and *Grammarly* feedback were described. To answer the second research question, questionnaires were used to examine students' self-assessments of their writing development. Then, the alterations in the language, content, and organization of student writing were analyzed based on

their writing samples and confirmed through in-depth interviews. The perceptions of the difference between AWE and PE were analyzed based on the responses in the distributed questionnaire to answer the third research question. Following this activity, a comprehensive interview was administered to supplement the results of the questionnaire. This sequential explanatory design allows deeper insights generated in the context behind the statistical results (Field, 2018).

Regarding the context, this study was conducted in the seventh semester EFL writing class of the undergraduate English Education department in one of the public universities in Indonesia. This department offers three levels of writing classes including Basic Writing in the first semester, Intermediate Writing in the third semester, Advanced Writing in the fifth semester, and Scientific Writing in the seventh semester (*Buku Panduan Akademik, FITK, UIN-SU* (Academic Guidance Book, 2021). The researcher chose the writing class in the seventh semester because in this semester they are trained to write academic texts in educational contexts where grammatical structures, writing organizations, and writing engagement are well considered by the writers. Additionally, the phenomenon of utilizing peer evaluation and *Grammarly* was found in this class as a teaching methodology to support students composed their writing.

In this class, students received feedback online from their peers and *Grammarly*. This is because in the moment this class was running, the distance learning was applied due to CoronaVirus (Covid-19) restrictions. Therefore, the students were instructed by their lecturer to send their writing product in a document file through a messaging application and their friends reviewed it with the help of Microsoft Word tool (review) as seen in in figure 3 below:
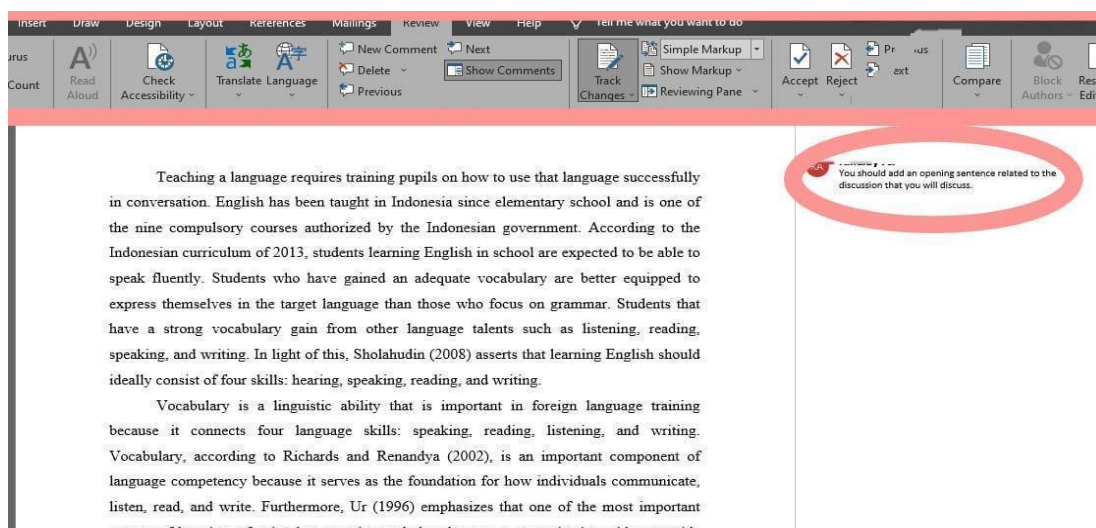
Figure 3. Evaluation sample from peers to students' writing by using *Review* tool in Microsoft Word

Furthermore, the peers were assigned by the lecturer to evaluate the essay interchangeably. Meanwhile, when utilizing *Grammarly,* students individually uploaded their writing product to its website and received feedback from it (see figure 4). There was no payment given to their peers and their *Grammarly* accounts were not a premium one. This situation showed the parallel context of receiving feedback experienced by the students in the classroom.
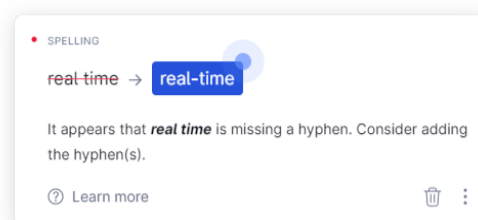

Figure 4. Evaluation sample from *Grammarly* to students' writing

This writing course lasted for 16 meetings and took place once a week (see appendix 1 for teaching syllabus). Based on the teaching syllabus given and a

preliminary interview with the lecturer of the writing class, the class started with an introduction of academic writing, peer evaluation, and *Grammarly* practices for evaluating students' writing products. Students were shown how to provide feedback to their peers and how to operate *Grammarly* to receive feedback. During the course the students were instructed to write a critical reading essay as a type of academic writing. Before starting to write the essay, the students were taught about how to write a critical reading essay and were assigned to identify its elements. After learning, the students wrote their draft in one meeting and received evaluation from *Grammarly* and their peers in another meeting. Next, the students reviewed their writing based on the evaluation given. In total, there were one original draft, two writing evaluation drafts (one from *Grammarly* and another from peers), and one final writing draft of a critical reading essay. Figure 5 lays out the essay writing and the evaluations segments.
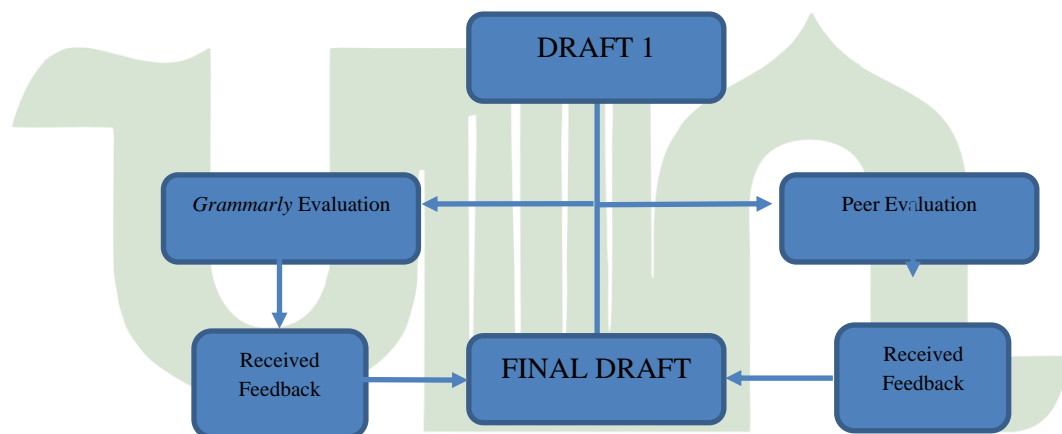
Figure 5. Essay Writing and Evaluation Stages

B. Research Participant

In this study, a purposeful sampling was utilized to obtain the most representative sample in order to answer the research questions. Purposive sampling is typically employed when the researcher seeks to discover, comprehend, and acquire rich and varied insights from potential individuals who can offer the greatest perspective on understanding the phenomenon being studied (Dörnyei, 2007; Merriam, 2009). In this study, the researcher intended to

understand a phenomenon of an EFL Academic writing class that used feedback from peers and *Grammarly* to evaluate students' essays. The focus was discovering insights of the students' preference when receiving feedback from peers and *Grammarly*.

Therefore, to reach the aim of this study, 20 Indonesian university students (18 females and 2 males) in one intact class majoring in English language education in the State Islamic University of North Sumatra were recruited. These students completed 16 weeks of English academic writing course in the seventh semester from September 2022 to January 2023 of 2022/2023 academic year. The purpose of writing instruction in this class was for students to be able to write critical reading essays. In the learning process, the students were required by their instructor to receive feedback from peers and *Grammarly* to evaluate their essays. To ensure confidentiality in the students' voluntary participation, the researcher gave a pseudonym for each student.

When carrying out research, it is imperative that ethical considerations need to be considered. Cohen et al. (2018) provide a list of several factors that should be addressed by the researchers including: informed consent; confidentiality and anonymity; identification and non-traceability; gender, age, color, (dis)ability and ethnicity issues; sensitive research; researching with children; being judgmental; relationships and differential power relations in research; access to data (and its archiving).

In this study, the researcher concealed the identities of the participants to win the participants' trust, preserve the honesty of the research, and prevent unethical behavior and violations of research ethics, which could have a detrimental effect on the organizations or institutions involved and make it more difficult to solve new and challenging problems. Because of this, prior to the research being conducted, every participant was required to fill out and sign a consent form (see appendix 5). In addition, there was information regarding the untraceable substance. Because there is no personally identifying information was obtained from the participants, it is impossible to determine who they are. In

addition, in order to maintain the confidentiality of the participants with whom the researcher had conversations, the researcher assigned a pseudonym to every participant's relation. The participants were informed of the pseudonym that had been given to them, and it was utilized in the reporting of this thesis as well as all specific markers.

Furthermore, all materials that were used in this study were tucked away in the folder and were only accessible to the primary researcher as well as the supervisor in accordance with the requirements of the Research Ethics Board. Before beginning the interviews, each participant was given a reminder that they had the option to freely withdraw from the research project at any time over the course of the investigation. Additionally, the letter of information, consent to participate in research, and consent to audio recording forms were reviewed and signed before the interviews began. Each participant was provided with an explanation of the further use of the data, and each participant was informed that the data will be used for future publications. Before beginning the research, numerous precautions were taken to guarantee that this research was carried out with the utmost degree of ethical concern that was humanly possible. In regards to the data, the researcher was the only person who had access to it, and once the thesis was given a passing grade, all data were removed from existence.

C. Data Collection Procedures

In qualitative research, the case study allows for a thorough examination of the factors that explain the current state and may influence future change. Consequently, case studies may employ multiple data acquisition techniques and do not rely on a single technique (Ary et al., 2010). In this study, the researcher utilized various data acquisition methods, including questionnaires, document review, and interviews. Figure 6 below illustrates the procedure of collecting data in this study.

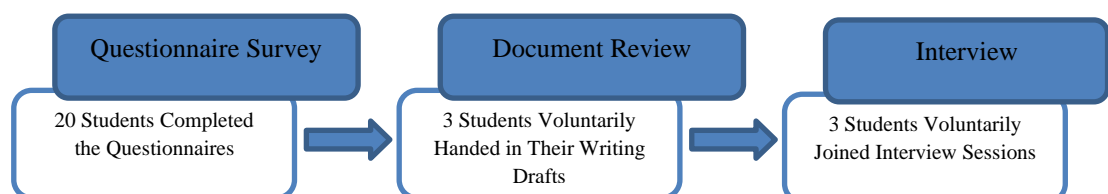| Questionnaire Survey	Document Review	Interview
20 Students Completed the Questionnaires	3 Students Voluntarily Handed in Their Writing Drafts	3 Students Voluntarily Joined Interview Sessions

Figure 6. Data Collection Procedures

1. **Questionnaire Survey**

Mackey and Gaskey (2005) define questionnaire surveys as any written instruments that present respondents with a series of questions or statements to which they must respond by writing out their responses or selecting them from a list of existing responses. It is used to inquire about the beliefs, opinions, characteristics, and behavior of individuals. In addition, surveys enable the researcher to summarize the characteristics of various groups or assess their attitudes and opinions regarding a particular issue (Ary, et.al, 2010). In this study, questionnaires with close-ended questions (delivered in English language) were distributed for students to discover their preference of receiving essay evaluation from their peers and *Grammarly*. The questionnaires were adapted from Lai (2010) with minor modifications in the dimensions of writing evaluation. In Lai (2010), the types of feedback given in students' writing were generated from *My Access 3.0* such as Content and Development [CD], Organization [OR], Focus and Meaning [FM], Language Use and Style [LU], Mechanics and Convention [MC]). Meanwhile, in this research the types of feedback were generated from *Grammarly* such as the Correctness (CR), the Clarity (CL), the Engagement (EN), and the Delivery (DL).

The questionnaires were administered after the writing course had been completed. The researcher requested the students to fill the questionnaires in Google Form (https://forms.gle/ZvBS9jCNvMnMnm9e6) on February 20, 2023. All participants completed all questionnaires that had been divided into three parts based on its purposes. Part I consisted of 10 queries about the frequency with which students use peer feedback and *Grammarly* to evaluate their essays. Part II consisted of 8 questions, aimed to explore the incorporation of feedback from peers and *Grammarly* into the writing products from students' perspective in terms of Correctness (CR), the Clarity (CL), the Engagement (EN), and the Delivery (DL). Lastly, Part III

consisted of 20 questions, administered to investigate the perceived differences of incorporating AWE and PE into student writing. These questionnaires elicited responses on a 5-point Likert scale: 'Seldom, Not Often, Sometimes, Often, Always' for Part I, and 'Strongly Agree, Agree, Neutral, Disagree, Strongly disagree' for Parts II and III (See appendix 2 for complete questionnaires).

2. Document Review

Following the collection of data by using questionnaire, a document review was conducted to investigate how feedback from peers and *Grammarly* was incorporated into the students' writing. As stated by Cresswell (2014), document review is primarily concerned with analyzing and interpreting recorded material in order to learn about human behavior. The researcher analyzed the change in students' writing in terms of Correctness (CR), the Clarity (CL), the Engagement (EN), and the Delivery (DL) before and after the feedback was given. These data were also used to either confirm or to contradict the data from the questionnaire part II.

The data obtained from the writing samples consisted of the original manuscripts, the written feedback provided by *Grammarly* and Peers on the drafts, and the final essay that had been revised based on the feedback provided by *Grammarly* and Peers. Four students voluntarily gave their writing products to be analyzed and published by the researcher. Two of them had more tendency to use evaluation from *Grammarly* in their writing while the rest two preferred their peers to evaluate their essay. In total, there were 16 documents collected by the researcher because there were four documents obtained from each student.

3. Interview

In qualitative research, interviews are a popular method of data collection. They are typically used as a research strategy to acquire

information about the experiences, perspectives, and beliefs of participants regarding a specific research question or phenomenon of interest (Cresswell, 2014). In this study, interviews were conducted to learn more about how students' writing changed after incorporating feedback from *Grammarly* and Peers, as well as the perceived differences between AWE and PE. Specifically, among the numerous interview models, semi-structured one-on-one in-depth interviews were conducted because they are considered most appropriate when little is known about the phenomenon under study or when comprehensive insights from individual participants are required. (See appendix 3 for interview guidelines). Moreover, when discussing confidential issues or topics that require self-disclosure, the use of individual interviews may also be more appropriate (Ryan et al., 2016).

Four participants who had given their writing products also voluntarily followed the in-depth interview as the continuous activity. The interviews were held online by using WhatsApp calls based on the convenient schedule of the students (within February to March 2023). Telephone interviews, according to Ryan et al. (2016), are less expensive than in-person interviews since they need less travel. Each interview lasted between 20 and 30 minutes. The interview was audio recorded with the participants' consent. The researcher sequentially asked the students about the three topics of questions in questionnaire Part I, II, and III. The researcher pointed to specific responses and asked them by saying "Could you tell me more why you think this way?" or "What do you mean about this point?" or "Why did you write this?" Then, the students answered the questions by using either English or Indonesian language. Two of the participants chose English. This was done to obtain more in-depth information about specific issues that the researcher did not fully comprehend. This activity also served to affirm or refute the interpretations derived from the initial data analysis, which included the

questionnaire and document review. The collected data were then transcribed as soon as possible after the interviews finished.

D. Data Analysis Techniques

In qualitative research, data analysis is a continuous process that involves ongoing reflection on the data, posing analytic questions, and composing memos throughout the study. It is conducted simultaneously with data collection, data interpretation, and writing report (Creswell, 2009). All qualitative analysis involves attempts to comprehend the phenomenon under study, synthesize information and explain relationships, postulate about how and why the relationships appear as they do, and re-establish connections between new and existing knowledge (Ary, 2010). Particularly in case study research, the analysis includes a detailed description of the setting or individuals, followed by an examination of the data for recurring themes or issues (see Stake, 1995; Wolcott, 1994 in Creswell, 2014).

In this study, the data analysis centered on the following three items: (1) frequency of using feedback from *Grammarly* and peers; (2) transformations students made in their writing, (3) students' perceptions towards the differences between AWE and PE. Students' responses in the questionnaires provided general data for the first to third research purposes regarding *Grammarly* and Peer Evaluation. Students' writing products proved the change students made in their writing in terms of four key dimensions, including the Correctness (CR), the Clarity (CL), the Engagement (EN), and the Delivery (DL). Additionally, the interview data offered deeper insights on students' reflections and perceived differences for these two kinds of writing evaluations.

For the entirety of data analysis, the researcher utilized Creswell's (2009) data analysis spiral technique. Once data are collected using this method, they must be organized and managed. The researcher must engage with the data by perusing and reflecting on it. The data must then be characterized, categorized, and interpreted. Finally, the researcher concludes by presenting or visualizing the

data for others (Ary et al., 2010). The figure below illustrates Creswell's (2009) data analysis cascade.

Figure 7. Data Analysis Method in Qualitative Research by Creswell (2009)

1. Organizing and Preparing

After collecting the raw data from questionnaires, writing products, and interviews, the researcher continued to organize and prepare the data. The raw data from the questionnaires and documentations were reviewed and edited in accordance with the three stages outlined by Cohen et al. (1990), with the purpose of identifying and removing errors made by the respondents, whether they were made intentionally or unintentionally. The first stage was to verify the completeness of the surveys and documents, i.e., whether or not all questions were answered and whether or not all relevant documents were included. Next, the accuracy of the responses and documents was verified, as inaccurate responses or documents would compromise the study's validity. Checking the uniformity of instruction and question interpretation among those involved in data collection was the final step, which was skipped in this study because only one person

was involved in data collection, thereby eliminating the possibility of different interpretations.

Regarding the data from interviews, the audio from the semi-structured interview was transcribed manually after the interview finished. The participant's answers in Indonesian language were also translated into English in this step. The transcripts were included into a table in Microsoft Word to ease the researcher reading the data.

Table 1. Organizing and Preparing Interview Data

No	Participants' Name	Interview Transcripts
1.		
2.		

2. Reading through All Data

During this phase, the researcher gained a comprehensive understanding of the data and reflected on its significance. What broad concepts are participants discussing? What tone do the concepts have? How does the researcher evaluate the overall breadth, credibility, and utility of the information? At this stage, qualitative researchers sometimes jot notes in the margins or begin recording general observations about the data (Creswell, 2009). All responses were read, and those that did not adequately address the questions or were unclear or ambiguous were eliminated. Using the Microsoft Word tool, the researcher highlighted significant participant responses, quotes, or writings that were deemed germane to the phenomenon under study at this stage. This allowed the researcher to begin focusing on recurring themes and patterns in the data to develop the analysis. In addition, participants' responses to questionnaires, writing samples, and interview questions were constantly compared.

3. Coding the Data

Coding is the process of organizing information into sections or segments of text prior to assigning meaning (Rossman & Rallis, 1998, as cited in Cresswell, 2009). In analyzing the data acquired for this study, the researcher used different coding methods for distinct data sets, including magnitude coding for the frequency count of written feedback preference and structural coding to answer questions 2 and 3.

To answer the query regarding students' preferences for written feedback, the frequency of responses to questions I and II were counted using Magnitude coding. Because it is appropriate for descriptive qualitative studies that include fundamental statistical information to indicate data intensity, frequency, direction, presence, or evaluative content (Saldaña, 2016). The researcher counted the frequency of responses to each query in two steps. First, all responses from Google Form were downloaded into Excel (See appendix 4). The tables in Excel recorded all responses on the preferences of evaluation forms, the incorporation of feedback based on the students' reflection, and the investigation of the perceived differences. Second, all records from these tables were synthesized and collated according to a 5-point of Likert scale to identify the Frequency and Mean of 20 students' answers. The results were used to make comparisons between the students' view of different types of feedback, different dimensions of feedback, as well as the advantages of using them. Any results out of these topics were not included.

To answer the questions about the transformation of students' writing and the students' perceived differences after AWE and PE were incorporated into their writing. Structural coding was utilized by dividing the stages into three: pre-coding, initial coding, and final coding. Saldaña (2016) explained that Structural Coding applies a content-based or

conceptual phrase representing a topic of inquiry to a segment of data that relates to a specific research question, allowing researchers to quickly access data likely to be relevant to a specific analysis from a larger data set. The investigation of students' writing product was conducted manually by analyzing the 12 writing drafts with content analysis technique. Content analysis is used to examine textual or visual materials in order to discover specific qualities of the material (Ary et al, 2010). When examining the original essay, the feedback provided on it, and the edited version of the document, each draft was cross-referenced and compared.

In addition, in order to achieve a finer level of precision in the analysis, each instance of feedback offered by *Grammarly* or PE was categorized according to the type of feedback offered, namely correctness (CR), clarity (CL), engagement (EN), and delivery (DL). For a more in-depth overview of the several types of feedback, each of which can be characterized and coded according to the following table:

Table 2. Type of feedback given to students

No	Types of Feedback	Code	Description
1.	Correctness	CR	The writing has good spelling, grammar, and punctuation
2.	Clarity	CL	The writing is easy to understand
3.	Engagement	EN	The writing is interesting and effective shown by a good writing organization (opening, body, and closing)
4.	Delivery	DL	The writing has the right impression on its reader (the

Furthermore, the interview data was analyzed using Thematic Content Analysis. In this thematic content analysis, responses from interview transcripts were contextually analyzed following a comprehensive reading of the data in the Reading through All the Data

stage. At this juncture, all significant quotes and passages were labeled as 'data excerpt' and categorized into two tables pertaining to research questions 2 and 3, as shown in the table below:

Table 3. Data Coding for Interview Data

No	Data Extract	Code	Students' Reflection	Perceived Differences

The data extracted from each table were analyzed further at the sentence level for coding and provisional categorization. Sometimes, multiple codings were associated with a single sentence. Later, the findings from this stage of coding were discussed in the expert debriefing session to gain additional insights into category development and in the member check session to provide new or additional perspectives.

The results of data coding were converted to a table sheet (Table 5) for additional examination and analysis.

Table 4. Final Themes of Interview Data

No	Themes	Category	Subcategory	Descriptor

This process was iterative before the researcher reached a reasonable level of saturation for categories and subcategories. This final coding stage was halted when a meaningful categorization was developed after multiple iterative analyses of the data extract, subcategories were repeated until not much relevant and new information was coming from the data sources, or when new information was

discovered, but it fit the existing categorization. The results of this phase of coding were also subjected to peer-debriefing and member check. Eventually, the themes that emerged were identified to answer the research questions about students' reflection on their writing and the perceived difference of incorporating *Grammarly* and Peer Evaluation. Finally, similarities and distinctions between the results and the Literature Review were discussed. This study utilized the theoretical proposition strategy (Yin, 2014), which means that the case objectives and designs are based on a scheme that generates research questions and links them to a literature review, culminating in a novel discussion or proposed solution. Using a framework consisting of tables, diagrams, a comparison with the initial design from the literature review, and a case conclusion, generalization was then applied to the research questions and phenomenon.

E. Trustworthiness

Lincoln and Guba (2000) considered trustworthiness as a cohesive concept consisting of dependability, credibility, transferability, and conformity, with its four components operating as complementing features of the idea. They viewed trustworthiness as a single concept comprising of transferability. The researcher needs to show that the methods that were used can be reproduced and are consistent, that the approach and procedures that were used were appropriate for the context and that they can be documented, and that external evidence can be used to test the validity of the conclusions (Creswell, 2009). This will help improve the reliability of the findings. Triangulation, expert-debriefing, and member check are some of the methods that the researcher utilized in order to establish the dependability of this study. Other methods that were utilized include member check and expert-debriefing.

1. Triangulation

According to Ary et al. (2010) triangulation is a method that aims to evaluate the convergence of evidence from many methods that explore the same phenomenon or to corroborate findings from one method by reviewing the findings using a different approach. Triangulation can also

be used to examine the convergence of evidence from methods that study distinct phenomena. The usefulness of triangulation lies in the fact that it provides the researcher with the opportunity to evaluate whether or not the findings converge or contradict one another. In this study, the researcher triangulated different sources of information by looking at evidence from questionnaires, documentations, and interviews. The results were then used to construct a cohesive justification for the themes that emerged from the study.

2. Expert debriefing

Expert debriefing entails locating a person (a debriefer) who examines and asks questions about the qualitative study so that the account resonates with individuals besides the researcher. This strategy—involving an interpretation made by someone other than the researcher—adds credibility to a report (Ary et al., 2010). In this study, the researcher discussed the results of data analysis with the lecturer of the students as an English writing instructor and researcher in order to obtain valuable perspectives, critical reflections, and assistance in refining the interpretations and conclusions. The lecturer was selected due to her expertise in qualitative research and experience teaching EFL writing.

During the initial expert debriefing, the preliminary findings were reported on and debated by the researcher and lecturer. During this session, the lecturer checked to make sure that the themes found in the drafts that had been reviewed before contained accurate information. The results of the final data analysis were provided to the group of peers in the second peer debrief so that everyone could examine them together and verify that they were accurate. During this stage, a comprehensive discussion was held regarding the completeness and precision of the data collection and analysis techniques. The purpose of this technique was to lessen the likelihood of solitary researcher bias and provide further insights into the process of theme generation (Barbour, 2001).

3. Member Checking

In member checking process, verification of the qualitative findings is carried out by returning the final report or particular descriptions or themes to the participants in order to ascertain whether or not they concur that the findings are true. This is done in order to determine the reliability of the findings. According to Creswell & Creswell (2009), this step may involve conducting a follow-up interview with participants of the study and providing them with the opportunity to remark on the findings. During the course of the data analysis for this study, the preliminary participant check session was carried out. The data interpretations were given to the students so that they could check the accuracy of their replies. A couple of the participants expanded on what they meant in the written feedback questionnaires and writing samples that they submitted, but nobody challenged the interpretations that were drawn from the data. During the second session, participants were shown presentations that contained summaries of the previous session's results. The students examine the interview transcripts and the data analysis very carefully to determine whether or not the data interpretations are accurate. The findings indicated that the students did not require any further clarification regarding their agreement with the data interpretations.