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ARGUMENT SCHEMATIC PATTERNS IN EXPOSITORY TEXT WRITING FOR HIGH SCHOOL STUDENTS

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Abstract
Writing arguments is a form of patterns and schemata that students have. Therefore, it is important to explore it comprehensively, so that this research aims to reveal argument schemata patterns, both basic and complex patterns, as well as their linguistic features. Through a qualitative approach with schemata theory and Toulmin argument patterns, the research produced three patterns, namely the basic pattern C-G 31 data (27.43), the simple pattern C-G-W 21 data (18.58), and the complex pattern C-G-W-B 10 data (8.85), C-G-W-B-Q 12 data (10.62), C-G-W-B-Q-R 7 data (6.20), C-G-Q 8 data (7.08), C-G-W-Q 11 data (9.73), C-G-B 7 data (6.20), and C-G-W-R 6 data patterns (5.31). Basic patterns are composed of two elements, simple patterns of three elements, and complex patterns are formed beyond the basic and straightforward. Students assert the definition using the linguistic schemata "is" as a claim and describe the object using the linguistic feature "is" in the claim to bolster the argument and serve as a warrant. Reaffirmation through the use of linguistic features, such as "my conclusion," "therefore," "so," "which," "even," and "must," as protection. In summary, three types of student argument schemata are present in the composition of expository texts: basic patterns, simple patterns, and complex patterns.

Keywords: argument schemata pattern, exposition text, student

Introduction
Writing fosters critical thinking skills, enhances memory, and improves motor function (Miller et al., 2018). As a crucial skill, writing is indispensable in the 21st century (Wrahatnolo & Munoto, 2018; Yu & Wan Mohammad, 2019). Consequently, writing holds significant importance in daily life (Aliyah & Chamalah, 2018). Writing is a dynamic process that encompasses cognitive activities, mechanical rules, and precise linguistic features (Antrisna Putri et al., 2022). It is reasonable to perceive writing as a challenging task, as it involves a complex cognitive process requiring significant effort and mental engagement (Syakur, 2021). To address these challenges, teaching writing must incorporate

effective feedback between teachers and students to ensure the production of high-quality writing (Vandermeulen et al., 2024). Moreover, the organization of student writing as a structured pattern is essential for development (Rokhmawan, 2018). Patterned teaching methods can stimulate, guide, and enhance students' critical and creative thinking (Deveci, 2018), as well as improve the quality of their arguments, aligning with the objectives of writing instruction (Amansyah et al., 2023). This underscores the importance of argumentation patterns as a core component of teaching writing. The pattern of argument organization can describe quality hierarchically (Gregg & Steinberg, 2017). This explanation shows that the pattern of writing arguments and schemata are functionally related to each other.

Schemata, as a theoretical framework for understanding how knowledge is acquired and processed (Al-Issa, 2006), encompass information related to the concept of knowledge itself (Sun, 2014). Schemata also serve as prototypes for the representation of ideas, characterized as abstract constructs that function as the building blocks of cognition (Hühn et al., 2014; Rumelhart, 1980). Schemata are categorized into three types: formal schemata, content schemata, and linguistic schemata. In the context of writing, formal schemata are particularly significant, as they pertain to knowledge about the structural features of texts, especially written texts (Toledo, 2005). Content schemata relate to the understanding of subject matter or thematic content within a text. Meanwhile, linguistic schemata refer to knowledge concerning linguistic elements, including syntax, vocabulary, and grammar (Department of Basis Liberal Arts et al., 2020; Karami, 2020; Pourmohammadi, 2016).

Schemata, as units of knowledge, play a crucial role at the cognitive level. They provide guidance on what to teach and how to teach it (Winskel, 1993). In the context of learning to write, this cognitive aspect represents a complex process (Sibarani, 2015) that necessitates cognitive skills, including the activation of schemata (Flynn & Stainthorp, 2006). Writing challenges often emerge due to the lack of organized ideas (Deane et al., 2008), which are components of schemata. Schemata themselves contain essential information that supports the writing process (Flower & Hayes, 1984). Furthermore, writing difficulties can be addressed by leveraging schemata (Carrell & Eisterhold, 1983), which also function to facilitate the process of drawing conclusions (Morgan et al., 2017).

Writing and schemata are functionally interconnected, serving as a framework for understanding argumentation. Patterns of argumentation in writing develop functionally and are characterized by distinct features (Winahyu et al., 2023). These patterns may vary between students, resulting in diverse structural elements in their written arguments. Argumentative writing comprises several structural elements that shape its overall framework. According to Toulmin et al., these elements are divided into six components: claim (C), grounds (G), warrant (W), backing (B), qualifier (Q), and rebuttal (R) (Toulmin, et al., 1979). From Toulmin's perspective, argumentation encompasses claims, which are statements of positions or beliefs held by the writer; grounds, which provide evidence to support the claims; warrants, which establish the connection between the grounds and claims; backing, which reinforces the warrants; qualifiers, which define the scope or strength of the claims; and rebuttals, which address potential refutations or counterarguments to the claims.

The above explanation places Toulmin's schema theory and argument patterns can be combined in student writing. However, research on writing oriented to Toulmin's schemata theory and argument patterns has so far been found. In fact, good and complete schemata produce alternatives in problem solving (Wahyudi et al., 2021), so it needs to be known. A number of studies that have similarities, namely regarding schemata for summary writing development, the results show that student problems arise because the schemata are not activated (Hamed et al., 2014), especially content schemata (Özgür Küfi, 2023). Boeriswati's research found that students still tend to use basic patterns and have difficulty developing complex patterns (Boeriswati et al., 2024). In line with that, Asri and Wibowo's research on the application of argumentation patterns can effectively affect students' writing argumentation skills (Asri & Wibowo, 2023). This is reinforced by a number of studies proving that Indonesian students have low argumentation skills (Amielia et al., 2018; Nakrowi et al., 2023; Shinta & Filia, 2020).

Upon closer examination, several of the aforementioned studies have focused on Toulmin's schema theory and argumentation patterns. However, they have not combined the two in writing exposition texts. Therefore, scientific information about writing exposition texts in the perspective of Toulmin's schemata and argument patterns is still not known comprehensively. This is the fundamental reason this study was conducted with the aim of revealing how students' argument schemata patterns and how schemata are functionally related to argumentation patterns in writing exposition texts.

The exposition text was chosen to reveal the argument pattern schemata, because through this text students are free to reconstruct and elaborate their ideas and ideas into arguments. In addition, exposition texts incorporate modalities to construct opinions that lead to suggestions or recommendations, such as need, must, should, ought to, and similar expressions (Wiratno, 2018). Functionally, an exposition text portrays the situation and processes occurring within the writing context. A key consideration in selecting expository texts is their functional use of language, which is shaped by the communication context and reflects the attitudes, values, and ideologies inherent in its use. Furthermore, language serves as a tool for developing human cognitive skills. Writing expository texts is also a critical skill that plays an essential role for readers (Hastuti, 2019), as it contributes to the enrichment of their insights and knowledge. This text type aims to inform the reader about a particular issue. Students writing expository texts seek to explore a topic in order to gain a deeper understanding of it (Hebert et al., 2018).

Method

This research using qualitative methods and inductive thinking with in-depth observation of existing data. Qualitative methods are characterized as inductive and based on the researcher's experience (Creswell, 2013). Meanwhile, schema theory and Toulmin's Argument Pattern became the data analysis approach. Toulmin's Argument Pattern includes claim, grounds, warrant, background/backing, modal qualifier, and rebuttal.

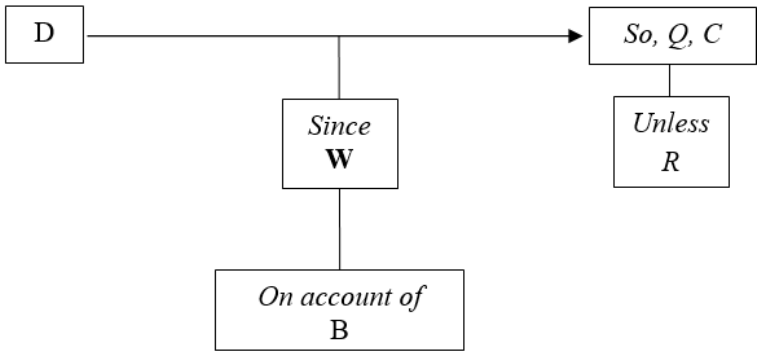

Figure 1. Toulmin's argument pattern (Toulmin, 2003)

The research data consisted of both oral and written forms. The oral data were derived from students' statements obtained through directed interviews, while the written data comprised exposition texts from 119 class X students at SMA 1 Kota Ternate. After a reduction process, 113 students' data were deemed eligible for analysis. Data collection techniques included tests, observations, and interviews. The first writing test was conducted individually to gather data on the argument schemata patterns. The test questions were structured and organized according to specific criteria and indicators within each stage of the writing process, allowing for a functional and in-depth examination of the argument schemata patterns at each stage. Second, observations were conducted on the exposition texts using an operational guide to identify the relevant indicators. Third, in-depth interviews were carried out to further explore the patterns of argument schemata present in the writing of exposition texts.

Data were analyzed using a flowing model (Miles and Huberman, 2014). First, data reduction leads to the process of selecting, focusing, simplifying, and categorizing data that appears on exposition text documents, interview transcripts, and other empirical records that fit the criteria. Second, data presentation, which displays data in a simple, concise, and easy-to-understand form in the form of charts and tables accompanied by data descriptions. Third, drawing conclusions or verification, which is the process of giving meaning after the data has been reduced and presented.

Findings and Discussion

Based on Toulmin's theory, the schematic patterns of using arguments in expository texts for students are categorized into three types: the most basic patterns, simple patterns, and complex patterns. As for these patterns, namely the C-G pattern with 31 data (27.43) which is the basic pattern, C-G-W with 21 data (18.58) as a simple pattern, the C-D-W-B pattern with 10 data (8.85), the C-D-W-B-Q pattern with 12 data (10.62), C-G-W-B-Q-R pattern 7 data (6.20), C-G-Q pattern 8 data (7.08) simple pattern, C-G-W-Q pattern 11 data (9.73), C-G-B pattern 7 data (6.20) simple pattern, and the C-G-W-R pattern with 6 data (5.31) as a complex pattern. Students function linguistic devices as schemata to clarify rebuttal (R) elements, for example, "therefore," "must," "which," and "even" which function as guarantees. Meanwhile, linguistic schemata, namely, to make an assertion, "is" to make a definition (claim), and "is" to characterize the object as support (backing).

Basic patterns are developed with two elements, simple patterns with three elements, and complex patterns with more than three elements. These three patterns are elements that form arguments in writing expository texts. From these results, it can be seen that the C-G basic pattern is an argument pattern as a form of schemata that dominates writing expository texts and a basic argument schemata pattern. According to the results of data analysis, it can be interpreted that students already have basic arguments in arguing as a competency, even though they are in the low level category.

The argumentative writing pattern is developed through the thesis pattern as a student's attempt to express the characteristics inherent in an object, namely the main idea of the problem. The goal is to convince readers. Without it, the argument would be weak and difficult to accept. This effort is carried out even in basic argument writing patterns: claims and grounds, simple argument patterns, claim-grounds-warrant, and complex patterns. These argument patterns go beyond simple patterns and have rebuttal elements. The argument pattern in the expository text is accompanied by examples and explanations as a rebuttal element to explain the claim being made and a backing element as a guarantee or support. Linguistic devices such as schemata are used to explain the position of claims in the form of ground and rebuttal, both in thesis statements, arguments, and reaffirmations.

Argument schemata patterns

Archetypes dominate students' arguments due to two factors: their argumentative competence and critical skills still need to be improved. In reality, the abundant arguments render the text more captivating (Syafnida & Ardi, 2020), and students have been instructed on expository texts since the first semester of high school. Expository texts are the most effective way to introduce students to the genre, as they prioritize perspective and incorporate arguments to ensure they are not weak (Knapp & Watkins, 2005). In other words, the writer must provide arguments supporting or refuting a problem. Based on this explanation, it is reasonable to infer that the fundamental argument schemata pattern needs to be more robust due to the learning process implemented in schools and the lack of students' curiosity attitudes. As previously mentioned, the efficacy of critical thinking is contingent upon the classroom environment and the room (Slavin et al., 2017). In reality, there is a correlation between high levels of critical thinking and the ability to write text (editorial) (Sari et al., 2019).

The primary argument schemata pattern C-G is 27.43, and C-G-W is 18.58, demonstrating that students write with basic argumentation patterns. Where the fundamental component of the warrant is a statement that bolsters the foundation established in the claim and is also interpreted as the degree of certainty of the argument put forth. In contrast to the results of the research conducted by Syaifudin and Utami (2011), which identified four argument patterns, no rebuttal elements were identified because argumentation is a fundamental component of reasoning, consisting of a stance, evidence, and conclusions at a minimum (Abduh et al., 2019).

A number of the findings above are similar to those of the research conducted by researchers. However, the elements of the argument pattern formed differ in quality and quantity. Qualitatively, it appears in the degree/content of the

argument; Quantitatively, it can be seen from the amount of pattern element data produced. Our findings are that the C-G-W-B-Q-R pattern appears with claim (C), ground (G), and warrant (W). It is followed by backing elements (B), style, attitude, and tone, which aim to give seriousness to a thing/problem qualifier (Q), as well as provide a rebuttal statement so that the statement becomes more detailed/detailed/specifically rebuttal (R) through linguistic devices as the schematic. There is a tendency for this kind of argument pattern with the statement that a good argument is composed of a complete idea, namely containing claims, data, warrants, backing, modal qualifiers, and rebuttals (Toulmin, 2003).

Table 1. Argumentation components

Type	Argumentation Components Data Exposure Data
Claim	As we know, gadgets are quite popular communication devices and their prices are cheap. Gadget users often choose gadgets because of their cheap prices, although this does not guarantee the quality of the gadget.
Ground	This is in accordance with data provided by the Populix survey which shows that 60% of respondents choose smartphones based on their affordable price
Warrant	Poor quality gadgets will harm buyers. In addition, it makes buyers less trustful of the party that produces the gadget. So in the future the quality of the gadget must be prioritized.
Backing	Evidence that shows gadgets are not of good quality has been found a lot. For example, gadgets often break when used.
Qualifier	Therefore, let's all use quality gadgets, even if they are cheap.
Rebuttal	People must be smart in choosing gadgets and not be influenced by advertisements.

Table 1 shows that the Claim element shows a controversial issue. This is because the argument is built on the basis of Claim as the basis and main assessment of reality (Eemeren, 2015). The argument pattern associated with the rebuttal (R) element is typically a rebuttal or refutation of the proposed claim, demonstrating critical skills because critical thinking is consistently demonstrated through the evaluation of, and the provision of compelling rationale for, an individual's actions (Facione, 2011). However, this pattern is consistent with the schemata theory and even supports the research findings that schemata serve as information in selecting problem topics (Torney-Purta, 1995). Nevertheless, the discovery of this critical argument pattern is regarded as extremely low, with only seven data points, or 6.2% of all students. According to research findings (Rohayati & Friatin, 2021), students compose expository texts with low criticality. It demonstrates that they still need to develop a sufficient critical attitude (University of Western Sydney et al., 2012). Critical thinking skills must be honed so that students think logically and reflectively (Kamaruddin et al., 2023), at the same time it shows that the goal of learning to write has not been fully achieved (Indriyani et al., 2019).

Pay close attention to the research results, demonstrating that schemata, particularly content schemata, must be established through a structured learning process. Consequently, the quality of students' argument schemata patterns is relatively robust due to the pattern of claim (C) and grounds (G) statement

elements, which need to be substantiated by warrant (W) justification elements. Even though learning is based on text genres, argumentation is a component of the exposition text structure, which emphasizes objectives by genre theory (Eggins, 2004). Exposition serves a social purpose and is goal-oriented (Maryanto, 2013).

When correlated with research (Ferretti et al., 2000; Nussbaum & Kardash, 2005), the primary argument schemata observed in students are as follows: they compose statements as supporting data for grounds (G), but they frequently neglect to incorporate appropriate evidence or a rebuttal perspective. (R) is not suitable. In reality, grounds (G) are statements that bolster conclusions, whereas conclusions are a type of claim (Walton, 2006). In the interim, there needs to be more critical thinking in assessing arguments. In examining the correlation between critical skills (Hasani, 2016), his research revealed a correlation between the ability to write arguments and a critical attitude. Students with a supportive learning environment can express their opinions and communicate their critical thinking. They may even engage in arguments. The reasoning is organized (Abbas & Sawamura, 2009; Aizikovitsh-Udi & Cheng, 2015).

Linguistic schemata patterns in argument

The reaffirmation writing pattern employs the linguistic schemata "therefore," but it is employed in the middle of the text, followed by a description of the argument, and concludes with a reaffirmation. This pattern is evident in its designation as a mixed affirmation pattern. It demonstrates that the final statement of a text is not always reaffirmation. For instance, argument 1 concludes with reaffirmation 1, leading to argument 2, which is concluded with reaffirmation 2. Although the linguistic schema of the connective “therefore” is a concluding statement, it is also used explicitly, so there is no inference to mental states (Subuki et al., 2023). Additionally, the qualifier element (Q) indicates that goals, self-efficacy, and self-confidence are all considered (Hacker et al., 2009).

The complex pattern of argument schemata demonstrates that schemata develop through assimilation and accommodation, as it is a dynamic cognitive structure (Emmott & Alexander, 2014). The development of schemata patterns can occur in content and linguistic schemata (Dang, 2018). However, the evolution of this research could be more active due to numerous elements of argument, such as small rebuttals. At the same time, writing is a process that involves the collection of ideas through pertinent information (Setyowati et al., 2022), which includes the development of arguments to substantiate claims (Irvan Baharsyah & Admoko, 2020).

The thesis is definitively stated with a central idea when written using a paragraph pattern. A definitive statement is expanded with explanatory sentences/statements/ideas to expand the thesis statement and two explanatory ideas, using linguistic schemata as connecting words.

> *Technological development is one of the impacts of globalization, where today is more sophisticated than the times of our ancestors. However, we don't only get positive impacts. We also have quite worrying negative impacts.*

Table 2. Linguistic schema patterns in arguments

Statement	Information
Technological development	Topic
is	The definitive connector
.... the impacts of globalization	controller argument
However, we don't only get positive impacts.	explanatory argument (1)
We also have quite worrying negative impacts.	explanatory argument (2)

An example of writing a thesis with the connector "is" as a linguistic schema to describe an object (gadget) is presented below. The thesis statement is expanded with two explanatory arguments.

> *Gadgets "are" a tool that is considered important today, which is often used in everyday life. This is because gadgets are very easy to obtain or use. The factors that make gadgets quite popular are cheap prices and sufficient quality in terms of communication, such as telephone calls or just providing news using the internet.*

Table 3. Linguistic schematic patterns of arguments

Statement	Information
gadgets	Topic
are	The definitive connector
This is because gadgets are very easy to obtain or use.	explanatory argument (1)
The factors that make gadgets quite popular are cheap prices and sufficient quality in terms of communication, such as telephone calls or just providing news using the internet.	explanatory argument (2)

Recommendations are considered as reaffirmations of arguments in order to convince readers. Students write recommendations according to the type of text with words of confirmation, such as "my conclusion" ...., "therefore" ...., and "so" ..... linguistic schemata which are also used in writing recommendations or reaffirmation of the problem topic is "which," "even," "must," and reaffirmation by repeating the content of the text. The following is an example of recommendation and reaffirmation writing pattern data.

> *Reaffirmation, text 1*
> *"Therefore," schools "must" install wifi to facilitate online learning because it can make it easier for students and teachers to get information.*

> *Reaffirmation, text 2:*
> *In accordance with the statement above, technological developments on the economy have quite a positive influence because they make it easier to carry outtransactions anywhere and at any time. "Even" helps small businesses to be able to sell their goods without having to have a store.*

> *Recommendation, text 1*
> *"Parents are obliged" to accompany children so that they do not fall into "negative" things. Because we can get many positive things from the development of this technology if we use it well and correctly.*

Recommendation, text 2
For parents, it's okay to give smartphone technology or video game hardware to young people, but spend more time with them, helping and supervising their technology activities.

Reaffirmation, text 3
.....(argument 1)
Therefore, ...(reaffirmation 1)
.....(argument 2)
So, ...(reaffirmation 2)

These data show that reaffirmation is not always the final statement of a text. For example, in this pattern, argument 1 closes with reaffirmation 1, giving rise to argument 2; closes with reaffirmation 2. Several linguistic features are used to show the characteristics of expository text and are also used to expand the argument, for example, "which," "even," and "must" as connectors. At the same time, it is a way for someone to defend an idea that they have (Weston, 2007), at the same time shows that the use of vocabulary is following the field of practice (Rhubido et al., 2023). In this case, the field of writing, especially writing expository texts. What is interesting is that the use of these linguistic features is also to explain events or incidents is a cognitive category, and is interconnected between arguments (Prihatini, 2018). In addition, the argument writing style uses a comparison. This is in line with Olmos' research, that this language style focuses on a problem that requires strong arguments, so it requires analogy (Olmos, 2017).

However, there are differences in linguistic features in the current study in the form of contradictions, such as, "because", "therefore", "however", which function to connect the Claim element with the Rebuttal in arguing. Meanwhile, the words "must", and "need" give the impression of a persuasive argument. At the same time, it shows that schemata as the highest cognitive structure plays a role in writing. Schemata integrate data relationships systematically and fulfill their functions, namely cognitive functions and structural functions (Varotsis, 2020). However, the dominance of the emergence of basic elements results in weak arguments, allegedly due to the weak schemata owned by students. This also results in the emergence of linguistic features that tend to be limited, even though these features function as a connector for arguments and the opposition between Claim and Rebuttal.

Conclusion

Based on the analysis, it was concluded that the schemata pattern of students' arguments in writing expository texts was as follows. Students have three argument schemata patterns in writing expository texts, namely the primary argument schemata pattern claim grounds as the pattern that dominates the argument, the simple argument schemata pattern claim-grounds-warrant, and the complex pattern, namely the argument schemata, goes beyond the three elements and has a rebuttal. Students function linguistic schemata, such as "must," "which," and "even" connectors to clarify the "rebuttal" element, as well as the linguistic feature "is" as schemata to create definitions and "is" to characterize an object.

Meanwhile, linguistic schemata are in the form of "therefore" to make conclusions and "so" to make assertions as a "warrant" in the argument. The argument schemata pattern, dominated by simple patterns, shows that schemata are developed through assimilation, although it tends to be limited.

It can be proven in the details of the object (rebuttal) as well as problems with the data (grounds). The rebuttal element is an element whose appearance is minimal, so arguments tend to be weak and need more detail regarding the existence of support for the claim element in the text. It is suspected that this happens because it is related to students' thinking abilities. The emergence of elements dominated by Claim and grounds is thought to be due to the weak function of the content schema and the students' cognitive functions are not developing well. This also results in linguistic features not functioning as a connector for arguments and the opposition between Claim and Rebuttal.

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