Theme Types and Patterns in Research Article Abstracts: A Cross Disciplinary Study

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ABSTRACT

Earlier studies have assigned significant roles to research article abstracts for the purpose of informing the reader about the content of the article by compressing the most important findings in its writing. It also allows the reader to decide whether to read the entire article or not (Martin, 2003). Therefore, writing a research article abstract needs an initial focus on textual and rhetorical features that constitute an efficacious research article abstract. One of the textual features is Theme (Gosden, 1992). Theme is defined as an element, which serves as the point of departure of the message in a clause and plays a major role in text organization. It helps a text to be communicated and understood clearly (Halliday, 1994). This study aims to investigate the Theme types and patterns used in 120 research article abstracts from the disciplines of Applied Linguistics, Economics, Agriculture and Applied Physics. The gathered data were analyzed based on Halliday's (1994) model of Thematic organization and Eggins' (2004) model of Thematic progression. The results revealed disciplinary differences, which generally lead to specificity of selection of the Theme types and patterns used in the writing of the research article abstract.

1. Introduction

In recent years, there has been an increasing interest in studies, which target genre of research article abstract (hence forth RA abstract). This increasing interest originated from the important information, which this genre communicates to discourse community members. RA abstract helps the writer to bunch the most important and significant findings into a small number of words. This could save the reader's time as it informs "the reader about the exact content of the article, indicating whether the full text merits their further attention" (Martin, 2003 p. 26). RA abstract also helps the writer to convince conference organizers or journal editors to accept or publish the RA. Having these multiple functions in mind, analyzing the RA abstract as a genre could provide the reader and the writer with helpful insights concerning its underlying macro (rhetorical) and micro (linguistic features) structures (Lores, 2004).

In the last twenty-five years, RA abstract has been studied for its macro

structures and linguistic features (e.g., Ebrahimi and Chan, 2015; Gillaerts and Van de Velde, 2010; Hu and Cao, 2011; Hyland and Tse, 2005; Kanoksilapatham, 2013; Khedri, Chan & Ebrahimi, 2013; Lores, 2004; Martin, 2003; Pho, 2008; Salager-Meyer, 1992; Stotesbury, 2003). Lores (2004) analyzed the rhetorical organization and thematic organization of Applied Linguistics RA abstracts. She analyzed a small scale of abstracts. The abstracts were written using two different rhetorical structures of CARS and IMRD. The findings of her study suggested that thematic organization is highly related to the rhetorical organization of abstract. Pho (2008) studied the linguistic realizations of macro structures of RA abstracts from two disciplines of Applied Linguistics and Educational Technology. Findings of the study showed that linguistic features could distinguish the moves of abstracts. The findings also highlighted some disciplinary differences. Kanoksilapatham (2013) scrutinized the generic characteristics of RA abstracts from discipline of Civil Engineering. She analyzed 60 abstracts from top journals of civil engineering. The results highlighted that there is an academic style of writing special to the discipline. Ebrahimi and Chan (2015) studied the grammatical subject used in research article abstracts from two disciplines of Economics and Applied Linguistics. The data of their study was 60 research article abstracts (30 from each discipline). Their findings suggested some disciplinary differences concerning the use of the grammatical subjects. From the literatures reviewed here, it should be noted that limited studies are available on the realization of Halliday's (1985) notion of theme as a cohesive linguistic feature in RA abstract across disciplines. Thus, this has motivated the present study to shed the light on the realizations of theme types and patterns of progression in the RA abstracts from four disciplines, namely, Applied Linguistics (AL), Economics (Eco), Agriculture (Agri) and Applied Physics (AP). Therefore, this study intends to answer the following questions:

1. How are the Theme types manifested in the RA abstracts across four disciplines, namely, AL, Eco, Agri, and AP?

2. How are the thematic progression patterns manifested in the RA abstracts across four disciplines, namely, AL, Eco, Agri, and AP?

While different functional definitions of the notion of Theme are to be found in the work of many scholars, this paper will use the definition suggested by Halliday (1985). He defines Theme as the element in a particular structural configuration taken as whole. It organizes the clause as a message and provides the configuration of Theme and rheme. Based on this definition, a clause is made of two parts, Theme followed by rheme.

2. Methodology

2.1 Selecting the Disciplines and Journals

To select disciplines which capable of representing the spread of disciplines across academic context, the researcher adopted Becher's (1989) taxonomy of disciplines. Becher (1989) classified academic disciplines into soft and hard sciences. He further added that hard science includes science disciplines while soft science includes the disciplines in the humanities and social sciences. Becher (1989, 1994) also classifies the disciplines of each science into pure and applied. Thus, based on Becher's (1989, 1994) classification of disciplines, four disciplines of Economics (soft-pure), Applied Linguistics (soft-applied), Agriculture (hard-pure) and Applied Physics (hard-applied) were selected for this study.

Next step was selecting journals, which represent the disciplines selected. To this end, four journals of 'Oxford Economic Papers' and 'Applied Linguistics' published by Oxford University Press and 'The Journal of Agricultural Science' and 'The European Physical Journal Applied Physics' published by Cambridge University Press were selected. All of these four journals are indexed in Thompson and Reuters. The rationale behind selecting these journals was to have a corpus which is representative of RA abstracts produced by successful writers or what Mauranen (1996) called "good text". She states that:

"We here take the typical native speaker user in edited and published texts as a criterion for acceptable use, and regard any text that meets this criterion as ''good''. In this way, all L1 texts in the material are good texts by definition. Even though, they cannot be held up as ideal models, their typical features can be used as a guide to the working of text in that language" (p. 213).

2.2 Selecting the RA abstracts

One hundred and twenty (120) RA abstracts with 30 RA abstracts from each journal selected as a representation of each discipline made up the corpus for the analysis in this study. All the RA abstracts were extracted from the RAs published in the 2010 to 2012 volumes as regular RAs and they implied the Swales (1990) IMRD (Introduction, Method, Result, Discussion) structure. The details of corpus are summed up as below:

Table 1: Description of the corpus

	AL	Eco	Agri	Phy	Total
No. of RA abstracts	30	30	30	30	120
No. of journals	1	1	1	1	4
Total number of words	5239	4427	8753	5858	24257
Total number of Themes	175	169	360	237	941

2.3 Method of Analysis

To analyze the data for the applied Theme types and patterns, this study relied on Halliday's (1994) model of Theme types and Eggins (2004) model of Theme progression patterns (See appendix 1).

Halliday's (1994) model was selected on the grounds that it is the most plausible analytical model compared to other models proposed by Davies (1988), Gosden (1992, 1993), and Berry (1989). In this model, Theme is related to a) Interpersonal and ideational metafunctions and presents them in the clause initial position and b) conjunctions and modal adjuncts, the sub-categories of systemic functional grammar (Martinez, 2003).

The rationale behind the selection of these two models were: first, these are the most practical, reliable models which provide attestable mechanisms for determining the Thematic structures of the texts correctly (Martinez, 2003) and second, most of the studies that have been done in terms of Thematic analysis have resorted to these two models.

2.4 Unit of Analysis

In this study, only main clauses were analyzed for their Theme types and patterns. This enables a clear display of the Theme types and patterns used in the RA abstracts without having to focus on the secondary organization of text (Gosden, 1993). In this concern, Halliday (1985) argues that main clause's Theme makes the major contribution in the method of development of the text. To Fries and Francis (1992) and Berry (1989), examining only the main clause because of its significance in text organization and genre awareness.

2.5 Procedure

Firstly, the selected RA abstracts were traversed to Rich Text format for computer storage. Then, in order to determine the size of the corpus, a word count was run on the whole data. Next, the obtained data were analyzed for the Theme types and pattern following Halliday (1994)

and Eggins (2004) models. Then, the frequency and percentage of the Theme types and patterns were counted and compared across the four disciplines. In order to see the significance of the relationship between the four corpora regarding Theme types and patterns, Chi-square was run on the frequency (token counts) of the Theme types and patterns. Finally, findings were discussed in the context of the functions embodied in their use.

3. Results and Discussion

In the following two sections, the results concerning Theme types and patterns will be presented and discussed. It is worth mentioning that even though the result of the Chi-square test depicted that some of the disciplinary differences in relation to the use of Theme types and patterns were statistically significant but in these two sections, all the disciplinary differences, even those that are not statistically significant and considered minor, will be discussed. This is because still the minor disciplinary differences could tell us something about the variation in the use of Theme types and patterns across the four disciplines, which is the main concern of this study.

3.1 Types of Thematic Organization
Topical Theme

The data analyzed for the types Topical Theme namely Unmarked and Marked, and the result is presented in Table 2. Result indicated, as expected, that the Unmarked Topical Theme was more frequently used than the Marked Topical Theme. This may illustrate that in most of the analyzed clauses, the Topical Theme occupied both Thematic and grammatical subject position. This compliance of Theme and grammatical subject may indicate the structural simplicity of the analyzed RA abstracts. This is in line with Halliday's

(1994) idea who states that writers mostly prefer to situate Theme in the grammatical subject of the clause.

The result depicted that AL writers showed the greatest disposition towards the inclusion of the Marked Topical Theme while Phy writers expressed the least use of this kind of Theme in Thematic position (see Table 2). This finding indicates that AL RA abstracts are more argumentative and elaborative in nature. It also suggests that AL writers prefer to construct an RA abstract, which is more rhetorically multifunctional in nature (Gosden 1992). These writers also favor creating cohesion that is more overt by the use of Marked Topical Theme. In contrast, the least use of the Marked Topical Theme by the Phy writers result in constructing RA abstracts, which are full of the matter-of-fact statements (Gosden 1992). In Phy RA abstracts, these statements focus primarily on reporting the scientific information in a checklist form that generally requires fewer topic shifts, which result in less need of Marked Topical Theme. Table 2 displays the results.

The result also depicted that there is a statistically significant disciplinary difference between the four sets of the RA abstracts in terms of the Unmarked Topical Theme. This could suggest that, in Agri and Phy RA abstracts, in most of the clauses, there was less necessity in providing prior context that leads to the information provided by the Theme, or simply, there was no positive reason for choosing anything else (Halliday, 1994).

Table 2: Frequency, percentage and the result of the Chi-square test of the Unmarked and Marked Topical Themes

	AL	Eco	Agri	Phy	Chi-square Test		
	Fre. (Pre.)	Fre. (Pre.)	Fre. (Pre.)	Fre. (Pre.)	Chi-square Value	df	Sig
Unmarked Topical Theme	137 (78%)	133 (79%)	317 (88%)	210 (89%)	*111.678*	3	*0.0001*
Marked Topical Theme	38 (22%)	36 (21%)	43 (12%)	27 (11%)	3.722	3	0.2931
Total	175 (100%)	169 (100%)	360 (100%)	237 (100%)			

Fre.= Frequency   Per. = Percentage   df= degree of fredom   Significant Differences are *italicized* Level of Sig. 0.05

Interpersonal and Textual Themes

All the four sets of the RA abstracts were analyzed for the realization of the two optional Themes that of Interpersonal and Textual Themes. The result indicated that the Interpersonal Theme was not preferred compared to the Textual Theme (see Table 3). The lack of Interpersonal Themes affirmed the argumentative nature and impersonal tone of the RA abstract genre. There is hardly room for attitudinal expression in this kind of academic writing.

The dominant Textual Theme displays a statistically significant disciplinary difference in the data analysis. The application of this Theme ranged from 11% in AL to 18% in Eco, while Agri and Phy writers illustrated a somewhat similar tendency towards its use (14% and 15% respectively). This finding indicates that Eco RA abstracts compared to other three sets of the RA abstracts: a) had a stronger factual tone; b) were more impersonal and objective; and c) used more conjunctions, coordinators, and subordinators functioning as the Textual Theme in the texts.

Table 3: Frequency, percentage and the result of the Chi-square test of the Interpersonal and Textual Themes

	AL	Eco	Agri	Phy	Chi-square Test		
	Fre. (Per.)	Fre. (Per.)	Fre. (Per.)	Fre. (Per.)	Chi-square value	df	Sig.
Interpersonal Theme	2 (1%)	3 (2%)	2 (1%)	1(1%)	1.000	3	0.8013
Textual Theme	19 (11%)	30 (18%)	49 (14%)	36 (15%)	*14.000*	*3*	*0.0029*
Total Theme	175 (100%)	169 (100%)	360 (100%)	237 (100%)			

Fre.= Frequency   Per. = Percentage   df= degree of fredom   Significant Differences are *italicized* Level of Sig. 0.05

Textual Theme Types

The data were analyzed for the Textual Theme types and the result is presented in Table 4. The Textual Theme types were *additive, contrastive, time,* and *cause*. It should be noted here that while the Textual Theme types shared similar referents as that of the Marked Topical Theme types, they are fundamentally different as they represent two different Theme types that of textual and topical.

As evident in Table 4, the additive Textual Theme (e.g.1) was used differently by the four groups of writers and the difference was statistically significant. While Phy writers dedicated 64% of their Textual Themes for additive function, Agri writers used them with a 29% occurrence. This manner of expression signals overt expansion of ideas that marked the text organization.

E.g. 1: Twenty-five L1 Spanish—L2 Swedish bilinguals residing in Sweden participated in the study ***and*** 15 native speakers of Spanish living in Chile were recruited as controls.

A statistically significant disciplinary difference concerning the use of the Contrastive Textual Theme (e.g. 2) was reported by the result. It can be seen that AL and Eco writers used it somewhat similarly while, Agri and Phy writers were identified as the most and the least frequent users (61% and 14% respectively). This result indicates that Agri writers are more into helping readers to make text connection through focus on the steps of the arguments presented in the RA abstracts. The Agri writers appeared to prefer to contrast their studies with the existing literature in the case of the information, claims and

arguments presented in the four rhetorical sections of RA abstract (IMRD). This could help increasing reliability of the studies, besides highlighting the novelty, contribution and the significance of the study. In turn, it may result in: a) motivating the disciplinary community readers to read further and b) convincing conference organizers and journal reviewers to accept the RA abstract for presentation or publication.

E.g. 2: ***However***, greater N accumulation in grains was observed following the application of a mixture of triazole and the strobilurin trifloxystrobin compared with plots treated with either no fungicide or triazole alone. (Agri 16)

While the Time Textual Theme was not used at all by the Agri writers, the highest use was registered among the Eco writers (20%). This indicated that the Eco writers' preferred to organize the text from the time perspective. A closer look at the manifestation of this Textual Theme in the Eco RA abstracts illustrated that it was used mostly in the method section, indicating that Eco writers were in favour of providing the readers with more information using the chronological order to explain the procedures of the study. To do this, they relied on words like *'first, then,* and *finally'* (e.g.3). Presenting the procedures of the study helps in systematising the gained results.

E.g. 3: ***First***, a model to explain how changes in regulatory framework and trans boundary spillovers effect both actual and reported emissions is developed. ***Then***, the theoretical prediction using data for 39 European countries from 1999 to 2003 are tested and inferences about true emission level are made. (Eco 14)

Inferred from the result in Table 4, the Cause Textual Theme was received little attention from the four groups of writers.

Over all, the results in terms of the Textual Theme types illustrated that the four groups of writers mapped the Textual Theme Types in different ways to construct a cohesive RA abstract.

Table 4: Frequency, percentage and the result of the Chi-square test of the Textual Theme types

	AL	Eco	Agri	Phy	Chi-square Test		
	Fre. (Per.)	Fre. (Per.)	Fre. (Per.)	Fre. (Per.)	Chi-square Value	df	Sig.
Additive	9 (47%)	9 (30%)	14 (29%)	23 (64%)	9.509	3	0.0232
Contrastive	8 (41%)	13 (43%)	30 (61%)	5 (14%)	26.714	3	0.0001
Time	2 (11%)	6 (20%)	-	3 (8%)	6.818	3	0.0779
Cause	-	2 (7%)	4 (8%)	3 (8%)	6.667	3	0.0833
Others	-	-	1 (2%)	2 (6%)			
Total	19 (100%)	30 (100%)	49 (100%)	36 (100%)			

Fre.= Frequency   Per. = Percentage   df= degree of fredom   Significant Differences are *italicized* Level of Sig. 0.05

Simple and Multiple Themes

The result had revealed that the disciplinary difference in terms of the application of the Simple Theme across the four disciplines was statistically significant. This may illustrate that in AL RA abstracts, there was few overt combinations of the Topical Theme with the Interpersonal and/or the Textual elements to signal Thematic organization. This could indicate that the Multiple Theme is not the norm in AL RA abstract writing.

The result showed that there was a statistically significant disciplinary difference in relation to the application of the Multiple Theme. The application varied from 12% in AL RA abstracts to 20% in Eco RA abstracts while the other two disciplines, Agri and Phy, showed somewhat a similar tendency towards its use. This gained result may illustrate that Eco RA abstracts were written with greater rhetorical consciousness. Based on the findings of this study, it seems that the Eco writers used more cohesive elements in

their RA abstracts comparing to the other three sets. This could be justified based on the Multiple Theme importance in creating cohesive text. This importance sourced from that the Multiple Theme, at the same time of being the Theme of a clause; it has cohesive elements that are helpful in producing cohesive texts (Hasselgard, 2000). It also takes on Thematic progression role through connecting a clause to the preceding one (Hawes & Thomas, 1997). Finally, it functions as a guide in the embodiment of the rhetorical structure favored by the writer (Bloor & Bloor, 1995).

Table 5: Frequency, percentage and result of the Chi-square test of the simple and multiple Themes

	AL	Eco	Agri	Phy	Chi-square Test		
	Fre. (Per.)	Fre. (Per.)	Fre. (Per.)	Fre. (Per.)	Chi-square Value	df	Sig
Simple Theme	154 (88%)	136 (80%)	309 (85%)	200 (84%)	*90.577*	*3*	*0.0001*
Multiple Theme	21 (12%)	33 (20%)	51 (15%)	37 (16%)	*12.930*	*3*	0.0048
Total	175 (100%)	169 (100%)	360 (100%)	237 100%)			

Fre.= Frequency   Per. = Percentage   df= degree of fredom   Significant Differences are *italicized*   Level of Sig. 0.05

Thematic Progression Patterns

Another angle of Theme analysis is to focus on Thematic Progression patterns namely *Zig-zag*, *Reiteration*, and *Multiple-Rheme* in the four corpora. The results are presented in Table 6. In the analysis, Themes for which the reader has to go back more than two clauses to find the earlier mentioned concept were not considered in the tracing of the progression. There were also some Themes, which could not be categorized under any of the proposed patterns of progression and these Themes were classified as Miscellaneous.

A statistically significant disciplinary difference was reported by the result concerning the application of the Zig-zag pattern. This Theme pattern use fluctuated with in small range, from 16% in Phy to 20% in AL. This finding might indicate that AL writers preferred to use this pattern to present complex arguments in which each successive idea is an expansion of the previous one. AL writers used the Zig-zag pattern to create cross-referential links from the Rheme of the clause to the Theme of the next clause. It seemed that AL writers used the Zig-zag pattern since it serves two functions, that of giving explanation to help the dynamic text, and to signal the moving from given idea to a new one. This pattern also contributes to the cohesion of the text by a) presenting the summary of the information presented in the Rheme of one clause to the Theme of the preceding clause, which creates a link between the information in the text, and b) informing readers about where the information is coming from and where it is going. Therefore, having the contribution of this pattern to the cohesion, it seems that AL RA abstracts were more cohesive compared to other three sets of RA abstracts.

As for the Reiteration pattern, a statistically significant disciplinary difference was also illustrated. The most and the least frequent manifestations were in Agri (22%) and AL (14%) respectively (see Table 6). This finding indicates that Agri writers preferred not to go in depth on the ideas introduced in the Rheme of the t-unit. This preference results in constructing RA abstracts in which the Theme of one t-unit is used for another t-unit. A greater disposition of Agri writers towards this pattern make their RA abstracts to be read like a list.

The data analysis indicated that writers of the four corpora used the Miscellaneous pattern (e.g. 4) which is beyond the admit of Eggins' (2004) patterns. A statistically significant

disciplinary difference was illustrated by the data analysis. The most variation in its use among the disciplines is that of the Phy and Agri RA abstracts (see Table 6). Manifestation of this pattern could be due to the tightness of the RA abstract whereas writers may opt to develop their Themes through a more subtle manner. The least Miscellaneous pattern's application in the Agri RA abstracts could be due to that the Agri RA abstracts were longer comparing to other three sets of RA abstracts. This means that each rhetorical section was explained and elaborated in more than one sentence, which are essentially connected to each other using the Zig-zag or Reiteration patterns.

Overall, utilizing the miscellaneous pattern may result in text, which is lacking in the development of ideas (Wang, 2007). In contrast to Wang (2007), McCabe (1999) argues that the miscellaneous pattern is necessary for the discourse development since it provides continuity in the text as far as its references are accessible to the reader. Two of the possible reasons behind the appearance of this pattern are that; a) the references are available but the reader should go back more than three clauses and this is far from Thematic rules, and b) some elements should be thematized to be emphasized even if they are presented for the first time (McCabe, 1999).

E.g. 4: ***This paper*** examines the question of whether inflation targeting is an effective policy tool in emerging economies using a novel non-experimental evaluation approach. ***In particular, we*** adopt synthetic control methods to assess the effect that inflation targeting has had on each emerging economy that adopted such policies in the 1990s and 2000s. ***The evidence*** suggests that inflation targeting helped Colombia, the Czech Republic,

Hungary and Poland reduce their inflation rates.

The miscellaneous pattern certainly have a prominent role to play as revealed in this study for all the disciplines in question. A firmer nomenclature appears to be needed to account more fully this pattern of Thematic progression. From the data, it would appear that distant collocation and memory has a large effect in how the Theme can be constructed to give text coherence.

Table 6: Frequency, percentage and result of the Chi-square test of the Theme patterns

	AL	Eco	Agri	Phy	Chi-square Test		
	Fre. (Per.)	Fre. (Per.)	Fre. (Per.)	Fre. (Per.)	Chi-square Value	df	Sig.
Zig-zag Pattern	35 (20%)	28 (17%)	63 (18%)	38 (16%)	*17.024*	*3*	*0.0007*
Reiteration Pattern	24 (14%)	25 (15%)	81 (22%)	36 (15%)	*52.265*	*3*	*0.0001*
Multiple-Rheme	1 (1%)	1 (1%)	4 (1%)	-	6.000	3	0.1116

Fre.= Frequency   Per. = Percentage   df= degree of fredom   Significant Differences are *italicized*   Level of Sig. 0.05

4. Conclusion

This study intended to find out how Theme types and patterns are used in AL, Eco, Agri and Phy RA abstracts. It seeks to add to the meaningful debate forwarded by North (2005), Hyland (2005, 2008, 2009) and Lovejoy (1991) who claimed that disciplinary background shapes academic writing, which is the RA abstract in this study. The result affirmed the presence of disciplinary difference in the use of Theme types and patterns, suggesting that writers with different disciplinary backgrounds may use different Theme types and patterns to construct an RA abstract.

Generally, the data obtained point to several conclusions. First, all the disciplines used more Unmarked Topical Themes and the balance between Marked and Unmarked showed a somewhat disciplinary difference. The soft science's disciplines appeared to resort to more use of the Marked Topical

Theme compared to the hard science's disciplines. This suggests that these writers are more inclined to present thematic elements at the sentences boundaries, which commonly have the function of Textual organization, like signaling changes and turns in real world and discourse circumstances. They use these elements since the recognition of these internal elements that help to identify the rhetorical moves of the RA abstract (IMRD) (Gosden, 1992). Second, in comparing the use of Interpersonal and Textual Themes, a greater concentration was found to be on the latter. In fact, the Interpersonal Theme was hardly used. This result could be justified based on the argumentative, factual and less personal tone of the analyzed RA abstracts. With regard to the Textual Theme types, what stood out as disciplinary difference is in the use of the additive and contrast Textual Themes. These two types of Textual Themes help writers explicitly to express the relation between the claims and arguments. Third, the use of the simple Theme was far out-weighed than that of the multiple Theme. However, there was not much of disciplinary difference in this aspect.

Forth, in the examination of the patterns of Thematic progression, a noticeable feature is the high use of miscellaneous pattern in the various disciplines. The finding showed evidence that Thematic progression is not constrained by the 'regular' patterns that can explain logical connections between Theme – Rheme development. Rather, other operations are at play as writers choose to evoke coherence in a manner that appear to depend more on distant collocation with the sense of a cohesive tie stored in the memory, which could be retrieved without much difficulty among readers. In this aspect, much more could be studied to understand this Thematic phenomenon that obviously characterized much of the text.

The study has revealed clear disciplinary differences in the use of Theme types and patterns. Therefore, it could be concluded that disciplinary rules and regulations may influence the choice of a particular Theme type or pattern to aid the writer to forward the claims or arguments.

This study would be of great help to novice writers, especially non-native ones, in writing RA abstract. Analyzing RA abstracts could provide these writers with insights regarding how successful writers in their discipline balance their choices of Theme types and patterns. This balance is governed by functional notions and may depend on a number of factors; among them are length, idea complexity and relative emphasis. This insight would increase the chance of RA abstract as well as the RA for being accepted for conference presentation or published in a journal. This would also stress the importance of explicit teaching of Theme types and patterns as cohesive devices. Moreover, the result of this study also has implication for the readers in text comprehension. Knowledge of the successful balance of Theme types and patterns and their functions in different texts could guide readers through the logical path constructed by the writer and result in better comprehension of the text.

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Appendix: 1

Halliday's (1994) model of Thematic organization:

Halliday (1994) categorizes the elements which occur in the Thematic position of the declarative clause as follows:

1. Topical Them: This type covers nominal groups, prepositional phrases, or adverbial groups.

E.g.: **_Results_** show that such deviations are associated with an increased and sustained processing burden.

2. Textual Theme: This type includes conjunctions, conjunctive adjuncts, and continuatives.

E.g.: **_However_**, it seems that few researchers have sought to objectively evaluate how learner deviations from the target-language impact on online processing.

Textual Theme can further be categorized as follows:

2.1 Additive Textual Theme: This Textual Theme type aims to add arguments together. (e.g. and)

2.2 Contrastive Textual Theme: This Textual Theme type aims to contrast arguments. (e.g. but)

2.3 Time Textual Theme: This Textual Theme type aims to order arguments chronologically. (e.g. then)

2.4 Cause Textual Theme: This Textual Theme type aims to show that cause is being stated. (e.g. so)

3. Interpersonal Theme: This type encompasses modal adjuncts, finite operators, and imperatives.

E.g.: **_Quite surprisingly_**, no meaningful relationship was found between accuracy and complexity measures over time.

According to Halliday (1985, 1994), among the three kinds of Theme, Topical Theme is an obligatory Theme and Textual and Interpersonal Themes are optional Themes.

Another categorization used in this study was Halliday's (1994, p. 44) distinction between Marked and Unmarked Topical Themes in the declarative clause:

1. Marked Topical Theme: In this type, Thematic position is occupied by prepositional phrases, adverbial groups, and complements that are nominal groups which do not function as grammatical subject.

E.g.: **_In this study,_** we present an idiodynamic methodology for studying rapid changes in WTC.

2. Unmarked Topical Theme: In this type, Thematic position is engaged by participants (subjects), extraposition (it), existential (there), Thematic equatives (e.g., what is important now is to analyze the results), or processes (e.g., conceptualising WTC as a dynamic system) which function as grammatical subject.

E.g.: **_We_** compared our findings with previous studies using similar instruments.

Halliday (1994) classifies Themes, in the declarative clause, according to their internal

structure using the notion of Simple and Multiple Themes.

1. Simple Theme: In this type, only a Topical Theme occupies the Thematic position.

E.g.: ***This article*** adopts a cognitive linguistic approach to idioms as motivated lexical units.

2. Multiple Themes: In this type, beside the Topical Theme, Interpersonal and/or Textual Themes also occur in the Thematic position.

E.g.: ***Finally***, ***we*** report on a study with Polish university students of English.

This model was selected on the grounds that it is the most plausible analytical model compared to other models proposed by Davies (1988), Gosden (1992, 1993), and Berry (1989). In this model, Theme is related to a) Interpersonal and ideational metafunctions and presents them in the clause initial position and b) conjunctions and modal adjuncts, the sub-categories of systemic functional grammar (Martinez, 2003).

Eggins' (2004) model of Thematic progression:

Fries (2002) points that thematic progression is the way in which a Theme of a clause repeat or pick up a meaning from the preceding Theme or Rheme. This progression is necessary for the creations of the information flow which in turn contributes to the communicative effectiveness in a message (Eggins, 2004).

Eggins (2004) categorizes these patterns into:

1) Reiteration pattern: In this pattern, Theme of one clause is derived from the Theme of the previous clause.

E.g.: ***We*** discuss the main features of idiom semantics, review the results of research into the influence of motivating information on idiom acquisition, and outline the issue of imagery in idiom entries, highlighting the problems involved. Finally, ***we*** report on a study with Polish university students of English.

2) Zig-zag pattern: In this pattern, Theme of one clause is derived from the Rheme of the previous clause.

E.g.: A long hot-phonon lifetime results in large ***non-equilibrium hot phonons***. ***Non-equilibrium hot phonons*** slow energy relaxation and increase the momentum relaxation.

3) Multiple-Rheme pattern: In this pattern, the Rheme of the first clause is split into two parts, then each in turn being taken as the Theme element of the subsequent clauses.

E.g.: There are Marked differences in behavior between the planning and ***implementation stages***, as well as between the ***fiscal policy*** of EU countries and other OECD countries. ***Planned fiscal policy*** is a-cyclical for EU countries and counter-cyclical for the other countries. However, ***in the implementation stage***, the EU countries react pro-cyclically to unexpected changes in the output gap, while the responses of the other OECD countries are a-cyclical.