CHAPTER III

RESEARCH METHODOLOGY

This chapter provides a detailed overview of the research design, including the selection of the research site and participants. It also discusses the techniques used for data collection. Additionally, the chapter explores the methodology employed for analyzing the collected data, offering a comprehensive view of the research methodology.

3.1 Research Design

The objectives of the current study were twofold. First, it aimed to analyze the students' exposition text writings in terms of structure, linguistic features, and ideational metaphors. Secondly, it aimed to explore how the effective deployment of ideational metaphor help develops students' exposition writing in terms of linguistic features. To achieve these objectives, the study employed qualitative content analysis (QCA). QCA is a systematic method for analyzing qualitative materials (Schreier, 2012), encompassing verbal, written, and visual data.

3.2 Research Site and Participants

The study was conducted in an Islamic senior high school (Madrasah Aliyah) located in Sumedang, Jawa Barat. The institution is under the auspices of the Ministry of Religious Affairs of Indonesia and currently holds an "A" accreditation, designated to schools that meet the rigorous standards set by Indonesia's National Accreditation Agency for Schools/Madrasahs (Badan Akreditasi Nasional Sekolah/Madrasah).

The research participants consisted of an English teacher named Aisyah (pseudonyms) and twenty-four students from Grade XI. In addition to this, nine analytical exposition texts written by high, middle, and low-achieving students were selected as the subjects of the study. All of the participants in this study were purposively selected (Merriam & Merriam, 2009) based on their ability to elucidate a specific theme, concept, or phenomenon and their knowledge of, and/or experience with, the focus of empirical inquiry (Robinson, 2014). In other words,

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the participants were chosen based on their characteristics matching the criteria of the targeted participants. Regarding this, the site and participants or subjects are appropriate for this study for the following reasons.

First, the teacher at the school was familiar with the genre-based approach for teaching genre-based texts. In an initial interview, the teacher revealed that she had completed a semester-long course on Systemic Functional Linguistics. Armed with this knowledge, she implemented the genre-based approach to teach analytical exposition texts, following the phases of Building Knowledge of Fields, Modelling of Text, Joint Construction, and Independent Construction (Emilia, 2011). This approach provided students with the necessary schematic structures and linguistic features for analyzing exposition texts effectively.

Secondly, the researcher had previously obtained six samples of analytical exposition texts written by the students at the school; all of which were the responses to the same prompt about a healthy lifestyle. Despite some grammatical errors in all the texts, all students wrote the texts following the proper schematic structure and linguistic features (including noun verbal groups and nominalization) (Derewianka & Jones, 2016; Emilia, 2011). Therefore, a further investigation of the use of grammatical metaphor and its effects on the texts to achieve the characteristics of written language, as well as the linguistic features of analytical exposition texts was important.

3.3 Data Collection Techniques

3.3.1 Student Texts

The student texts served as research subjects were written during the independent construction phase at Meeting 4 on March 6, 2024. With all 19 students present, each participant wrote an analytical exposition text. The process of data collection is as follows.

First, the teacher informed students about the activity in meeting 4, which was constructing analytical exposition texts independently. Students followed the instruction given by the teacher to write an analytical exposition text consisting of 300-350 words. The topic of analytical exposition texts for the students to write was consistent with the topic taught in previous phases of GBA, which was about **'Artificial Intelligence (AI) in Education.'** Throughout this phase, the teacher

supported students by guiding them through a structured process. This included assisting them in creating a plan and outline for their writing, drafting the initial version, revising it based on feedback, editing for clarity and correctness, and ultimately producing the final writing.

However, the time allocated during the class meeting proved insufficient for students to finalize their writing. As a result, none of the students completed their texts within the designated session. Recognizing this constraint, the teacher granted them the opportunity to continue their work independently at home. They were instructed to refine and complete their writings and submit the finalized versions during the subsequent meeting.

3.4 Data Analysis Techniques

3.4.1 Analysis of Student Texts

As explained in the previous section, there were nine texts selected for ideational metaphor analysis. These texts were composed by low, middle, and high-achieving students based on the Writing Assessment Criteria by Rose and Martin (2012), comprising the genre, register, discourse, and graphic features. The framework of the Writing Assessment Criteria is shown in Table 3.1.

Table 3.1 Writing Assessment Criteria (Rose & Martin, 2012, p. 323-324)

Genre	
Purpose	How appropriate is the writing's purpose and how well is it developed?
Staging	How well-constructed and developed is each stage?
Phases	How well-organized is the sequence of each stage?
Register	
Field	How does the writer demonstrate her/his understanding of the field or issues in the texts, and how are these insights presented and elaborated in their arguments?
Tenor	How does the writer persuade the readers?
Mode	Is the language used by the writer highly formal or overly conversational?
Discourse	
Lexis	How does the writer construct lexical resources in the text?
Appraisal	How does the writer use the system of appraisal to persuade the readers?
Conjunction	How does the writer maintain logical reasoning in the text?
Reference	How clear is it who or what is being referred to in the text?
Graphic features	
Spelling	How accurately does the writer spell core words and non-core words?
Punctuation	How accurately is punctuation used in the text?
Presentation	How visibly distinguished are the layouts or paragraphs in the text?

Table 3.1 is the framework for writing assessment criteria. Students' level of

proficiency in writing analytical exposition texts was classified based on their total score out of 100. Those who score between 50-69 are labelled as low achievers, 70 to 85 as middle achievers, and 86-100 as high achievers. Three texts from each category to represent the different levels of proficiency were selected. For inter-reliability, the writing assessment was conducted by the researcher and the teacher separately. The results of the two assessments were calculated for the decision of final scores. The result of the text classification based on the assessment is shown in Table 3.2.

Table 3.2 The data of student texts

No.	Title	Levels of students	Word counts
1.	The Benefits of Using Google Translate in Learning	High achiever	392
2.	The benefits of using Canva	High achiever	348
3.	Disadvantages of Google Translate for Education	High achiever	335
4.	Canva's Negative Impacts on Students	Middle achiever	329
5.	The Positive Impacts of Chat GPT in Education	Middle achiever	295
6.	The dangers of Chat GPT in language learning	Middle achiever	297
7.	The effects of Chat GPT on students' learning	Low achiever	218
8.	The benefits of Duolingo in Education	Low achiever	227
9.	The benefits of ELSA Speak for learning English	Low achiever	258
	Total	**9**	**2.699**

Table 3.2 is the information on the texts analyzed using the framework of grammatical metaphor analysis by Derewianka (1995). The analysis focused on two main aspects: the effective use of structure and linguistic features, and the application of ideational metaphors within the texts. The methods employed for data analysis are outlined below.

3.4.1.1 The Analysis of Schematic Structure and Linguistic Features of Analytical Exposition Texts

The analytical exposition texts written by the students were analyzed for both their schematic structure and linguistic features. Structurally, these texts typically include a Thesis that presents the main argument, an Argument that elaborates on

the thesis with supporting evidence, and a Reiteration that summarizes and reinforces the thesis (Derewianka & Jones, 2016; Emilia, 2005, 2011; Emilia et al., 2018; Gerot & Wignell, 1994).

In terms of language features, the analysis focused on the use of modality (e.g., *must, might*), causal conjunctions (e.g., *because, therefore*), and conjunctive relations (e.g., *first, second*) to establish coherence and logical flow. It also examines mental verbs (e.g., *believe*) for expressing opinions, relational verbs (e.g*., result in*) for showing relationships, and complex noun groups along with nominalization for formality and detail (Butt et al., 2003; Derewianka & Jones, 2016; Emilia, 2005, 2011; Gerot & Wignell, 1994).

3.4.1.2 The Analysis of Ideational Metaphors Deployed in the Students' Exposition Texts

The types of ideational grammatical metaphors established by Derewianka (1995) serve as a framework for the analysis, focusing on the aspects that match the criteria of the texts. The preference for this framework over the others is due to the systematic classification of ideational metaphors and practical examples of analyses provided by the framework. It significantly helps the researcher to make ideational metaphor classifications with high accuracy and transparency. Table 3.3 below displays the types and sub-types of ideational metaphors employed in this study.

Table 3.3 The Ideational Metaphor Framework (Following Derewianka, 1995)

Types of shifts	Sub-types (Semantic shift)	Sub-types (Class shift)	Example
Shift to thing	1. quality > thing	adjective > noun	unstable > instability
	2. process > thing	verb > noun	transform > transformation
	3. Phase of process > thing	tense > noun	going to > prospect
	4. conation > thing	phase > noun	try to > attempt
	5. modality of process > thing	modal > noun	can > possibility; may/must > permission/ necessity
	6. circumstance > thing	adverbial group/prep.phrase >	'how quickly?' > rate [of growth]
	7. minor process > thing	noun preposition > noun	with > accompaniment

	8. process + circumstance > thing	verb+adverb/prep.phrase > noun	move in circle > revolution
	9. relator > thing	conjunction > noun	so > cause, proof
Shift to quality	1. thing > class (of things)	noun head > noun premodifier	engine [fails] > engine [failure]
	2. thing > circumstantial quality	noun head > prep.phrase postmodifier	glass [fractures] > [the fracture] of glass
	3. thing > possessor (of thing)	noun head > possessive determiner	government [decided] > government's[decision]
	4. process > quality	verb > adjective	[poverty] is increasing > increasing [poverty]
	5. phase of process > quality	tense/phase verb (adverb) > adjective	begin > initial
	6. modality/modulation of process > quality	modal verb/adverb > adjective	will, always > constant; may, must > permissible, necessary
	7. circumstance > quality/class	prepositional phrase/adverb > noun premodifier	will, always > constant; may, must > permissible, necessary
	8. relator > quality	conjunction > adjective	before > previous
Shift to process	1. circumstance > process	be/go + preposition > verb	be about > concern; be instead of > replace; comes after > follows
	2. relator > circumstance: process	conjunction > verb	and > complement; then > follow; so > lead to; by > enable; because > cause; while > overlaps; whereas > contrasts with; like > resembles, etc.
	3. process type A > process type B	verb A > verb B	On the fifth day they arrived at the summit > The fifth day saw them at the summit
	4. conation > conation: signifying process	phase verb > verb	are able to; can > know how to
Shift to circumstance	1. relator > circumstance	Conjunction > prepositional phrase	so > as a result; because > due to/through/as a result of

Table 3.3 is the framework of ideational metaphor adopted in this study. As shown above, there are four types of shifts: shift to thing, shift to quality, shift to

process, and shift to circumstance. Each type of shift consists of a sub-type of shifts. Derewianka (1995) applied the framework to analyze student texts at the elementary school level. It became one of the reasons for the framework selection. However, Derewianka (1995) identifies shifts such as from Thing to Quality, Thing to Circumstantial Quality, and Thing to Possessor of Thing as accompanying metaphorization. However, their status as metaphors is considered somewhat peripheral or incidental. Therefore, they are excluded from this study.

Regarding the data analysis of the student texts, Derewianka (1995) provided metaphorical structures and their congruent modes, as shown in Figure 3.1.

Figure 3.1 Example of data analysis (Derewianka, 1995, p. 130).

Figure 3.1 shows the analysis technique proposed by Derewianka (1995). In this technique, sentences containing grammatical metaphors are identified and selected. The words or phrases that demonstrate grammatical metaphors are then highlighted and categorized based on the types of shifts they represent. For example, the examples in Figure 3.1 primarily show shifts from verbs to nouns (e.g., *to shoot → shots; to defend → defence*).

Following the identification of these grammatical metaphors, incongruent versions of the sentences are provided. For instance, the metaphorical mode *After ten SHOTS he was dead* is congruently expressed as *After he had been shot ten times, he was dead*. This congruent version helps the researcher decide the criteria

for inclusion of analysis. That is to say, any nominalization and grammatical metaphor with no congruent equivalent is removed or excluded. The congruent mode is also crucial to differentiate between the 'live' and 'dead' grammatical metaphors. The term 'live' grammatical metaphor refers to the metaphors which can be unpacked or expressed congruently, as shown in Figure 3.1. On the other hand, a 'dead' grammatical metaphor is a metaphor that cannot be unpacked or expressed congruently (Halliday, 1998).

Upon the grammatical metaphor analysis, each type of ideational metaphor was carefully recorded in a structured analysis table, ensuring accuracy through iterative review processes. Total occurrences across all texts were then calculated and presented in Table 3.4.

Table 3.4 A Sample of Data Analysis

Shift Type: Shift to Thing
Shift Sub-type: Process to Thing

Student text 1	Possible congruent structure	Token
This **exposure** will lead to **exploration** of a broad range of vocabulary.	If students **are exposed** to this, then they can **explore** a broad range of vocabulary	• *expose → exposure*
This exposure will lead to **exploration** of a broad range of vocabulary.	If students are exposed to this, then they can **explore** a broad range of vocabulary	• *explore→ exploration*

As depicted in Table 3.4, the student texts underwent analysis following Derewianka's (1995) framework. Upon identifying instances of grammatical metaphor deployment within sentences, each sentence was unpacked into a congruent structure. Shifts from congruent to incongruent structures were identified according to Derewianka's (1995) framework (Table 3.3). The occurrences of grammatical metaphors were classified, calculated, and put in a table for data presentation.

3.4.1.3 The Way in Which the Effective Deployment of Ideational Metaphors Help Develops Students' Exposition Writing in Terms of Linguistic Features

According to scholars and researchers in systemic functional grammar (Derewianka, 1995; Halliday & Matthiessen, 2014; Liardét, 2013; Schleppegrell, 2004; Ezeifeka, 2011; To et al., 2020; Wang, 2024; Emilia, 2014), grammatical metaphors enhance academic writing of any fields in various ways. They facilitate

the expression of abstract concepts, create technical words, structure reasoning within sentences, increase lexical density, aid in textual development, create anaphoric re-construal, elaborate on nominal groups, and allow for the accumulation of meaning. These aspects are crucial to creating highly valued academic writing.

In addition to contributing to the fulfilment of academic texts of various fields of study, grammatical metaphors, particularly ideational ones, play a crucial role in enhancing the effectiveness of analytical exposition. They achieve this by embodying linguistic features such as nominalization, technicality, and expressions of reasoning or cause-effect relationships (Derewianka & Jones, 2016; Emilia, 2011; Gerot & Wignell, 1994). The contribution of ideational metaphors to help analytical exposition text achieve its effectiveness is shown in Table 3.5.

Table 3.5 The Way in Which the Effective Deployment of Ideational Metaphors Help Develops Students' Exposition Writing in Terms of Linguistic Features

Type of shift	Example	Effects on linguistic feature of text	Example in text
Process → Thing	to disrupt → disruption	Nominalization	**Relying** too much on it may cause **disruption**
Quality → Thing	available → availability		The **availability** of speech technology allows users
Process → Thing	to expose → exposure	Technicality	Google Translate can lead to the increase of vocabulary by providing instant translations and **exposing user to a variety of words and phrases in different contexts.** This **exposure** will lead to exploration…
Process → Thing	hinder → hindrance	Abstraction	the inappropriate use of Google Translate may lead to **hindrance** to language **development**, **provision** of inaccurate translations, and **violation** of academic **integrity**.
Relator → Thing	so → the reason of so → the cause of	Reasoning	**The reason of** its convenience is high accessibility via digital devices,

Relator → Circumstance (Conjunction → Verb)	because → to cause so → to lead to then > to follow		Relying too much on it **may cause** disruption to language development.
Relator → Circumstance (Conjunction → Prep. phrase)	because → due to so → as a result of because → through		Students will rely a lot on Canva to do their assignment **due to** the availability of various interesting features.

Table 3.5 illustrates the mapping of ideational metaphors onto the linguistic features of analytical exposition texts. It demonstrates that shifts from Process to Thing and Quality to Thing are instrumental in achieving nominalization, technicality, and abstraction, which are key characteristics of analytical exposition. Additionally, nominalization can also stem from the shift from Quality to Thing. Moreover, reasoning involving grammatical metaphors can be articulated through shifts such as Relator to Thing, Relator to Circumstance (Conjunction to Verb), and Relator to Circumstance (Conjunction to Prepositional phrase).

3.5 Concluding Remarks

This Chapter has presented several fundamental elements of research methodology, covering the subchapters inclusive of the design of the study, site and participants or subjects of study, the steps of collecting the data, and the mechanism of data analysis.