CHAPTER III
METHODOLOGY

This chapter holds together several subchapters, expanding the methodology utilised in this research. Those are Research Design, Research Site and Participants, Data Collection, and Data Analysis. The first subchapter, the elaboration of Research Design which includes the method and approach used in this study are presented whilst the second subchapter, Research Site and Participants, expose the place where the study is undertaken and who the target participants are. As for the third and fourth subchapters, Data Collection elaborates the technique used to collect the data and the types of it, whilst Data Analysis presents an explanation of the framework used to analyse the data.

3.1 Research Design

Since this study seeks to acquire in-depth comprehension of how grammatical and lexical cohesive devices are utilised in students' analytical exposition text and to acknowledge their inaccurate utilisation, therefore, this study would apply the Qualitative Content Analysis (QCA) method. The considerations are that QCA is the most predominant tactic to the qualitative analysis of documents and is prominent to help linguists in answering research questions concerning organisational processes in texts while also could help interpret the data (Bryman, 2004; Cassell & Symon, 1994; Mayring, 2003). Babbie (2001) asserts that QCA acts as a proper method for text analysis. It is helpful for collecting, analysing, and interpreting the data of the language features and schematic structure of texts. In relation to this study, it is seen that QCA is suitable to be used here as it is useful in supporting the researcher to collect, analyse and interpret the data related to the use of cohesive devices in analytical exposition text. The use of this design is also shown advantageous by other related studies, such as studies by Awwalia and Suhardi (2020) and Nugraheni (2016).

According to Babbie (2001), the purpose of QCA which is to deeply analyse certain contents (texts or images), could be achieved through the operation of coding. This coding operation involves the process of seeking underlying themes,

patterns, units, and or categories that is not merely to be measured and counted but also to be presented in in-depth interpretation (Mayring, 2003; Ryan & Bernard, 2000; Titscher et al., 2000). It is also concerned with the notion of text highlighting, that is by marking patterns, or codes to stand out to be further investigated. For these reasons, QCA is specifically used in this study as an attempt to deeply investigate students' utilisation of cohesive devices in analytical exposition text through text highlighting processes.

In order to answer the research questions of this study that is to investigate students' use of cohesive devices in their analytical exposition text and to acknowledge its inaccurate utilisation, QCA takes part as an operation of coding in a form of highlighting processes. In doing so, Halliday and Hasan's cohesion framework acts as the coding operation whilst students' texts are the content being examined. In addition, text highlighting is used to mark cohesive devices found in students' texts based on that framework.

3.2 Research Site and Participants

The present study explores the utilisation of cohesive devices in senior high school students' analytical exposition text. To be more specific, the study was conducted at one of the Indonesian state senior high schools in Cimahi. In regards to the research participants, as many as thirty-six 11th grade students in their second semester were targeted as the research participants.

The research site and participants were chosen based on the fact that analytical exposition text which is the focus of this study, is only taught at senior high school level for the 11th grade students. This refers to the 2013 Indonesian Curriculum's Basic Competence where analytical exposition text is stipulated as the core competence number 3.4 and 4.4; "3.4 Students are to differentiate and comprehend the analytical exposition text's function, structure as well as the language features both spoken and written by providing and requesting information related to the current issue and context. 4.4 Students are to compose analytical exposition text appropriately". Moreover, the site was also the target school where the researcher was assigned to serve as pre-service teacher; hence, making the site accessible to the researcher.

3.3 Data Collection

In regards to answering the research questions of this study, that is to investigate how grammatical and lexical cohesive devices are utilised in students' analytical exposition text and to acknowledge their inaccurate uses, high school students' exposition texts were collected by the researcher as the source of data collection. A class of 11th graders, thirty-six of them, were firstly asked to write short analytical exposition text by their teacher with 200 as the minimum number of words and 550 words at maximum. Before the students were instructed to write the text, they had been studying analytical exposition text with their teacher as many as two meetings in the previous weeks. As for the topic of their writing, the teacher allowed them to freely choose one out of five topics: (1) the good impact of social media, (2) the importance of English, (3) why should we obey the COVID-19 health protocols, (4) the positive sides of online learning, and (5) the weakness of virtual class. Moreover, the teacher also instructed them to provide a minimum of three arguments backed up with logical reasonings and factual data. As for the duration of writing, a week was given to them to finish and submit their writing.

Before deeply analysing the cohesive devices, purposive sampling was done in order to choose only six texts to represent low, middle, and high achieving level of proficiency. These levels of representation were necessary in order to obtain rich and broad data regarding students' utilisation of cohesive devices without having to analyse all the thirty-six students' texts; hence, resulting in a more effective and efficient way to scrutinise the data. Similarly, studies conducted by Emilia et al. (2018) and Adiantika (2015) also adopt this method of taking only a few texts to represent each level of proficiency in order to effectively analyse the data whilst targeting to obtain rich data. Whilst Emilia et al. (2018) use only six students' texts as the chosen samples, Adiantika (2015) takes nine texts to be cautiously analysed.

To obtain six students' analytical exposition texts that best represent each level of proficiency, the purposive sampling was done by the researcher of this present study by cautiously rating all the students' texts using Rose and Martin's (2012) Writing Assessment Criteria. This Writing Assessment Criteria includes the scoring of fourteen aspects grouped in five main SFL categories, namely Genre,

Register, Grammar, Graphic Features and Discourse. Details regarding each aspect could be seen in Table 3.3.

Table 3.3 *Rose and Martin's (2012) Writing Assessment Criteria*

	GENRE
Purpose	The appropriateness and development of writing purpose
Staging	How well-constructed and developed each stage is
Phases	How well-organised the sequence of each stage is
	REGISTER
Field	How the writer's understanding of field in texts or issues are presented and elaborated in arguments
Tenor	How the writer persuades the readers
Mode	How the language is highly written by the writer (too spoken or not)
	DISCOURSE
Lexis	How the writer constructs lexical resources in text
Appraisal	How the writer uses system of appraisal in persuading the readers
Conjunction	How the writer maintains logical reasoning in text
Reference	How clear who or what is being referred in text
GRAMMAR	How appropriate and accurate the sentences and word groups are constructed
	GRAPHIC FEATURES
Spelling	How the writer accurately spells core words and non-core words
Punctuation	How accurate the punctuation is used in text
Presentation	How the layouts or paragraphs are visibly distinguished

Rose and Martin's (2012) Writing Assessment Criteria as seen in Table 3.3 was chosen as the purposive sampling technique due to several reasons. Firstly, since the fourteen aspects being measured are varied from Genre to Graphic features, it enables the students' writing skills to be rated in equal measurement rather than privileging one or two skills over the others. Secondly, the range of numerical scores in this writing assessment criteria could be adapted depending on the evaluators' preferred scaling score, for instance 1 to 10 or 1 to 100. In relation to this study, the scale of scores used ranged from 1 to 10; hence, the perfect score would be 140. It is critical to mention that the categorisation of scores in this study for low achiever level is between 14 to 42, middle achiever ranges from 43 to 105, whilst 106 to 140 for the high achiever level.

In regards to maintaining the reliability of the scoring technique, there are several things that were adjusted by the researcher of this study. First, to avoid rater reliability issue, instead of using 1 to 100 scale which offers wider range to score students' works, a 1 to 10 scale is used, reducing the plausibility of inconsistent scores if being measured by other raters. Hence, there would be no inter-rater reliability issue (Brown, 2004). As to avoid intra-rater reliability issues, as Brown

(2004) suggests, for instance bias and fatigue, the teacher gave the students' works to the researcher by firstly removing the name of the students. As to avoid fatigue or any physical and psychological factors, the researcher rated only nine texts per day. Thus, it took four days to rate all the students' texts without experiencing any intra-rater reliability issue.

Furthermore, according to Brown (2004, p. 236), the task to write any type of text must have clear assessment criteria that focus on the genre and its expectation. In the context of assessing exposition text, Brown (2004, p. 237) mentions that there are numerous aspects which act as the essence of exposition text; hence, they must be critically measured. Those aspects include whether or not the writing follows the predictable conventions of exposition text, whether or not it successfully carries the purpose and main idea of exposition text, whether or not it utilises effective writing strategies, and whether or not it showcases both rhetorical fluency and syntactic variety. Regarding this, Rose and Martin's (2012) Writing Assessment Criteria has completely covered all those aforementioned aspects and summarised them within fourteen aspects as seen in Table 3.3. Thus, indicating their writing assessment criteria as a reliable tool for assessing students' analytical exposition texts in this study.

3.4 Data Analysis

Data analysis is the part where ideas, codes or patterns in research are uncovered as well as interpreted. As for the case in this study, this is the segment where students' utilisation of both grammatical and lexical cohesive devices is being explored and their inaccurate employment of cohesive devices being deeply investigated. To do this, text highlighting is used as the operation of coding based on the ground theory of cohesion framework proposed by Halliday and Hasan (1976).

The coding operation, in this case done through the process of text highlighting, was started by firstly segmenting each of six students' analytical exposition text into sentences. After that, numbers were put to mark each sentence, enabling the researcher to carefully look at the items of cohesive devices and to track them again to make the pattern of cohesion visible. Once done, all the cohesive

devices, namely reference, conjunctions, lexical cohesion, substitution, and ellipsis were carefully highlighted separately in order to cautiously spot the realisation of the smaller types of each cohesive device. Doing this, the data acquired were in a form of numerical data, displaying the overall number of cohesive devices employment of cohesive devices in each text. An example of how the coding operation was done in marking reference devices could be seen below.

"(1) These days, the use of social media has been increasing. (2) Using social media can be a beneficial activity. (3) It can help us to expand our knowledge, to communicate with others and many more." (Extracted from Text 4)

Colour codes: = Exophoric = Cataphoric
= Esphoric = Anaphoric

Patterns:
(1) these days (demonstrative reference)
(1) the use – of social media (demonstrative reference)
(2) social media – (3) It (personal reference)
(3) us (personal reference) – our knowledge (personal reference)

Results:

Types of reference	**Items found**	**Notes**
Personal	3	used anaphorically and exophorically
Demonstrative	2	used exophorically and esphoriacally

After the overall grammatical and lexical cohesive devices had been calculated to see the bigger picture of how those devices are realised in students' texts, the inaccurate use of cohesive devices was also analysed based on Halliday and Hasan's (1976) cohesive devices error category. According to Halliday and Hasan (1976), the error is categorised into four categories namely misuse, omission, redundant repetition, and unnecessary addition. The identification of error was done by looking back to the cohesive devices items that had been previously highlighted. Once spotted, that particular cohesive device used inaccurately was marked using different symbols, signalling different types of error done by the students. At last, the number of errors found in each text were tabulated. An example of error identification could be seen below.

"(5) ... when learning via video conference, many students do not activate the camera, it makes students seems like their(X) not pay attention to the teacher." (Extracted from Text 3)

Colour codes: = Exophoric = Cataphoric
= Esphoric = Anaphoric

Error codes: X = Misuse X = Redundant repetition
X = Unnecessary addition Ø = Omission

Results:

Types of error	Items found	Notes
Misuse	1	their - they
Redundant repetition	0	
Unnecessary addition	0	
Omission	0	

The data that had been analysed and calculated were later interpreted using the understanding of Halliday and Hasan's (1976) cohesion and identification of error framework. Additionally, whilst interpreting the data which is explored in the chapter to come, Chapter IV, the data analysis as well as the result of this study are thoroughly discussed and presented in detail. Findings from previous studies were also taken into account and cautiously discussed as to yield scientific, liable and valid data which would result in useful and far-reaching pedagogical implications for English teachers in Indonesia.