

# THEME IN THE ENGLISH MECHANICAL ENGINEERING DISCOURSE: A SYSTEMIC FUNCTIONAL DESCRIPTION

ĐỀ NGỮ TRONG NGÔN BẢN KỸ THUẬT CƠ KHÍ TIẾNG ANH: MÔ TẢ CHỨC NĂNG HỆ THỐNG

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DOI: <http://doi.org/10.57001/huih5804.2024.322>

## ABSTRACT

This article examines the use of theme in English mechanical engineering (ME) discourse from systemic functional linguistics (SFL) perspective developed by Halliday and other systemists. By analyzing a variety of texts including eight technical descriptions, seven research articles, and nine user manuals from the field, the study explores how topical, interpersonal and textual themes, simple and multiple themes, marked and unmarked themes, constant, linear themes and derived ones (or split rhemes) are employed to structure information, emphasize key concepts, enhance coherence and cohesion, and facilitate the communication of technical knowledge. The paper highlights the interplay between ideational, interpersonal, and textual metafunctions within ME discourse, revealing how thematic choices contribute to the clear communication of technical content. The findings show a dominance of topical, simple, unmarked and constant themes as well as demonstrate that theme selection in this kind of discourse not only serves organizational purposes but also reflects the communicative and functional needs of the technical discipline, ultimately facilitating the transmission of specialized knowledge to novices. Moreover, interpersonal, textual, multiple, linear and derived themes appear more frequently in academic and instructional texts than in descriptive ones. This research also provides insights into the linguistic strategies engineers use to structure discourse and offers a detailed functional description of thematic patterns in technical communication and presents implications for both practitioners and educators in the ME field.

**Keywords:** Theme; rheme; thematic progression; English mechanical engineering discourse; systemic functional linguistics.

## TÓM TẮT

Bài báo này trình bày nghiên cứu việc sử dụng đề ngữ trong diễn ngôn kỹ thuật cơ khí tiếng Anh từ góc nhìn của ngôn ngữ học chức năng hệ thống. Bằng cách phân tích nhiều loại ngôn bản thực tế bao gồm 8 bài mô tả kỹ thuật, 7 bài báo chuyên ngành và 9 hướng dẫn sử dụng thuộc lĩnh vực này, nghiên cứu khám phá cách các đề ngữ chủ đề, liên nhân và ngôn bản, đề ngữ đơn và đa, đề ngữ nhấn mạnh và không nhấn mạnh, đề ngữ diễn tiến cố định, tuyến tính và phân thuyết được sử dụng để cấu trúc thông tin, làm rõ các khái niệm chính, tăng cường tính mạch lạc và liên kết và hỗ trợ truyền đạt kiến thức kỹ thuật. Bài báo nêu bật mối quan hệ giữa các siêu chức năng tư tưởng, liên nhân và ngôn bản trong diễn ngôn kỹ thuật cơ khí, qua đó cho thấy các lựa chọn đề ngữ đóng góp vào việc truyền đạt nội dung kỹ thuật một cách rõ ràng. Kết quả cho thấy đề ngữ chủ đề, đơn, không nhấn mạnh và diễn tiến cố định đóng vai trò chủ đạo và việc lựa chọn đề ngữ trong thể loại ngôn bản này không chỉ phục vụ cho mục đích tổ chức ngôn bản mà còn phản ánh nhu cầu giao tiếp và chức năng của ngành, từ đó thúc đẩy việc truyền tải kiến thức chuyên ngành tới những người mới. Ngoài ra, tần suất các đề ngữ liên nhân, ngôn bản, đa, nhấn mạnh và diễn tiến tuyến tính cũng như phân thuyết xuất hiện trong các văn bản học thuật và hướng dẫn nhiều hơn trong các văn bản mô tả. Nghiên cứu này cũng cung cấp một số hiểu biết về các chiến lược ngôn ngữ mà các kỹ sư sử dụng để cấu trúc diễn ngôn và đưa ra mô tả chức năng chi tiết về các kiểu đề ngữ trong giao tiếp kỹ thuật và đưa ra những gợi ý cho cả những chuyên gia và các nhà giáo dục trong ngành kỹ thuật cơ khí.

**Từ khóa:** Đề ngữ; thuyết ngữ; tiến triển đề ngữ; ngôn bản kỹ thuật cơ khí tiếng Anh; ngôn ngữ học chức năng hệ thống.

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Received: 06/9/2024

Revised: 24/10/2024

Accepted: 28/10/2024

## ABBREVIATIONS

ESP	English for Specific Purposes
ME	Mechanical Engineering
SFL	Systemic Functional Linguistics

## 1. INTRODUCTION

In specialized fields such as ME, language plays a crucial role in the dissemination and communication of technical knowledge. This communication is often realized through written discourse, including technical descriptions, research articles and user manuals. As engineers engage in the design, analysis, and presentation of complex processes and systems, their discourse must be both precise, cohesive and coherent to convey highly specialized information effectively. Understanding how language functions in such contexts is essential for improving technical communication. One useful approach for examining how meaning is structured in professional discourse is SFL, a theory officially developed by Halliday that views language as a resource for making meanings, shaped by its functional use in social contexts [2-4]. In particular, the concept of theme in SFL provides insight into how information is organized and highlighted to guide readers' understanding.

The theme-rheme theory was officially introduced by Halliday in the late 20<sup>th</sup> century in his SFL. In SFL theory, the theme refers to the point of departure of a clause, or what the speaker or writer chooses to foreground as the starting point of communication [1-4, 7, 10]. Themes can be topical, interpersonal (Halliday only mentioned these two types in his first book) [1] or/and textual (Thompson added this type in his book) [2-4, 7, 10]. By exploring theme and rheme structures, we gain insights into how technical writers in ME construct coherent texts and present specialized knowledge in a reader-friendly manner. Themes can also be marked (signaling a shift in focus or emphasis) or unmarked (representing the typical or expected thematic structure) [2-4, 7, 10]. Eggins, Martin and Rose propose three main theme progression patterns, namely, constant, linear and derived ones (or split rhemes) [1, 7]. In technical discourse, these thematic choices influence how readers engage with and interpret complex content, making the study of themes in this genre particularly important.

Previous studies on theme and information structure have largely focused on general academic writing or specific fields such as medicine and legal discourse [6],

but there has been limited exploration of theme in engineering discourse, including ME one. This gap underscores the need for further analysis of the linguistic strategies engineers use to communicate their specialized knowledge. ME discourse, with its emphasis on descriptions, research papers, and user guides, offers a rich site for examining thematic patterns and their communicative effects.

This paper aims to provide a SFL description of themes in English ME discourse. By analyzing thematic structures in ME texts, this study explores how topical, interpersonal and textual themes, simple and multiple themes, marked and unmarked themes contribute to the clarity and effectiveness of technical communication. Furthermore, it seeks to reveal the broader implications of thematic choices among constant, linear and derived theme progression patterns for the construction of knowledge in engineering and the ways in which these choices reflect the communicative needs of the discipline.

## 2. THEORETICAL FRAMEWORK

### 2.1. Theme and the discourse

The study of theme within SFL has been central to understanding how information is structured in various forms of discourse. Since its development by Halliday, the concept of theme has evolved, particularly in the analysis of specialized genres, such as academic and technical writing [3, 4, 8].

#### *Theme in Systemic Functional Linguistics*

The concept of theme and rheme forms the backbone of Halliday's SFL. According to Halliday, the theme is the element positioned at the beginning of the clause, providing the context for what follows (the rheme) and themes can be topical, interpersonal or textual [2-4]. Themes can be unmarked, where the subject in declarative clause, auxiliary verb or question word in interrogative clause and verb in imperative clause is the theme, or marked, where a different clause element, such as an adjunct or complement, is thematized [2-4, 7, 10]. This thematic structure is key to understanding the organizational logic of a text, as themes help maintain the flow of information, particularly in specialized discourses.

Recent studies have expanded on Halliday's foundational work by investigating theme's role in different genres and registers. Eggins argues that unmarked themes are frequently used to present facts, while marked themes emphasize conditions or specific parameters essential, simple themes are common in

technical and scientific texts, where factual information is presented straightforwardly, in multiple themes, the ideational theme is the final element before the rheme begins, regardless of whether it is preceded by textual or interpersonal themes, and thematic progression refers to how themes and rhemes are organized across sentences or clauses to create coherence and flow in discourse [1]. Martin and Rose discuss how themes contribute to constructing both interpersonal and ideational meanings, guiding readers through complex arguments in academic writing. They emphasize that themes play a crucial role in creating coherence, particularly in highly specialized or technical texts [7]. However, much of the research has concentrated on general academic writing or disciplines, leaving a gap in the investigation of technical discourse, particularly in ME.

#### *Thematic Structures in Specialized and Technical Discourse*

Research on theme in specialized discourse has highlighted the distinct thematic structures used in fields like science and technique, where the precision of information flow is paramount. North studied scientific discourse and found that thematic choices are often aligned with the need to present hypotheses, methods, and results in a logical sequence [8, 9]. Similarly, Ventola and Mauranen analyzed academic and professional writing and found that thematic choices in professional discourse are instrumental in shaping the reader's engagement with the text [11].

Hewings further explored thematic progression in scientific and technical writing, noting that technical genres tend to use unmarked themes to ensure clarity and maintain a straightforward flow of information [5]. However, marked themes are often employed to emphasize shifts in focus or to highlight critical findings or processes. This observation aligns with Halliday and other systemists' claim that technical discourse relies on thematic structures to manage complex and dense information, a key concern in engineering fields [1-4, 7, 10].

#### *Theme and Thematic Progression Patterns in ME Discourse*

Despite the rich body of work on themes in academic and scientific writing, there is relatively limited research on theme in engineering discourse, particularly in ME. ME texts, which frequently describe processes, mechanisms, results, instructions and material properties, have a distinct need for clarity and coherence. The complexity of these descriptions suggests a unique use of thematic

choices to guide the reader through the text while ensuring precise communication.

Hyland emphasizes that engineering discourse often employs predictable and stable thematic structures, particularly in descriptions and technical procedures [6]. This stability in thematic choices helps manage the technical complexity and ensures that information is presented in a logical and reader-friendly way. Similarly, Williams notes that marked themes are occasionally used in engineering texts to highlight process distinctions or emphasize critical steps in a procedure, which suggests that thematic variation plays an important role in conveying technical expertise [12].

While these studies contribute to our understanding of thematic structures in technical writing, more research is needed to provide a comprehensive SFL description of themes in ME discourse. The present study aims to fill this gap by examining the thematic structures in a variety of ME texts, analyzing how topical, interpersonal and textual themes, simple and multiple themes, marked and unmarked themes, constant, linear and derived themes contribute to the clarity, coherence, and communicative effectiveness of technical discourse.

## **2.2. Research Design**

The present study investigates the use of theme in ME discourse through the lens of SFL, following a qualitative, descriptive research design. This design allows for an in-depth exploration of how themes are structured in specialized engineering texts and how these structures contribute to the overall coherence, cohesion and communicative purpose of the discourse.

#### *Corpus Selection*

The data for this study is from a corpus of 24 ME texts sourced from academic and professional contexts. The corpus includes 8 descriptions from ME textbooks (chapters, introductions) to provide foundational explanations of engineering principles, 7 research articles from ME journals (abstracts, introductions, literature reviews) to feature recent research in ME subfields and 9 user manuals from manufacturers' guides (industry guidelines, process documentation, incident reports) to offer practical and procedural instructions relevant to professional engineers.

The corpus was designed to cover a range of purposes and subfields within ME, such as thermodynamics, material science, mechanics, machines operations, robotics, mechatronics, machines and machine parts,

manufacturing processes, and etc. Each text ranges from 300 to 800 words. These texts are used to expand, convey, and explore knowledge in the field of ME (field), with the recipients being experts, students, and teachers in that specialized field (tenor). The language used is scientific and technical writing to convey meanings (mode). Tables, diagrams, charts, images, and etc. (if any), and the content within them, as well as the titles, headings, subheadings and section names in these texts, will not be examined.

#### *Theoretical Framework*

This study is grounded in SFL, specifically focusing on the textual metafunction as developed by Halliday, Halliday and Matthiessen, Eggins, Martin and Rose [1-4, 7, 10]. The theme-rheme structure is analyzed to uncover how information is organized within ME discourse. The study distinguishes between topical, interpersonal and textual themes (based on the metafunctions of themes), simple and multiple themes (based on the complexity of themes), marked and unmarked themes (based on the markedness of themes) as defined by Halliday and other systemists [1-4, 7, 10], where the topical theme refers to the subject matter of the clause, the interpersonal theme refers to elements of the sentence that establish a relationship between the speaker and the listener, expressing opinions, attitudes, or engaging the audience, and the textual theme refers to elements that help organize the flow of information in the sentence, including conjunctions, transitions, and cohesive devices that link clauses and provide a structure for the discourse, simple themes include topical ones only and multiple themes add interpersonal and/or textual ones, unmarked themes typically correspond to the grammatical subject and marked themes are elements other than the subject placed in initial position to emphasize certain aspects of the message. Additionally, the study explores thematic progression patterns to examine how the flow of information within and across clauses contributes to textual coherence and build cohesion using Martin and Rose's model in which key patterns include constant theme maintaining the same theme across consecutive clauses, linear theme, that is, the rheme of one clause becomes the theme of the next and derived theme where sub-themes are derived from a larger theme [1, 5, 7, 11].

#### *Data Collection Procedures*

The texts were obtained from various textbooks, journals and manufacturers' instructions, ensuring a

variety of sources representative of ME discourse. Selection criteria included relevance to ME content, text type variety (instructional, expository, and procedural), typicality and clarity of purpose (informing, instructing, or describing), and etc. The selected texts were formatted for analysis, and each was segmented into clauses to facilitate thematic analysis.

#### *Data Analysis Procedures*

The analysis follows three key steps: 1. Clause segmentation and theme identification: Each text is broken down into clauses and clause complexes, and the theme of each clause is identified. The distinction between topical, interpersonal and textual themes, simple and multiple themes, marked and unmarked themes is applied, following Halliday and Matthiessen's [3, 4] criteria; 2. Thematic progression patterns: The study classifies thematic progression patterns using Eggins's, Martin and Rose's model, examining how constant, linear and derived themes are developed across clauses and paragraphs [1, 7], and 3. Cross-genre analysis: The study compares thematic structures across different types of texts, including descriptions, research articles and technical manuals to find out similarities and differences in terms of themes and thematic progression patterns. This helps to uncover whether thematic choices vary according to communicative purpose, audience, or subfield within ME.

### **3. RESULTS AND DISCUSSIONS**

#### **3.1. Results**

The thematic analysis of the English ME discourse revealed several distinctive patterns in how themes are structured and progressed across different genres of texts within the field. These findings provide insight into how engineers structure information to achieve clarity, precision, and coherence in technical communication. The results are organized into five sections: topical, interpersonal and textual themes, simple and multiple themes, unmarked and marked themes, thematic progression patterns, and cross-genre comparisons. Table 1 below shows the number of various themes in the English ME discourse.

#### *Topical, Interpersonal and Textual Themes*

The study revealed that topical themes (79% or 615/781) were used most frequently, textual themes (19% or 153/781) were the second most common, and interpersonal themes (2% or 13/781) appeared only rarely throughout the corpus (See Figure 1).

Table 1. Distribution of themes in the English ME discourse

No.		Metafunction			Complexity		Markedness		Progression		
		Topical	Interpersonal	Textual	Simple	Multiple	Marked	Unmarked	Constant	Linear	Derived
1	Number	615	13	153	615	144	166	615	448	226	107
2	Percentage	79%	2%	19%	82%	18%	21%	79%	57%	29%	14%

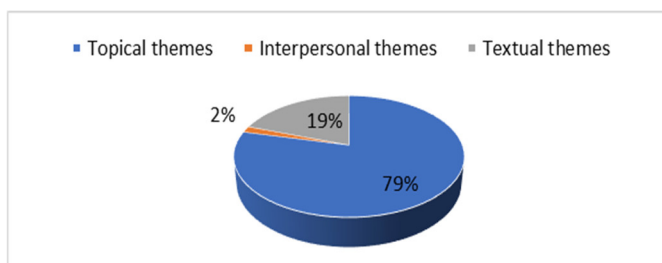


Figure 1. Distribution of topical, interpersonal and textual themes in the English ME discourse

The topical theme is the subject matter or the ‘what’ that the sentence is about, typically referring to concepts, processes, or items in ME. The interpersonal theme expresses the speaker’s or writer’s attitude, opinion, or interaction with the reader, often seen in technical instructions, suggestions, or evaluative statements. The textual theme provides a logical or cohesive structure to the sentence, linking ideas and creating flow between sentences or clauses. It usually involves connectors or linking devices. These themes help structure and communicate ME concepts more clearly and logically in technical texts. Here are three examples illustrating topical, interpersonal and textual themes from the chosen discourse.

*Example 1:* The gearbox transfers torque between different shafts. (Topical theme: The gearbox and rheme: transfers torque between different shafts.)

*Example 2:* It is important to note that the safety valve must be inspected regularly. (Interpersonal theme: It is important to note, topical theme: that the safety valve and rheme: must be inspected regularly.)

*Example 3:* In addition, the system requires regular lubrication to prevent wear. (Textual theme: In addition, topical theme: the system and rheme: requires regular lubrication to prevent wear.)

*Simple and Multiple Themes*

The investigation indicated a dominant use of simple themes across the corpus. As stated before, a simple theme is made when only a topical theme occupies the thematic position. A multiple theme is the theme that is

composed of the topical theme together with other elements such as interpersonal and/or textual themes occurring before it. In this corpus, 79% (615/781) themes belong to the simple category and 21% (166/781) themes are multiple ones (See Figure 2).

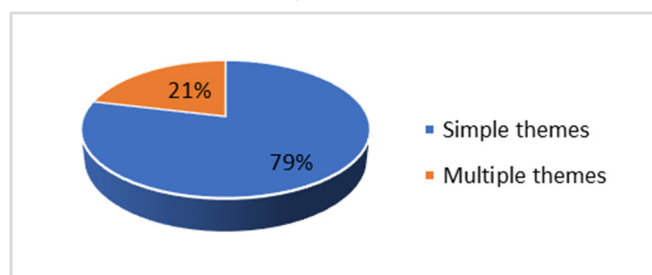


Figure 2. Distribution of simple and multiple themes in the English ME discourse

This finding suggests that, in this study, simple themes dominate the English ME discourse. In most clauses, the theme is primarily the main concept, presented directly and concisely. By placing key terms or ideas at the start of a clause, these topical themes effectively deliver the information that readers are meant to understand. This approach aligns with the nature of technical discourse, which is typically brief and to the point. Given limited time and focus, readers tend to capture the essential points of technical texts while ignoring unnecessary details. Here are two examples showcasing simple and multiple themes from the selected discourse.

*Example 4:* Hydraulic systems are widely used in heavy machinery. (Simple theme: Hydraulic systems and rheme: are widely used in heavy machinery.)

*Example 5:* However, in most applications, the gearbox regulates the speed of the output shaft. (Multiple theme: However, in most applications, the gearbox and rheme: regulates the speed of the output shaft.)

*Unmarked and Marked Themes*

The analysis identified a dominant use of unmarked themes across the entire corpus, particularly in academic journal articles and technical reports. Approximately 79% (615/781) (See Figure 3) of the clauses in the analyzed texts employed unmarked themes, where the

grammatical subject occupies the initial position of the clause. These unmarked themes typically included nouns or nominal groups referring to technical processes, materials, or components. This frequent use of unmarked themes reflects the importance of emphasizing subjects in technical discourse, allowing for a straightforward presentation of information.

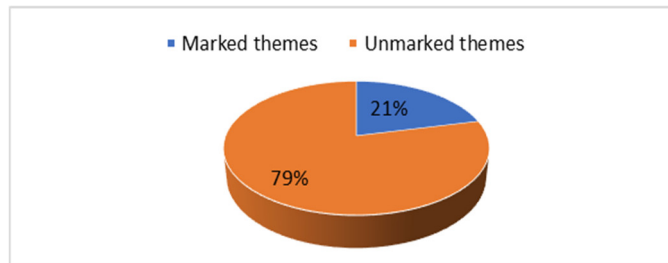


Figure 3. Distribution of marked and unmarked themes in the English ME discourse

Conversely, marked themes were found in 21% (166/781) of the clauses, typically employed for emphasis or contrast. Marked themes included adverbial phrases or prepositional phrases that emphasize temporal or causal relationships. This use of marked themes indicates how engineers occasionally manipulate the clause structure to highlight specific conditions or processes critical to understanding complex technical phenomena. Below are two examples of unmarked and marked themes from the selected texts.

*Example 6:* Engineers design the components to withstand high temperatures. (Unmarked theme: Engineers (subject) and rheme: design the components to withstand high temperatures.)

*Example 7:* Under high pressure, the fluid flows through the valve. (Marked theme: Under high pressure (prepositional phrase) and rheme: the fluid flows through the valve.)

*Thematic Progression Patterns*

The data revealed several key thematic progression patterns that contribute to the coherence and logical flow of ME texts. The most common progression pattern observed was the constant theme pattern, in which the same theme is repeated across successive clauses. This pattern accounted for approximately 57% (448/781) (See Figure 4) of thematic progressions in the corpus and was prevalent in descriptions of step-by-step processes, such as those found in explanations of manufacturing techniques. The constant theme pattern enhances cohesion by maintaining focus on a specific subject across clauses.

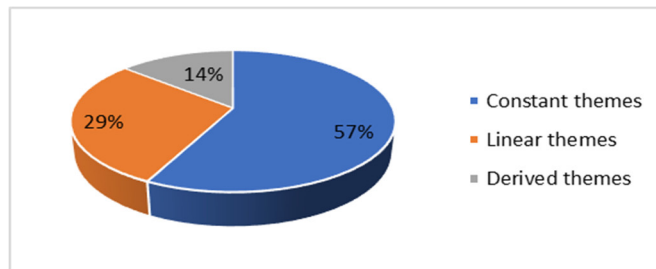


Figure 4. Distribution of constant themes, linear themes and derived themes in the English ME discourse

The linear thematic progression pattern, in which the rheme of one clause becomes the theme of the following clause, accounted for 29% (226/781) of the thematic progressions. This pattern was frequently employed when introducing new concepts or developments in a process. The linear progression facilitated the flow of new information, ensuring that readers can follow the logical development of technical explanations.

The least common pattern was the derived or split thematic progression, observed in 14% (107/781) of the cases. This pattern involves a single rheme introducing multiple new themes, which are developed in subsequent clauses. This pattern was most commonly found in sections where multiple aspects of a process or concept were introduced simultaneously. Below are three examples illustrating constant, linear, and derived themes from the chosen discourse.

*Example 8:* The piston moves up and down in the cylinder. The piston is driven by the crankshaft. The piston creates pressure that powers the engine. (In this example, the piston is the constant theme repeated in each clause, while the rhemes introduce new information about the piston’s role.)

*Example 9:* The motor generates mechanical energy. Mechanical energy is transferred to the gearbox. The gearbox regulates the rotational speed of the output shaft. (In this case, each rheme becomes the theme of the next clause, leading to a linear progression of ideas.)

*Example 10:* The control system manages two primary functions: monitoring and regulating. Monitoring ensures that sensors collect real-time data. Regulating adjusts the system based on feedback to maintain performance. (Here, the theme the control system is split into two sub-themes: monitoring and regulating, each of which is expanded upon in separate clauses.)

*Cross-Genre Comparison*

The analysis highlighted significant differences in thematic structures between academic journal articles,

technical manuals and descriptions. In academic and manual texts, there was a heavier reliance on textual, multiple, marked themes, linear and derived or split thematic progression, reflecting the need to develop theoretical arguments and present new findings. These texts were more likely to introduce and build upon complex technical concepts, procedures, using thematic progression to guide the reader through detailed explanations.

In contrast, technical descriptions favored topical, simple, unmarked and constant thematic progression, where repeated themes ensure consistency and clarity. The more frequent use of topical, simple, unmarked and constant themes in descriptions contributed to a straightforward, step-by-step presentation of instructions, which is crucial for ensuring the reader's ability to follow technical procedures without ambiguity.

### 3.2. Discussion

The findings from this study demonstrate how the thematic structures within English ME discourse reflect the goals of the specialized genre. The heavy reliance on topical, simple, unmarked themes and constant thematic progression patterns in all ME texts investigated suggests that clarity and precision are prioritized in this field. Technical communication requires explicit, step-by-step explanations of processes, and the frequent use of unmarked themes facilitates this by consistently focusing the reader's attention on the subject of the action.

The more frequent presence of textual, multiple themes, marked themes and linear and split thematic progression patterns in academic and instructional texts, by contrast, reflects a different set of communicative demands. These genres often require the introduction of complex theoretical concepts and the logical development of arguments, procedures, necessitating more variation in thematic choices to guide the reader through complex ideas. The ability to shift thematic focus or introduce new themes allows for the gradual elaboration of technical processes and arguments.

This study confirms the value of SFL for analyzing discourse in specialized fields. Thematic choices in ME are not arbitrary but are tailored to the specific needs of the discourse community. The more reliance on constant thematic progression in descriptions, for instance, ensures that the reader can easily follow technical content, while more complex thematic structures in academic writing help guide the reader through intricate content.

## 4. IMPLICATIONS AND CONCLUSION

### 4.1. Implications

The findings of this study have several implications for both technical writing and speaking as well as language instruction in engineering contexts as follows.

Firstly, in terms of technical communication training, understanding theme types and thematic structures should be incorporated into the curriculum for engineers responsible for writing descriptions, research articles, manuals, and other documents. A focus on topical themes, simple themes, unmarked themes, and constant progression can help engineers craft clearer, more accessible texts. In addition, training should emphasize how thematic choices influence reader comprehension, making it easier to convey complex technical concepts effectively.

Secondly, for English for Specific Purposes (ESP) programs, especially those targeting engineers, teaching thematic structures and progression patterns can significantly enhance students' ability to produce coherent, cohesive and accurate technical writing and speaking. By providing explicit instruction on how themes and progression function within ME discourse, students can better organize their ideas and maintain clarity in technical documents, ultimately improving their writing and speaking proficiency in engineering contexts.

Added to that, educators should incorporate thematic analysis activities into writing courses for engineers, offering students opportunities to analyze and revise technical texts with a focus on theme choices. Practical exercises might include comparing theme patterns in well-written and poorly-written technical documents or revising texts to improve their thematic structure, cohesion and coherence. Moreover, for engineers working in multinational environments, knowledge of thematic structures can aid in cross-cultural technical communication. By applying consistent theme choices, engineers can reduce ambiguity, ensuring that information is easily understood by international teams and readers who may have varying levels of language proficiency.

What is more, as for cross-disciplinary research, future studies could investigate thematic structures across various ME subfields (e.g., civil engineering, electrical engineering, material engineering, chemical engineering, mechatronics, robotics, automation, and etc.) to identify any unique or shared patterns.

Additionally, exploring thematic structures in other specialized discourses, such as automotive technology, business, information technology, tourism, hospitality, transportation, medicine and pharmacy, and etc. could yield valuable insights into how different professions manage information flow in their writing.

Lastly, collaboration between language instructors and engineering educators can ensure that thematic structures are integrated into both technical and language courses. This will better prepare students for the real-world demands of writing and speaking in technical fields, as well as improve the overall quality of technical communication across disciplines.

#### 4.2. Conclusion

This study explored the role of themes in the English ME discourse through a SFL lens, revealing how thematic choices shape meanings in technical communication. The findings demonstrated that topical themes, simple themes, unmarked themes and constant thematic progression patterns dominate ME texts, particularly in technical descriptions, where clarity and precision are paramount. In contrast, academic and instructional texts exhibited a more varied use of textual themes, multiple themes, marked themes and linear and derived thematic progression patterns, facilitating the introduction of new concepts and the logical development of technical explanations.

The thematic structures identified in ME discourse align with the needs of the field, where the accurate transmission of procedural and technical information is crucial. This research highlights the importance of understanding thematic choices as a tool for effective technical communication, offering insights for technical writing and speaking, language instruction in engineering, and ESP programs. Future research may expand on these findings by examining thematic structures across other engineering disciplines and specialized fields to further develop the understanding of how professionals manage information flow in technical discourse.

Ultimately, this study contributes to the broader understanding of how linguistic structures, particularly themes, function in shaping the clarity and coherence of discourse in ME, a field where precision and accessibility are essential. The application of SFL in analyzing technical texts offers practical implications for enhancing both technical writing and speaking practices and engineering education.

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