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The Application of Metafunction in Academic Text Analysis: A Review of Systemic Functional Linguistics Literature

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ABSTRACT

This literature review examines the use of metafunctions within the Systemic Functional Linguistics (SFL) framework in academic text analysis. Although many studies have addressed metafunctions, their findings remain fragmented, with each focusing on different aspects without offering an integrated perspective. To address this gap, the review synthesizes recent research to provide a clearer understanding of how ideational, interpersonal, and textual metafunctions collectively shape academic discourse. The ideational metafunction, particularly through transitivity analysis, is most frequently applied, showing the dominance of material processes and indicating students' tendency to emphasize concrete actions over abstract reasoning. Interpersonal analyses reveal limited use of modality and evaluative language, resulting in descriptive rather than argumentative writing. Textual findings show basic cohesion but simple thematic development. Overall, the review confirms the value of SFL metafunctions for linking linguistic choices to communicative functions and highlights the need for stronger SFL-based pedagogical practices in writing instruction and teacher education.

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I. INTRODUCTION

Language in the academic context holds a strategic function as a medium for conveying knowledge, constructing arguments, and building meaning scientifically. The use of language in academic texts is not merely a sequence of sentences but a representation of complex and

organized meaning structures. In linguistic studies, Systemic Functional Linguistics (SFL), introduced by M.A.K. Halliday, offers a comprehensive analytical framework for understanding how language operates within various social contexts. One of the key concepts in SFL is the linguistic metafunctions, which

consist of the ideational, interpersonal, and textual metafunctions. These three metafunctions serve as the foundation for analyzing how academic writers construct representations of ideas, attitudes, social relations, and textual organization. The metafunctions including ideational, interpersonal, and textual are essential in enhancing the writing abilities of EFL learners. By analyzing students' texts, researchers have found that understanding these functions helps address cultural and linguistic challenges, thereby improving critical thinking and writing skills (Herman et al., 2023).

Studies on the application of metafunctions in academic texts have developed rapidly, particularly in analyses of scholarly articles, abstracts, research reports, and students' academic writing. Yang's exploration of educational texts, for example, demonstrates how metafunctions help reveal the processes of knowledge construction and interpersonal relationships within learning contexts, thereby affirming the importance of applying SFL in educational research (Xin-zhang, n.d.). Furthermore, Cheng's review of 160 studies emphasizes that the interpersonal metafunction plays a crucial role in understanding social interaction in academic texts, while also guiding future research directions, especially in multilingual and language education contexts (Cheng, 2023).

In addition, the study by Mantasiah and Wajdi on postgraduate dissertations reveals that students are able to use mood and modality effectively, yet still encounter difficulties in epistemic modality. These findings indicate the need for pedagogical improvement in SFL-based academic writing instruction (R. & Wajdi, 2025). Meanwhile, Darong's research on EFL textbooks identifies several consistent linguistic patterns that can be utilized in developing teaching materials, underscoring that SFL principles can enhance the design and quality of learning resources (Darong, 2023).

Nevertheless, research findings on metafunctions in academic texts remain scattered and varied in terms of focus, research context, and methodological approaches. This indicates the need for a systematic literature review to summarize, categorize, and evaluate these studies.

This article aims to provide a comprehensive overview of how SFL metafunctions are applied in the analysis of academic texts, as well as to identify recurring patterns, contributions, and existing research gaps.

Through a literature review approach, this study is expected to strengthen both theoretical and practical understanding for researchers, lecturers, and students interested in SFL-based language analysis, particularly within the context of academic writing and research. Thus, this review not only reaffirms the relevance of metafunctions in interpreting academic texts but also offers new directions for research development and pedagogical practices in the field of applied linguistics.

II. RESEARCH METHOD

This study employs a literature review method with a descriptive-analytical approach to examine the application of metafunctions in academic texts based on the Systemic Functional Linguistics (SFL) framework. The descriptive analysis focuses on summarizing historical data to reveal patterns and trends, which are essential for understanding the evolution of the research topic (Geetha & Sujatha, 2024). Data were obtained from various relevant scholarly sources, including journal articles, theses, dissertations, conference proceedings, and books related to SFL and metafunctions, with particular emphasis on publications that analyze academic texts.

The literature search was conducted through databases such as Google Scholar, Scopus, ERIC, and ResearchGate using keywords related to metafunctions and SFL. The collected literature was selected based on relevance, full-text availability, and a publication range of the last ten years. Data analysis was carried out through content analysis by identifying the main findings, categorizing the studies into the three metafunctions, and comparing the patterns and contributions of previous research. The validity of the study was strengthened through source triangulation, cross-checking of findings, and critical evaluation of the methodologies used in the reviewed studies. This approach provides a comprehensive overview of the development of metafunction research within the context of SFL in academic texts.

III.RESULT AND DISCUSSION

4.1 Dominance of Material Processes and Metafunctional Tendencies in Student Academic Writing

The analyzed literature from (Yulia & Shomary, 2024) indicates that the application of metafunctions particularly the ideational metafunction through the transitivity system serves as the primary approach in examining academic texts. The reviewed studies including research involving 25 student exposition texts provide empirical insights into how grammatical choices are used to represent experience, construct logical relations, and shape the ways writers organize arguments. The literature also emphasizes that metafunctional analysis not only reveals linguistic structure but also its social and communicative functions within academic writing.

The application of the ideational metafunction is evident in the dominance of material processes in the data. Out of 845 clauses, material processes occurred 543 times (57.14%), indicating that writers tend to represent knowledge through actions, concrete activities, or observable events. This finding aligns with various SFL studies showing that exposition texts commonly rely on material processes due to their explanatory nature, which involves describing phenomena, mechanisms, and cause–effect relationships. The dominance of this process also reflects novice writers' tendency to build authority through concrete event description rather than abstraction, consistent with Halliday's theory on the central role of material processes in representing reality.

Relational processes appeared 149 times (19.7%) and served to classify concepts, provide definitions, and link entities with specific attributes or identities. The literature notes that relational processes are essential in academic texts because they help establish clear conceptual structures, enabling writers to explain ideas systematically. These findings reinforce the SFL perspective that exposition texts require a substantial proportion of relational processes to support the presentation of definitional and conceptual information.

Additionally, mental processes appeared 112 times (16.1%), indicating the representation of

perception, cognition, or feelings. Nonetheless, this percentage remains lower than that of material and relational processes. This suggests that student writers tend to produce descriptive rather than reflective academic texts. Generally, SFL literature reports similar patterns among novice writers, where underdeveloped critical and reflective thinking is reflected in the limited use of mental processes.

Meanwhile, three minor process types verbal, behavioral, and existential appeared in smaller numbers: 29 clauses (8%), 9 clauses (3%), and 3 clauses (1.2%), respectively. The limited use of verbal processes shows a lack of explicit statements of opinion or attribution to other sources, even though verbal processes are important in academic texts for establishing intertextual references. The low frequencies of behavioral and existential processes are expected, as these process types are less relevant to exposition writing, which focuses on conceptual explanation and argumentation rather than physiological behavior or simple statements of existence. This pattern is also consistent with findings from international SFL studies.

When viewed from the overall metafunctional pattern, it becomes clear that students are more capable of representing concrete events through material processes than developing abstract ideas through the more complex relational and mental processes. This illustrates an academic literacy level that remains largely descriptive, with limitations in constructing argumentative or explanatory structures. The low use of mental and verbal processes indicates weak argument elaboration, limited engagement with scholarly sources, and an underdeveloped logical structure in the texts. SFL literature explains that the ability to manage metafunctions in a balanced manner is one indicator of academic maturity in writing.

Overall, this literature review shows that the application of metafunctions particularly the ideational metafunction through transitivity analysis provides a systematic way to map how writers construct meaning, understand the relationship between linguistic structure and communicative purpose, and identify linguistic patterns that may not be visible through traditional analysis. This approach has proven effective not

only in academic discourse research but also in genre-based writing instruction, evaluation of student text quality, and the development of linguistic pedagogy in educational settings. These findings affirm that although novice writers still focus on factual representation, metafunctional analysis can reveal their potential to progress toward more abstract, critical, and academically appropriate language use.

4.2 Metafunction-Based Insights into Linguistic Structure and Academic Literacy

A literature review the article from (Budi et.al. 2025) on the application of metafunctions in academic text analysis shows that Systemic Functional Linguistics (SFL) is widely used as a foundation for understanding how writers construct meaning. The analyzed literature highlights that the three language metafunctions ideational, interpersonal, and textual play a crucial role in examining how academic texts are structured within their social contexts and communicative purposes.

The use of metafunctions provides a systematic framework for identifying the relationship between grammatical choices and the representation of meaning in texts. Several studies, including analyses of students' recount and exposition texts, indicate that the application of metafunctions, particularly through transitivity analysis, helps map how writers construct ideas, develop interpersonal relations, and compose discourse cohesively. Thus, SFL is regarded as an effective approach for evaluating linguistic quality and writers' academic literacy capacities.

In the context of the ideational metafunction, the literature shows that transitivity analysis serves as the primary tool for examining how experiences and concepts are represented through clauses. Research on senior high school students' exposition texts reveals the dominance of material and relational processes over mental and verbal processes, indicating that students tend to narrate concrete facts and activities rather than present abstract reasoning. The predominance of material processes reflects a stage of literacy development still centered on describing events, while relational processes play a role in defining concepts and classifying ideas in line with academic exposition purposes. Meanwhile, the

limited use of mental and verbal processes demonstrates students' restricted reflective abilities and their insufficient efforts to connect arguments with scholarly sources. These findings show that the ideational metafunction is a key indicator for assessing writers' linguistic and cognitive abilities in constructing academic ideas.

The interpersonal metafunction is also emphasized in several studies that examine how writers express stance, attitude, and authority through texts. However, many student academic texts tend to remain informative rather than argumentative due to the suboptimal use of modality, evaluation, and other interpersonal strategies. Literature also indicates that teachers still have limited understanding of the interpersonal metafunction, resulting in instruction that prioritizes structural aspects over the functional aspects of language. This condition contributes to students' inability to construct convincing interactions or strong argumentative positions in academic writing.

In addition, the reviewed literature highlights the role of the textual metafunction in organizing texts that are coherent and easily understood. Theme–rheme analyses in several studies show that students often rely on simple thematic patterns, causing the flow of ideas in paragraphs to appear underdeveloped. This limitation affects the cohesion and coherence of the discourse as a whole. Within an SFL-based instructional approach, the textual aspect is an essential component to strengthen, as it relates to the quality of argumentation, text organization, and readability in academic writing.

The literature review also reveals several challenges in applying metafunctions in teaching and analyzing academic texts. These challenges include teachers' limited understanding of SFL concepts, the dominance of structural approaches in teaching materials, and the lack of metafunction-based analytical activities that could train students to connect linguistic forms with the meanings they construct. This situation contributes to academic texts characterized by dominant material processes, simple thematic patterns, and low modality and argumentative elaboration.

Nevertheless, the contribution of metafunctions to the development of academic texts is highly

significant. Literature shows that the application of metafunctions helps researchers and educators understand patterns of meaning representation more deeply through analyses of processes, participants, and circumstances.

Additionally, this approach provides insights into students' academic literacy levels, including their argumentative ability, critical thinking, and capacity to construct cohesive discourse. In pedagogical contexts, metafunctions serve as an effective tool for improving text-based writing instruction and align well with the principles of the Merdeka Curriculum, which emphasizes contextual and discourse-based learning. Thus, SFL not only offers an analytical approach to linguistic structure but also strengthens functional understanding of how academic texts are constructed and used within specific social contexts.

4.3 Metafunctions as a Framework for Interpreting Meaning and Writer Stance in Academic Discourse

The literature review the article from (Rahmatunisa.n.d) shows that the application of metafunctions in Systemic Functional Linguistics (SFL) plays a significant role in analyzing and understanding academic texts. The reviewed literature emphasizes that language is not merely viewed as a structure but as a system of meaning choices consciously constructed by writers in accordance with social contexts and communicative purposes.

SFL positions language as a means of representing experience through the ideational metafunction, building social relations through the interpersonal metafunction, and organizing messages cohesively through the textual metafunction. These three metafunctions serve as a strong analytical framework in academic text studies because they enable researchers to reveal how meaning is constructed, how the writer's stance is presented, and how the text is organized to achieve coherence and effectiveness in scientific communication.

The findings of the literature review indicate that the ideational metafunction plays an essential role in representing social reality and the writer's experiences. In line with Halliday's perspective, a text is understood not only as a

linguistic form but also as an artifact containing traces of human experience and an instrument for expressing values, ideologies, and the underlying social context. The literature shows that the same experience can be represented differently through choices of processes such as material, relational, mental, and verbal as well as through varied selections of participants and circumstances. Thus, the ideational metafunction helps assess the extent to which an academic text is able to represent phenomena comprehensively, logically, and in alignment with the context being analyzed.

In addition, the interpersonal metafunction also plays an important role in shaping relationships and the writer's stance within academic discourse. The literature review highlights that every text carries a particular interpersonal position both toward the reader and toward the subject under discussion. The use of modality, evaluation, and other linguistic interaction strategies functions to convey the writer's authority and attitude. However, many teachers and students still do not understand the importance of this interpersonal aspect, resulting in academic texts that are informative but insufficiently argumentative. These findings point to the need for explicit instruction on how language can be used to construct interpersonal relations in academic writing.

The textual metafunction, which relates to how information is organized within the text, is also a key focus in SFL studies. The literature indicates that the quality of an academic text is strongly influenced by the writer's ability to manage theme rheme structures, lexical cohesion, and the systematic arrangement of information. The data show that the appropriate use of cohesive devices strengthens the logical flow of ideas, enabling readers to grasp meaning more fully. Therefore, analysis of the textual metafunction provides insight into whether an academic text meets the requirements of its genre and the social purposes underlying it.

Furthermore, SFL is also viewed as an essential foundation for the development of academic literacy. In the face of widespread digital information and hoaxes, the ability to read critically and understand the construction of meaning has become increasingly relevant. The literature underscores that language users who

understand SFL metafunctions are better able to assess text credibility, detect bias, and avoid information provocation. Therefore, the application of metafunctions not only enriches academic text analysis but also supports media literacy education in academic settings.

Nevertheless, the literature review identifies several challenges in implementing SFL in educational contexts. Many teachers understand SFL only partially and tend to emphasize text structure rather than the meaning functions that are the core of this approach. As a result, students struggle to understand how texts represent social contexts and communicative purposes. Another challenge is the limited training in critical reading and metafunction-based textual analysis, causing students to produce texts that do not align with the social purposes and grammatical features of specific genres. This situation affects the quality of students' academic writing and limits their ability to relate language to its contextual use.

4.4 Findings on the Application of SFL Metafunctions in Academic Text Analysis

The literature review the article from (Adisaptura, 2008) referring to data 4 shows that the application of metafunctions within the framework of Systemic Functional Linguistics (SFL) serves as a highly effective approach for analyzing academic texts, particularly in the context of primary education. The reviewed literature emphasizes that language is viewed as a system of meaning operating within social contexts; therefore, linguistic analysis must consider both the internal structure of the text and the external factors influencing it.

In the studies examined, the application of metafunctions especially the ideational, interpersonal, and textual provides a comprehensive understanding of how instructional texts are constructed, how experiences are represented, and how cohesion and cultural context shape the quality of the text. From the perspective of the ideational metafunction, the transitivity analysis of two instructional texts (Indonesian Language and Social Studies) shows that material processes dominate clause structure. In the Indonesian Language text, material processes reach 61.5%,

while in the Social Studies text they reach 56.2%. This dominance indicates that academic texts for primary school students tend to emphasize the representation of concrete actions and physical activities that are closely related to children's experiences. In addition to material processes, existential, relational, mental, and verbal processes were also identified, though in smaller proportions. This suggests that the construction of experience in the texts remains factual and procedural and has not fully encouraged the development of conceptual abstraction or higher-level argumentation. These findings align with SFL literature, which states that the ability to manage variations in process types within transitivity is an indicator of a writer's academic literacy development.

From the perspective of the interpersonal metafunction, the analysis shows that the relationship between writer and reader is established through the use of personal pronouns, modality, and interactional patterns presented in the texts. In the Social Studies text, for instance, verbal processes such as "said," "replied," and "asked" function to present dialogue that strengthens interpersonal proximity between characters and readers. However, both texts still show limitations in the use of modality and evaluative markers, resulting in the writer's or narrator's stance not being explicitly conveyed. This finding is consistent with the literature, which notes that the use of interpersonal resources in children's texts tends to be minimal due to limited reflective abilities and pragmatic strategies.

Meanwhile, the textual metafunction is reflected in the analysis of theme rheme structures and cohesion. In both texts, the theme rheme development pattern shows a fairly good degree of continuity between clauses, with new themes typically emerging from preceding rhemes. Nevertheless, the information development pattern tends to be enumerative and repetitive, making the discourse appear monotonous and less complex. The cohesion analysis also reveals that both texts make extensive use of repetition, collocation, hyponymy, and reference as the main cohesive devices. This indicates that the texts achieve sufficient semantic unity, although they remain simple and do not yet demonstrate the

variety of cohesive devices typically found in higher-level academic texts.

The analysis of context and inference strengthens the understanding that text quality is determined not only by grammatical structure but also by the relevance of the context in which the text is used. The Indonesian Language text, which discusses classroom cleanliness, has strong personal and psychological relevance for primary school students. However, in the Social Studies text, some locational contexts do not fully align with students' experiences outside Java Island, limiting the construction of meaningful connections. This highlights the importance of considering situational, cultural, and ideological contexts when developing instructional texts to ensure they meet learners' needs.

Overall, the literature review findings reaffirm that the application of metafunctions in academic text analysis offers deep insights into text construction, the relationship between form and meaning, and the relevance of contextual use. The findings in data 4 demonstrate that SFL is able to uncover systemic relationships between linguistic structure, social function, and cultural context, making this approach highly relevant for improving the quality of academic texts and the effectiveness of language learning.

IV. CONCLUSION

This literature review highlights that applying metafunctions within the Systemic Functional Linguistics (SFL) framework offers an effective and context-sensitive approach to analyzing academic texts. The ideational metafunction especially transitivity analysis is widely used, showing that student writing often relies on material processes and lacks abstract reasoning. The interpersonal metafunction findings indicate limited use of modality and evaluative language, suggesting that student texts tend to be informative rather than argumentative. The textual metafunction reveals that although texts show basic cohesion, they lack complexity and coherent thematic development.

Overall, SFL metafunctions not only support detailed linguistic analysis but also offer strong pedagogical value for improving academic writing skills. The review emphasizes the need for better teacher understanding of SFL, more explicit

metafunction based instruction, and improved curriculum design. Strengthening SFL-informed pedagogy can enhance students' academic literacy, critical thinking, and ability to produce coherent and purposeful academic texts. Future research should explore classroom implementation and teacher training to maximize SFL's impact.

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