A Contrastive Analysis of Halliday's Theme System in Indonesian and English-Native Abstracts

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Abstract. This study seeks to investigate the thematic features of research article abstracts written by Indonesian and English-Native speakers in language education and learning. With a huge interest in international publication among Indonesians, many go for a publication in academic journals that have a standard style of native English language. Thus, the lexical patterns of a manuscript must meet the criteria to make publication possible, otherwise the manuscript is not likely to be published. To capture this, 60 abstracts (from 30 Indonesian and 30 English-native authors) were chosen and taken from several international journals as the corpus of this study. Based on Halliday's SFL model, the abstracts were qualitatively analyzed for their Textual meanings. The results indicate that themes of the abstracts are specifically manifested in the native abstracts that are distinguishable from the abstracts written by Indonesians. The findings of this study can yield benefits for teachers, students, and academics to improve their manuscript quality in advance of submission in leading and reputable journals.

1 Introduction

In scientific articles, the abstract is an important part because it contains information about all the content that will be presented in the manuscript. With some criteria, the abstract must represent the contents of the document as a whole. The points mentioned in the abstract encompassing the subject matter, the approach used, the results obtained, and the expected implications or suggestions [1]. To convey all these matters, organizing ideas into clauses which are cohesive is required. Thus, the analysis of theme pattern is one of ways to capture this.

To describe the distinctive features of scientific discourse from an SFL perspective, Halliday [2] suggests that one of the significant features is Grammatical Metaphor (GM). To elaborate on GM, Martin and Rose first define lexical metaphor as one involving the transfer of meaning in which a lexical item that usually means one thing becomes another [3]. GM, according to Martin & Rose, includes the transfer of meaning from one type of element to another [3]. This transference occurs when the congruent structures that characterize spoken discourse are used incongruently (metaphorically) as used in English scientific discourse.

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GM, according to Halliday, is a realignment between a pair of strata: a semantic remapping to a lexicogrammar; hence the term reconstruction is used here to refer to it [4].

Halliday and Matthiessen argue that, in all languages, clauses own the feature of a message [5]. The message in text is organized in such a way to gain the flow of discourse which is effective. They further assert that, in English, organizing messages in a clause is carried out by assigning different status to its element, the so-called Theme and Rheme. Themes are said to be the element with which the message starts, in the meantime Rheme is the rest of the clause that is not Theme [6], [7], [8], [2], [5]. Therefore, a text can be constructed in such a way by its writer to organize the messages in clauses in order that this attains the successful flow of information as realized in the discourse.

A number of studies have analyzed the abstract of a scientific article. Nevertheless, analysis of abstracts directed at the comparison of abstracts of reputable international journals is still very rare, especially Indonesian with native English speakers in Scopus indexed journals. For example, Holtz analyzes the full article along with the abstract, then he compares these traits to see the differences between these two types of text in a wider linguistic context [9]. In his corpus based on practice in corpus linguistics, he decided to structure and process texts in the fields of computer science, linguistics, biology, and mechanical engineering. He found there was a significant difference between the abstract and their research together with clear domain-specific variations [9]. Although different methodologies were used in these two articles, they both identified similar results.

In addition, Raeisi, Dastjerdi, and Raeisi tried to compare the abstracts written by native English speakers and native speakers of other languages. By comparing each of the 15 abstracts from non-native English speakers and English speakers, there was no significant difference, although there were interesting findings such as the use of adjuncts and transitivity items being used more by non-native English speakers [10]. Zhou specifically compares thematic pattern of the abstracts written by English and Chinese speakers. This results in simple and multiple themes employed in both two abstract categories [11]. From the studies above, the researcher assumes that a study by comparing the representation of themes in Indonesian and English-native abstracts is needed. Therefore, the researcher focuses on the study of textual meanings, as realized in the theme system, through a Systemic Functional Linguistic approach.

2 Method

This study employed a qualitative approach to examine the data by analyses of texts. To do this, the corpus of this study encompassed 60 research article abstracts taken from six journals, three of which are from Indonesia and the other three are from outside Indonesia. 30 articles were written by Indonesian authors, while the other 30 articles were composed by English-native speakers. Specifically, 10 abstracts from each of the six journals were taken. Considering precise text analyses, the texts were selectively chosen from the same discipline, Applied Linguistics, and published in the last four years (2019-2022). Each journal is indexed by a reputable indexing agency, ranging from Q1-Q3 in Scimago with the consideration of available internationally indexed Indonesian journals in the discipline as the number is limited.

To collect the data, reputable journals in Indonesia are listed. Out of four Scopus-indexed journals, three were chosen: Journal 1 (Scimago Q1), Journal 2 (Scimago Q2), and journal 3 (Scimago Q3). The next step was to find reputable journals outside Indonesia. Of ample reputable journals, presumably typical journals in terms of the quartile ranking were obtained, entailing Journal 6 (Scimago Q2, Germany-based), Journal 4 (Scimago Q1, UK-based), and Journal 5 (Scimago Q1, UK-based). Journals 4-6 were finally selected as they could accommodate the number of English-native authors within the last four years of publication.

The similar journals with English-native contributors are rarely in lower quartile. That is the reason why only those journals were included. As for the reliability of this study, the abstracts were chosen based on the purposive sampling technique to take in discourse variations in Applied Linguistics of Indonesian and English-native authors.

The selected abstracts were analyzed manually by first segmenting the abstracts into clauses as the unit of analysis. Manual data analyses were carried out by tabulating the data into tables of analysis for theme and rheme identification.These analyses were based on Halliday and Matthiessen [5], Eggins [7], and Halliday [6] to determine the topical, textual and interpersonal themes. The topical themes were also analyzed for their markedness.

The theme identification was also used to identify the pattern of thematic development as the texts progress. In this regard, how Indonesian and English-native authors organize the abstracts to elaborate and to relate each point in the abstracts is emphasized. Finally, the results were presented in tables for comparing the percentage of topical, textual, interpersonal themes, as well as the thematic progression patterns. The results of each variable were thus synthesized and interpreted.

3 Findings and Discusion

In this section, realizations of themes as indicated in the Indonesian and English-native abstracts are presented. Data found are tabulated to depict each theme representation. In addition to that, discussion based on the findings are also highlighted I relation to previous studies and theories.

3.1 Theme Realization

From the analysis of 60 abstracts which were purposively chosen, the topical, interpersonal, and textual themes are identified. It is also noted that both marked and unmarked topical themes are realized in the Indonesian and English-native abstracts. Table 1 presents the frequency and percentage of each theme as realized in the two categories of abstracts.

TABLE 1. Themes used in the abstracts

Theme		Indonesian Abstracts		English-native abstracts		Total	
		F	%	F	%	F	%
Topical	Unmarked	283	65.06%	248	61.69%	531	63.44%
	Marked	47	10.80%	35	8.71%	82	9.80%
Interpersonal		2	0.46%	9	2.24%	11	1.31%
Textual		103	23.68%	110	27.36%	213	25.45%
Total		435	100%	402	100%	837	100%

As depicted in Table 1, of total 837 themes, there were 531 occurrences of unmarked topical themes (63.44%) and 82 of marked topical themes (9.80%). The topical themes are a compulsory element in a clause [12], which makes them most dominant. In addition, interpersonal themes occur 11 times (1.31%), meanwhile the textual themes occur 213 times (25.45%). The frequency of the textual theme realization is even higher than that of the marked topical themes.

Similarly, the high frequency of textual themes is also apparent in the two abstract categories, Indonesian and English-native, albeit the dominance of the unmarked topical themes. In the Indonesian abstracts, from highest to lowest, 283 occurrences of unmarked topical themes (65.06%) are found, followed by 103 occurrences of textual themes (23.68%), 47 of marked topical themes (23.68%), and only two interpersonal themes (0.46%).

In the meantime, the realization of themes in the English-native abstracts shares some similarities to that of the Indonesians in terms of its high-to-low manifested number. Consequently, unmarked topical themes, textual themes, marked topical themes, and interpersonal themes are expressed 248 times (61.69%), 110 times (27.36%), 35 times (8.71%), and 9 times (2.24%). It is noteworthy that the interpersonal themes in the English-native abstracts are 4 times more frequent than those in the Indonesian abstracts.

The representation of unmarked topical themes is dominated by nominal groups as the subject in declarative mood, with only one interrogative mood in the English-native abstracts taking a WH-word functional as the topical theme and interpersonal theme as in *...and How should it be researched?*. Besides, marked topical themes are all manifested in adverbial groups and prepositional phrases as Circumstantial Adjuncts, used to foreground certain acts [13]. Moreover, interpersonal adjuncts are only realized in noun clauses, except for one in an Indonesian abstract by employing *hypothetically* as the interpersonal theme, showing the author's opinion. Furthermore, textual themes are expressed in conjunctives predominantly and in continuity adjuncts.

From the results above, the Indonesian abstracts surpassed the English-native abstracts in terms of number in topical themes, both marked and unmarked. In contrast, the English native abstracts show a greater number of occurrences in the realization of interpersonal and textual themes. These will be discussed in the following section.

3.2 Discussion

A theme is a starting point of a message [7], [8], [6], [2], [5], [14]. As stated above, the topical themes occur more frequently than any other themes in both Indonesian and English-native abstracts. The result is similar to the previous studies [15], [11]. The realization of unmarked topical themes is more frequent than the marked topical themes, which is salient in both Indonesian and English-native abstracts. Gxowa-Dlayedwa's study [16] and Alotaibi's study [17] also yield the similar result of the unmarked topical theme dominance. This denotes the nature of theme markedness which is realized in special occurrences, in contrast to unmarked themes which is used to show commonness of its representation [18], [7], [8]. That is why unmarked topical themes occur in a greater number as something usual exists more frequently.

Topical themes are also called ideational or experiential themes, usually the first nominal group in a clause [8]. Eggins further argues that the use of marked themes can be initiated by a context itself [7]. For example, many use marked topical themes for the smooth flow of a message [19]. This means marked topical themes are used to bridge between clauses. This to some extent is concerned with the function of marked topical themes as the sign of changing a topic [20][19].

This article	*details an action research project that investigated the experiences of a selected group of middle school girls, all the children of refugee families, who engaged in a series of dovetailed literacy lessons focused on digital storytelling. (Abstract 2, Journal 4)*
Topical Theme (Unmarked)	Rheme

In weekly co-curricular sessions,	*the 14 students who participated in the project worked alongside a college professor and eight college women to practise a range of language and literacy skills as they told autobiographical stories, and then translated those stories to film, using simple movie-making software. (Abstract 2, Journal 4)*
Topical Theme (Marked)	Rheme

FIGURE 1. A topic change as realized by a marked topical theme in an EN abstract

The instance in Figure 1 shows how an author changes a topic into what the participants of the research did. It is noted that both examples are simple themes, to establish knowledge merely about the subject [21]. A marked topical theme *In weekly co-curricular sessions* is employed to move from what the study investigated by involving students to how they worked when participating in the project. In similar vein, the change of topic, or to borrow Martin, Matthiessen, Painter's term to shift our orientation [22], is also identified in the Indonesian abstracts as shown below.

It	*examines the patterns of WTC patterns employed by Indonesian students in class. (Abstract 23, Journal 3)*
Topical Theme (Unmarked)	Rheme

Drawing from close observation on two English classes at a junior high school in Aceh Timur,	*findings reveal that different task types lead to different patterns of WTC. (Abstract 23, Journal 3)*
Topical Theme (Marked)	Rheme

FIGURE 2. A topic change as realized by a marked topical theme in an IN abstract

The topic change in an example from an Indonesian abstract is apparent that the author first conveys what the study investigated, which was later to express the results of the investigation by showing a marked topical theme *Drawing from close observation on two English classes at a junior high school in Aceh Timur*. It doesn't begin with, for instance, *the findings* so as to indicate a bridging feature of marked topical themes. Besides, the clause will denote less cohesive relationship between the previous clause if no marked topical theme is fronted. Fronting the constituent means putting emphasis on it [23], becoming the vocal point of the clause . In this sense, the theme to some extent provides a context for a clause. Besides, according to Lin, marked themes can also be used for proposing arguments [24].

It is also found that a marked topical theme is present along with a textual theme (see Figure 3). This is what so-called a multiple theme. A multiple theme is said to assign thematic position to a non-cohesive component by keeping the clause connected to the previous one. In the abstracts, the function of marked topical themes to assure the text cohesion is also noted. Below are two examples taken from the abstracts.

... and	*recently*	*there is growing attention on the use of automated assessment tools. (Abstract 16, Journal 1)*
Textual Theme	Topical Theme (Marked)	Rheme

While studies highlighting the use of the tools per se are numerous,	*not much is available on the use of the combined tools. (Abstract 16, Journal 1)*
Topical Theme (Marked)	Rheme

FIGURE 3. A marked topical theme showing cohesive features in IN abstract

Findings	*are contextualized within the policy framework concerning language and the variegated landscape of Initial Teacher Education (ITE) in England and framed against apposite perspectives on identity and agency, with a central place being given to socio-cultural theories of identity formation which focus on discourse and practice. (Abstract 13, Journal 5)*
Topical Theme (Unmarked)	Rheme

Building on the findings,	*the discussion points up some of the elements that need to be in place if student teachers are to develop a professional identity that is truly inclusive and responsive to linguistic and cultural difference. (Abstract 13, Journal 5)*
Topical Theme (Marked)	Rheme

FIGURE 4. A marked topical theme showing cohesive features in EN abstract

A marked themes is an ideational constituent which is not the subject of a clause, but fronted to precede the subject [6], [2], [5]. Both themes in the examples above are fronted in advance of the subject *not much* in Figure 3 and *the discussion* in Figure 4, denoting the presence of marked topical themes *While studies highlighting the use of the tools per se are numerous* and *Building on the findings*. These fronted constituents function to provide cohesion. First, an author directs the proposition that ample studies highlight the use of automatic assessment tools in order to make it in line with the previous clause indicating the increasing interests of such tools. Likewise, the latter example constructs the idea by relating to the findings as the previous clause points out the study's findings.

Interpersonal Themes are always present before the Topical Theme since what comes after the topical theme is Rheme. They can be realized in finite, mood adjuncts, modal adjuncts, vocative adjuncts, comment adjuncts, and polarity adjuncts [7]. Interpersonal themes have occurred less compared to the other types of themes. This is likely that the authors are aware of the nature of scientific articles or academic writings that put emphasis on objectivity. They seemingly avoided interfering with their judgement or comments which realize the interpersonal themes [25]. This is in contrast to a previous study by Navarro that interpersonal themes are realized in a higher proportion in educationally-oriented articles due to connecting disciplinary messages which are not identified with ease by peers [26]. The interpersonal theme realizations, 2 manifestations in Indonesian abstracts and 9 in English-native abstracts, signifies the authors' curiosity as realized in noun clauses with WH-words such as what, how, and in what ways, when explaining the objectives of the research. However, one striking use of an interpersonal theme indicating an author's comment is found.

…which	*hypothetically*	*resulted in two to four gains of scores. (Abstract 17, Journal 1)*
Textual Theme	Interpersonal Theme	Rheme

FIGURE 5. An interpersonal theme realized in a comment adjunct

The comment adjunct *hypothetically* is used to denote some kind of judgement regarding the findings. This is employed to interpersonally attach the author's feeling to the clause. The author cannot be exactly sure about the truth, but that seems to be what is suggested from the study. In other words, the author seems to bias his or her stance. Moreover, according to Khedri, interpersonal themes that a writer uses can generate the expression of his or her attitude [27]. He further argues that this is distinct from the characteristics of topical and textual themes which consecutively are used to communicate the proportional content and to put across the clause organization.

Comparing the groups of abstracts, the occurrences of unmarked topical themes are higher in the abstracts by Indonesian authors. The abstracts by English-native authors could be shorter and concise. This can also indicate that the number of clauses in the Indonesian abstracts is likely to be greater. In addition, the frequent use of subordinate clauses can also influence the number of the topical themes. In this regard, the use of subordinate clauses leads to longer and grammatically complex texts. In contrast, the English-native abstracts are presumably denser, resulting in high lexical density. To argues that meaning density constitutes lexical density where it can represent experience about the world [28]. Lexical density is said to have been concerned with nominalizations used by writers[29], [30]. The use of nominalizations contribute to the increase of conceptual density [31]. Nominalizations as themes are found in the abstracts as shown below.

The inclusion of more contextualized, high-interest literacy tasks, as well as the integration of non-linguistic modalities,	could help support these students' access and produce print-based academic texts in school (Abstract 2, Journal 4)
Topical Theme (Unmarked)	Rheme

Through her progression in the SCT-informed practices of second language teacher education and with the introduction of the pedagogical concept teach off your students into her thinking and teaching processes,	she begins to reconcile her prior lived experiences involving a more teacher-centred stance. (Abstract 6, Journal 4)
Topical Theme (Marked)	Rheme

FIGURE 6. Nominalizations as topical themes

The examples reveal that a long nominal group can a single constituent in textual meanings. The authors chose to pack the clauses by using context words instead of grammatical words. These can result in longer and grammatically complex clauses if nominalizations are not employed. For instance, the subject in the first example above may be realized in two clauses, *if more contextualized and high interest literacy tasks are included and non-linguistic modalities are integrated, these can help support…*. Likewise, the later can also be extended to more clauses, but the author of Abstract 6 did not choose to do so as the author of Abstract 2 did do either.

In addition to that, the use of a single subject there is noted in the Indonesian abstracts as in *Therefore, <u>there</u> was a need for a practical approach to improve their review skills and engage them in online PRC activities* (Abstract 30, Journal 3). As it begins with a textual theme *Therefore*, the author then puts *there* as the subject which is also the unmarked topical theme. Compared to the nominalized constituents above, this subject is simple and short, having no lexical density. Nevertheless, the use of an existential clause with *there* is considered as ideal for introducing participants and as reinforcement to its introduction as it becomes the departure point [32].

The seemingly high number of clauses and subordination in Indonesian abstracts, leading to somewhat lexically less dense, also affects the number of marked theme realizations. As previously shown in the findings of Table 1, markedness of themes is more frequent in the Indonesian abstracts such as in *In response to the Covid-19 pandemic* (Abstract 30, Journal 3), *Considering the results of NA* and *from those results mentioned above* (Abstract 29, Journal 3), *recently* (Abstract 5, Journal 1), and so on. These marked themes are not as long as the examples in Figure 6. Therefore, the frequency of its occurrences is in line with the number of clauses and with the abstracts which tend to be longer and greater in the number of grammatical words.

Apart from the realizations of marked topical themes in both the abstract groups, no single Complement was found to be the marked topical theme of a clause. This denotes a feature of written texts which is more structured and planned. This allows writers to reconstruct what they choose to express without redundancy. In regard to this, Halliday states that it is least likely that a marked topical theme is manifested in Complement [6]. He further affirms that prepositional phrases or adverbial groups that function as circumstantial adjuncts, albeit their minor position [33], are commonly expressed and fronted to be marked topical themes. That the authors chose not to include any Complement as the theme is due to, following Forey [20], considering the effective text.

In terms of interpersonal themes, the English abstracts have a high number of their occurrences. Notwithstanding objectivity in scientific articles, the interpersonal themes mostly used in the abstracts are in indirect questions in the form of noun clauses with WH-words. There is only one direct question in interrogative mood realized when the author questioned how the research should be conducted. Therefore, these interpersonal themes are not directly related to the writer's judgement, comments, or opinions. This in particular has to do with the writer's curiosity to investigate and problematize an issue, making it significant

to be researched. Below is how one interpersonal theme is used in interrogative mood by one English-native writer.

Personal experience	*shapes language teacher development,*	*and*	*how*	*should it be researched? (Abstract 5, Journal 4)*
Topical	Rheme	Textual	Interpersonal | Topical (Unmarked)	Rheme
Theme		Theme		

FIGURE 7. An interpersonal Theme in interrogative mood

The use of the interpersonal theme above signifies an interactive attribute, where the author invites the audience to response, although it is no space for readers to do so. Davies states interpersonal themes generally yield the negotiation of relationship among readers and writers [18]. In this context, the question happens to be a trigger for readers to get involved in what the author is thinking. This is particularly effective as the answer itself is provided by the author, allocating the importance of the study.

Textual Themes relate clauses and are to some extent similar to textual adjuncts. Halliday and Matthiessen point out that textual themes denote continuity of message in a clause to the previous realized meanings [5]. As for textual themes, a greater frequency is manifested in the English-native abstracts. This may denote that the authors are aware of creating more cohesive texts. With the realization of marked topical themes, used to change a topic or devising cohesion among clauses, which is thin on the ground, the clauses of the texts tend to be textually joined by the themes realized in conjunctions and continuity adjuncts. Among others, the textual themes realized include *and, so, then, in particular, but, while, however,* etc. According to Hasselgård, additive *and* may become generic or weaker in meanings when juxtaposed with adversative, *yet* or *but* [19].

4 Conclusion

As the theme pattern has been analyzed, the Indonesian and English-native abstracts realized the types of themes: Topical (including marked and unmarked), interpersonal and textual themes. The Indonesian abstracts are higher in the number of thematic realizations of topical themes, both marked and unmarked topical themes. In the meantime, the English-native abstracts surpass the number in terms of the interpersonal and textual themes. The higher number of topical themes in the Indonesian abstracts indicates that the abstracts tend to be longer and grammatically complex as manifested in clause complexes with noun clauses, adverbial clauses, or adjective clauses. Marked topical themes are found to have affected the relationship between clauses by proposing a change of topic and devising cohesion. In addition, the greater number of interpersonal and textual themes in the English-native abstracts is caused by the authors' inclination to organize the texts in a cohesive way. Furthermore, it is also found in this study that the use of an interpersonal themes realized in interrogative mood with WH-words may have an interactive feature to invite readers to get involved in what the authors think. Hence, the abstracts in scientific manuscripts should consider the realization of themes to the success of texts particularly for the flow of the message, leading to cohesion, not only through conjunctions but also the marked topical theme realizations.

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