

CHAPTER III

RESEARCH METHODOLOGY

This section describes the research design accomplished in this study to answer the formulated research questions. This section is divided into five major subsections namely: research design, data collection, data analysis, and timeline of the study. Each section is elaborated and presented in following subsections.

3.1 Research Design

The current study employed a descriptive qualitative design. A descriptive qualitative design is considered to be suitable in the context of the current research as it focuses on investigating the notion of arguments as one vehicle in informal reasoning in the literature of critical thinking (Blair, 2015; Howell & Kemp, 2002; Mayfield, 2014; Paul & Elder, 2020). The investigation was conducted under two main issues: first, the patterns of the students' reasoning in making the claims with regard to the emergence of fallacies made in writing Expositions; and second, common logical fallacies found in their Expositions in terms of manipulation through emotions, manipulation through distraction, and inductive fallacy. Exposition, as one kind of the argumentative essays, is regarded as a writing genre which best expresses the students' informal reasoning since it encloses arguments, evidence, facts, reasons, and explanation supporting the standpoint being argued (Crossley & Wilson, 1979; Feez & Joyce, 1998b; Munsell & Clough, 1984). Therefore, student patterns of reasoning and logical fallacies are most likely identified. Thus, the Expositions were written as a final writing exam which is a common requirement for senior high school student graduation in Indonesia. The fallacies on the whole essays, starting from the opening paragraph to the closing remarks or conclusion, were identified and categorized by the researcher and 3 other inter-raters based on the work of Mayfield (2014), the approach employed in this study. To ensure the reliability of the identification, and inter-rater reliability agreement was first statistically counted and determined using SPSS. In addition to the qualitative description, the students'

reasoning patterns were explained by describing and examining their responses to the interview questions.

3.2 Data Collection

This study employed different data collection techniques to seek rich data from various sources and to ensure the credibility as well as to reduce the weakness of each technique of the data collection. Two data collection were assigned from the texts in the form of 80 Expositions the interview transcripts obtained from the students who wrote the essays.

3.2.1 The texts from the Students' Expositions

The texts from students' Expositions are needed in this study to see the emergence of logical fallacies in the students' sentences. The texts were obtained from 80 Expositions written by the third-grade students as their written final exam in February 2020 in a reputable Senior High School in Bandung. This exam was one of the requirements for them to graduate from high school. Therefore, it was classified as a high-stake writing exam because the scores obtained by students on this exam would be the ones that would be the final scores for their written examinations in the English language subject. This exam, furthermore, was classified as a timed-writing one because the students were only given 2 hours to construct their essay with a minimum count of 250 words. This word count is in accordance with the average number of words in the essay writing exercise that they are used to studying and according to what is stated in the book issued by the Ministry of Education and Culture (2018), one of the reference books used by most Indonesian Senior High Schools. The essay type was assigned by the English Teacher Association in the school to be the English written exam for twelfth-grade students, besides an English spoken test. An examination grid was distributed to all twelfth-grade students in this school a week before the scheduled English practical exam. Before the actual exam, the students were assigned to collect any important information from any source about the current environmental issues about the world especially those cases in

Indonesia and were given chance during the one week time to practice writing in an Exposition writing context. They were allowed to discuss and relearn about the nature of an Exposition and how the essay was expected to be written as they have learned previously. They were strongly warned about the issue of plagiarism which would risk other grading processes as the Exposition grades would be the determinant of their graduation. However, the exam prompt was not provided to the students on the final exam day. The students were only presented with some topic choices and allowed to write essays based on their interests and preferences on certain topics. Accordingly, this condition might also explain the findings that the students made many varieties of logical fallacies in the essays. A more thorough explanation about this impact was explained in Chapter IV.

Given the nature of the students' Expositions as their final exam in this study, consequently, several issues are necessary to be raised. The students were not allowed to revise those essays once after submitted as they also did not get feedback from the teacher on their writing qualities. This condition contradicts the theory of the writing process approach which maintains that writing is recursive, which means that there are several important stages in writing that students must pass (planning, drafting, revising, and editing), as done by professional writers before they present their final products (Kiniry & Strenski, 1985; Widiati & Cahyono, 2006; White & Ardnt, 1991). Therefore, students must be given sufficient opportunities to experience each of these stages carefully (Laksmi, 2006). The implication is that, to some degree, it might be not wise to say that many fallacies were found in the students' essays while they were not provided with sufficient time to think critically and to undergo every stage in the process of writing. Besides, perhaps, if the students were given sufficient time to pass each of these writing stages, they would get some feedback from the teacher about the quality of their writing including their arguments. Feedback, according to Brown (2001), Husin & Nurbayani (2017), and Wahyuni (2017), is another critical factor for the student writing process.

Subsequently, the exam grid handed ou to the students under the following competency standard and basic competency is outlined below:

STANDAR KOMPETENSI [competency standard]**Menulis:** [writing]

Menyusun teks argumentatif tulis dalam bentuk teks eksposisi terkait isu aktual dengan memperhatikan fungsi sosial, struktur teks, dan unsur kebahasaan secara benar dan sesuai konteks. [Writing an argumentative written text in the form of an Exposition related to actual issues by paying attention to social functions, text structures, and linguistic elements correctly and in context]

KOMPETENSI DASAR: [basic competency]

Mengungkapkan makna dan langkah retorika dalam teks monolog dengan menggunakan ragam bahasa tulis secara akurat, lancar, dan berterima dalam konteks kehidupan sehari-hari dalam teks berbentuk teks eksposisi.

[Expressing the meaning and rhetorical steps in the monologue text by using a variety of written languages accurately, fluently, and acceptably in the context of everyday life in the text in the form of an Exposition]

INDIKATOR: [indicator]

Menulis teks berbentuk analytical Exposition.

[writing an analytical Exposition text]

BENTUK SOAL: [exam form]

Menulis esai minimal 250 kata.

[writing an essay consisting of at least 250 words]

WAKTU: [allocated time]

2 jam.

[two hours]

The students' Expositions were selected for some reasons. First, the ability of the students in making arguments is pictured in their Expositions and reasoning is something that is contained in argument (Govier, 1989). Second, the generic structure of an Exposition gives spaces to the students as the writers to express the meaning and steps of rhetorical move as demanded by the basic competency in the current English curriculum. Finally, the possibility of the appearance of logical fallacies which is the focus of this study was depicted in the claims made by students in the Expositions they had written. However, given that the students in this study were not given time to revise those essays after submitted; it was assumed that this condition greatly influences the emergence of their fallacies. This speculation is supported by

Murray (1980) and Zamel (2012) who say that, since writers do not seem to know what they will exactly write in advance, they should undergo several writing stages and that means that revision is one main step in the writing process. Another implication of this condition is that, perhaps, if feedback on their writing was obtained by students from the teacher, and perhaps from other students, the fallacies found in their Expositions would have been noticed earlier so those who appeared in the final products would have been less in terms of numbers and forms.

It is assumed that the emergence of these student fallacies is inseparable from the quality of teaching when Exposition was taught in the class. Based on a general suggestion, the knowledge about arguments, the related rules about making good arguments including how to avoid fallacies should be explicitly taught and students must be fully aware that they are learning the skills of critical thinking (De Bono, 1976; Ennis, 2011; Marin & Halpern, 2011; 1999; Paul, 1993; The Foundation for Critical Thinking, 2019). On that account, the teaching of exposition and learning process should have been watched to enable me to obtain comprehensive data. Another factor that affects the diversity of student fallacies found lies in the fallacy approach used which only identified students' fallacies from one point of view. The use of other fallacy approaches may affect the type and number of fallacies found. Thus, this research entails further investigation.

3.2.2 Interviews

The interviews were conducted with 10 students (5 female and 5 male students) randomly selected from the students whose essays contain any logical fallacies. The interviews examined the students' explanations behind their fallacious statements as found in their essays in which their reasoning patterns were able to be identified. The interviews were done through phone calls in which their essays were firstly scanned and sent to each of them through Whatsapp application. The fallacious statements had been marked with different colors by the researcher in advance so that it was easier for both the researcher and the students to refer to them when speaking in the interviews. The students were asked to explain the colored statements in the

essays including the questions of why they made those claims without telling them that they are considered fallacious. Then, to ensure the validity of the data, the interviews were recorded by the researcher to be further transcribed.

The interviews were conducted in Bahasa Indonesia. This was done to avoid miscommunication, to dig into more detailed and in-depth data, and to give comfort to the participants to provide explanations more freely in their mother tongue (see Filep, 2009). The questions in the interviews were developed based on each student's fallacious statements as marked in their essays. The following is some examples of questions addressed to one of the study participants as an attempt to identify their reasoning patterns:

Sekarang kita lihat paragraph 1 ya, kalimat pertama banget. Apa Mara udah nemuin kalimatnya?

[Now, let's look at paragraph 1, the first sentence. Have you locate the sentence?]

Nah, apa maksud kalimatnya? Miss barusan buka WIKI dan Miss nemuin banyak tentang The Greatest College Student.

[Well, what do you mean here? I just opened WIKI and I found out a lot about The Greatest College Student]

Kenapa Mara bisa bilang bahwa “Wiki How will not give you answers if you search the title of this essay because becoming great is not simple matter”?

Apakah menurut Mara jawaban dari pertanyaan ini tidak akan ada di Wiki?

[How could you say that “Wiki How will not give you answers if you search the title of this essay because becoming great is not simple matter”? Do you think the answer to this question will not be found on Wiki?]

3.3 Data Analysis

The data analysis included the identification of logical fallacies in all statements found in all generic structures of the essays written by the participants in this study and analysis of students' patterns of reasoning obtained from their arguments about their reasons for making claims as found in the essays.

3.3.1 Analysis of Data from the Students' Expositions

In analyzing the data obtained from 80 students' Expositions, the fallacy approach proposed by Mayfield (2014) was used which consists of 17 categories of

fallacies: (1) Appeal to fear, (2) Appeal to pity, (3) Appeal to false authority, (4) personal attack, (5) Poisoning the well, (6) Red Herring, (7) Pointing to another wrong, (8) Straw man, (9) Circular reasoning, (10) Hasty generalization, (11) The false dilemma, (12) The questionable statistic, (13) contradiction, (14) The loaded question, (15) The weak analogy, (16) Questionable cause, and (17) Slippery slope. Consequently, the analysis focuses on the types of logical fallacies found in the students' essays.

Before identifying the types of fallacies made by the students, some steps were carried out. First, the 80 students' essays were read and comprehended starting from the title, opening paragraphs to the closing paragraphs. All the reports, opinions, arguments (since an argumentative essay may contain these three components as the framework suggests), and the fallacious statements were differently marked and colored. Second, the essays were separated in terms of those that contain fallacies, which is the purpose of this study, from those that contain only arguments, opinions, and reports. The total number of students' arguments and fallacies were then counted and outlined in Chapter IV. However, only a part of the students' quotation that stood out was presented for analysis. Some of the students' sentences use the same syntax so that only a few of them are taken to represent the same sentences. Of the minimum 250 words that the teacher expected, the average participant wrote 250-400 words. Of the 80 essays analyzed at the initial stage, it was found that there were 34 essays that contained fallacies in them. Therefore, according to the focus of this study, the analysis and presentation of data only focused on these 34 essays.

Then, to ensure the credibility and to reduce the subjectivity issue of this study 3 raters were recruited in the process of identifying the students' types of fallacies. The raters are a TOEFL instructor in a private language institution and two English teachers in two reputable senior high schools with the latest TOEFL scores are more than 525. The raters were firstly trained four times both together and personally to ensure that the framework in this study is understood holistically and precisely by each rater. Before and during the training, the raters were given a handout of the fallacies approach based on the framework in this study rearranged

and readjusted by the researcher according to the needs of this research. The training was firstly conducted on the 20th of May 2020. After the training sessions were completely done, the sheets of the types of students' fallacies identification and the copies of all students' essays that contain fallacies were given to each rater. The results from each rater's identification were returned to the researcher depending on the time they took to complete it. After they were all complete, the inter-rater reliability agreement was then statistically counted and determined in order to ensure the reliability of the identification by using Interclass Correlation Coefficients (ICC) obtained through SPSS. This technique is appropriate to be applied when there are more than two raters involved in the study (Fleiss & Cohen, 1973). Finally, the students' types of fallacies were presented.

3.3.2 Analysis of Data from Interviews

The interviews were conducted several times based on the time agreed upon by the participants since they were busy preparing to take the entrance test to college. The interview began on the 11th of May 2020. The interviews were done to explore the students' reasoning patterns about their fallacious statements as depicted in their answers regarding the occurrence of fallacies towards the interview questions. The students' explanations shown in the interview transcripts were analyzed and categorized based on the framework of Sadler and Zeidler (2005) who propose that there are 3 kinds of informal reasoning patterns: (1) rationalistic reasoning, (2) emotive reasoning, and (3) intuitive reasoning.

The data from this instrument were presented in the form of content analysis based on the guideline from Gillham (2010). Content analysis is carried out to avoid verbatim transcription which is usually repetitive. Gillham (2010) reveals that content analysis allows researchers to note only statements that really say something according to the occurrences of themes in the recordings. Since this instrument is employed to seek the students; patterns of reasoning that appear in the forms of themes, content analysis is considered to be suitable in presenting the data.

3.4 Timeline of the Study

The research was conducted from March 2020 to Augustus 2020 as shown in the following table.

Table 2. Research timeline

Activities	Time
Collecting the students' Expositions	The fourth week of March
Analyzing the students' Expositions	The second week of April
Contacting and recruiting the raters	The second week of May
Interviewing the students	The second, third, fourth week of May
Providing brief training for the raters	The third and fourth week of May
Obtaining results from the raters	The second week of June
Data analysis process	The second week of June, July, Augustus
Consultation and revision on data analysis	September, October, and November