

CHAPTER III

RESEARCH METHODOLOGY

This chapter explains the methodology used in this study to answer the research questions through the subchapters of research design, context of the study, data collection, and data analysis. The research design subchapter explains the line of reasoning behind the chosen research design and its process. The next subchapter of context of the study elaborates on the aims and the data of this study. The third subchapter of data collection describes the steps to collect the data. Lastly, the data analysis subchapter describes steps in coding, inferring, and narrating the data.

3.1 Research Design

This study employed a qualitative content analysis. Content analysis is a systematic research technique to describe meaningful matter by making replicable and valid inferences (Krippendorff, 2019; Schreier, 2012). This technique has been used in some previous studies of SFL analysis to show frequencies, distributions, and percentages of units in the predetermined categories (Sofyan & Tarigan, 2018; Supriani et al., 2018; Zen et al., 2019). In order to achieve the aim of this study, a qualitative approach of content analysis was utilized for this study. According to Cresswell (2018), the qualitative approach has the characteristic of exploring and developing a detailed understanding of a phenomenon. By combining it with content analysis, they allowed this study to attain meanings held by the collected data by building patterns, categories, or themes. As a result, this technique was employed to obtain two things to answer the research question. The first one is the frequency analysis of theme choice and thematic progression in students' texts. Next, it was also used to obtain meanings held by these frequencies.

3.2 Context of the Study

As mentioned in chapter one, this study sought to discover how Indonesian EFL high school students present their ideas to create a coherent and cohesive explanation text through analyzing the realizations of theme choice and thematic progression in their texts. Thereby, the primary data used in this study is explanation texts written by eleventh-grade English for Foreign Language (EFL) Indonesian

students. The analyzed texts were deliberately selected from twenty seven texts made by twenty seven eleventh-grade students from one of the high schools in Bandung. These texts were the results of their learning after studying explanation texts for five meetings. The parents of the students had given their consent in allowing the students to be part of this study by giving written consent.

In addition to that, the reasons why the data was taken from students of this school had something to do with accessibility and compatibility. The school was accessible for the researcher because it was a school where the researcher served as a pre-service teacher. In regard to compatibility, explanation texts have become one of the compulsory genres that were studied by eleventh-grade students of this school in the even semester. By the time this study collected the data, the students have learned about the social function, generic structures, and language features of explanation texts. The examples of explanation texts which they have learned at that time mainly talked about natural phenomena.

3.3 Data Collection

This study analyzed texts using qualitative content analysis, which required several steps beforehand to collect the appropriate data. Hence, this study collected and analyzed the data by following components of content analysis asserted by Krippendorff (2019). There are three steps done to collect the data of this study: sampling, reducing, and unitizing.

The first step is sampling. In order to attain results that could represent students from all ranges of academic performance, this study conducted purposive sampling by categorizing students into the low, middle, and high achiever categories. This step has been implemented in previous studies and proven to give an in-depth analysis of the utilization of theme choices and thematic progression from all ranges of academic performance categories (Emilia et al., 2018; Yunita, 2018; Zahra et al., 2020). For this study, the purposive sampling was done based on students' performance in writing their explanation text. Their performance was graded with the chosen writing assessment rubric. The writing assessment rubric adapted several criteria from Rose and Martin (2012), Martin and Rose (2008), and Knapp and Watkins (2005) which categorized the criteria into context, discourse,

and grammar features (see appendix). By utilizing this assessment rubric, the perfect score would be 130. Once all students' text had been graded, there were three things that were obtained: (1) The minimum score of 82; (2) The maximum score of 117; and (3) The median of 105. Thus, the categorization of the sample was done by deciding that low achiever students are those who scored 82 to 101, middle achiever students' scores are between 102 to 109, and high achiever students' scores range from 110 to 117.

After the purposive sampling was conducted, the second step is reducing. It was done to make sure the data fulfill the following requirements: (1) The text is made by the students with plagiarism tolerance of 20%; (2) The text is written within 150-350 words; and (3) The text is written under the same given theme. These requirements were made to fulfill the research gap addressed by Chang and Lee (2019) and Pavavijarn (2022), which stated there is a need to collect the data for theme system analysis in a more controlled manner to obtain a clearer understanding of the patterns. After filtering the texts made by the participants with the predetermined requirements, there were six explanation texts which were chosen to be the data for this study. Besides the fact the chosen texts had fulfilled the requirements, the texts were also chosen due to their contents which contain the phenomenon of interest.

Table 3.1 An Overview of the Collected Data

Category	Text	Topic	Word Count	Clauses	Score
High Achiever	A	Life cycle of a creature	253	24	117
	B	Natural disasters	346	28	113
Middle Achiever	C	Natural process	258	32	106
	D	Natural disasters	245	18	105
Low Achiever	E	Natural disasters	226	24	102
	F	Natural disasters	158	15	100

The third step is unitizing. This step was done to choose the most meaningful and informative units that were reliable and suitable with the research aim (Krippendorf, 2019). In this case, the unit of study is clauses. Therefore, each collected explanation text was separated into clauses to be analyzed. In this step, it was found that the units of this study were all in the form of declarative clauses. To see an overview of the collected data of this study, see table 3.1.

3.4 Data Analysis

After the texts had gone through every step of data collection, they were analyzed with content analysis. The steps for analyzing the texts were also taken from Krippendorf (2019). There are three more steps from the content analysis components: coding, inferring, and narrating.

The first step of coding was done by labeling the data according to the predetermined codes taken from theoretical frameworks, then each code was counted for its frequencies. Aligned with the aim of this study, the data went through the process of coding two times. The first coding process was done to discover the realization of theme choice while the second one was done to investigate the realization of thematic progression.

In coding the realization of theme choice, the clausal elements of the text were categorized into the topical, interpersonal, or textual theme according to the theories asserted by Halliday and Matthiessen (2014). Clausal elements who acted as the topical theme were further analyzed for their markedness by investigating their role in the clause. The topical theme is categorized as marked when it takes the role of adjunct or complement. Meanwhile, topical theme which is used as the subject of a clause is categorized as unmarked. Moreover, clausal elements containing interpersonal themes were analyzed whether they contain modal or comment adjuncts, vocative, or finite verbal operators. The last category, textual theme, categorizes the clausal elements into continuative, conjunction, or conjunctive adjuncts. The illustration of theme choice categorization can be seen in figure 3.1 below. In addition, examples of how theme choice is analyzed and coded from the data can be seen in table 3.2.

Figure 3.1 Thematic Choice According to Halliday and Matthiessen (2014)

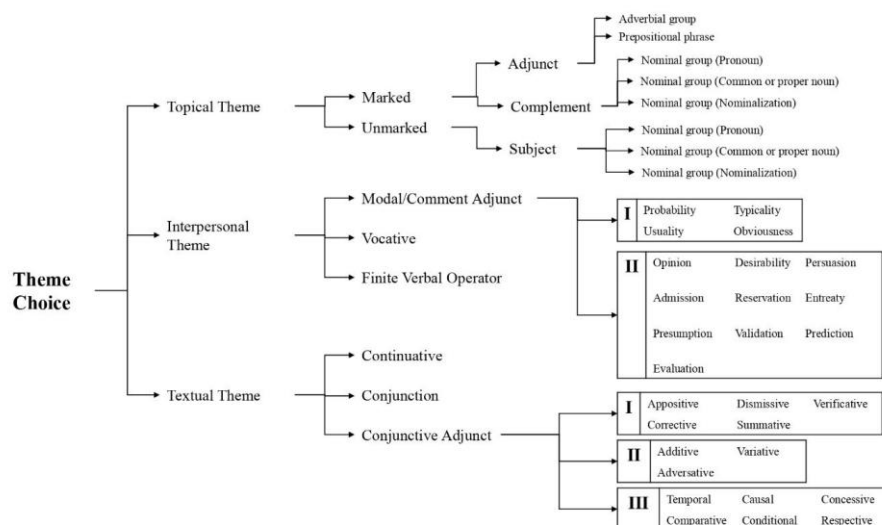


Table 3.2 The Example of Coding Process in Analyzing Theme Choice of Text C

= contains revision or error

SENTENCE 10: The earth temperature was increase (**correcting the spelling of *increase*: increase**), the sky is change to red, and the trees was burnt.

Sentence	The temperature	earth	was <i>increase</i> ,	the sky	is change to red,
Clause 15	Topical theme (Unmarked - Subject - common noun)		Rheme		
Clause 16				Topical theme (Unmarked - Subject - common noun)	Rheme

Sentence	and	the trees	was burnt.
Clause 17	Textual theme (Conjunction)	Topical theme (Unmarked - Subject - common noun)	Rheme

In addition to theme choice, this study also discovered the thematic progression used in the collected data. It was done by analyzing the thematic patterns between clauses and seeing their frequency based on the theory asserted by Eggins (2004). The thematic progression is categorized into the zig-zag, reiteration, or multiple-rheme pattern. Each category has been illustrated in figure 3.2 and an example of the coding process in analyzing thematic progression is shown in table 3.3.

Figure 3.2 Thematic Progression According to Eggins (2004)

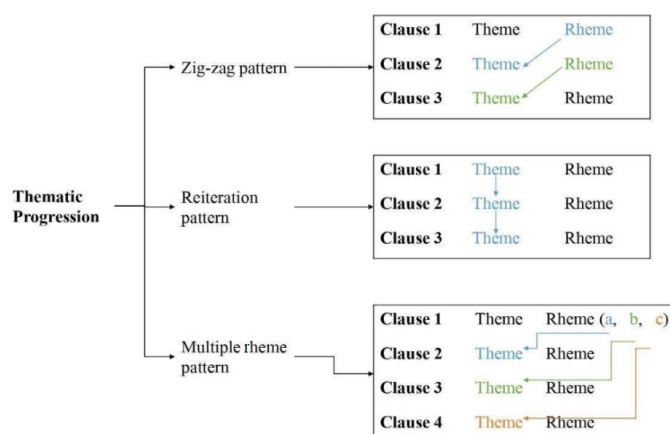


Table 3.3 The Example of Coding Process in Analyzing Thematic Progression of Text E

PARAGRAPH 3		
Clause 15	-	The fourth Volcanic stage is caused by magma activity
Clause 16	-	[[that usually occurs before a volcano erupts]].
Clause 17	-	The fifth stage is Mutual Away Movement,
Clause 18	-	the formation of a new plate (<i>occurs</i>) between the two plates
Clause 19	-	[[that are far apart,]]
Clause 20	RP	the newly formed plate will get a lot of pressure from the two old plates,
Clause 21	RP	so it will move down and cause a huge release of energy.

Note:

Blue highlighted word or phrase: Topical theme of the clause

Red highlighted word or phrase: Revision (Not counted for the frequency)

Yellow highlighted word or phrase: Multiple-Rheme pattern

After the data was coded to find the realizations of theme choice and thematic progression, every code was calculated to obtain its frequency percentage. The frequency percentage (%) was obtained through counting the total occurrence of certain code (f) divided with the overall amount of existing theme or thematic progression patterns in the data.

The last two steps are inferring and narrating. The frequencies were interpreted in the step of inferring. In interpreting the findings, findings from previous studies and existing theories were also taken into consideration to ensure the validity of the data. Lastly, the findings were narrated based on the findings from each theme types and thematic progression patterns in chapter IV to answer the research question.