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TEXTUAL AND LINGUISTIC CHARACTERISTICS OF RESEARCH ARTICLE ABSTRACTS

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Abstract
One of the most important parts of a research article is abstract. With limited space and words, writing English abstracts is a challenging task for inexperienced EFL writers. Analyzing the rhetorical structures and linguistic features of abstracts is a practical and effective way to assist unskilled writers in writing their abstracts correctly and provide them with a clearer insight into the genre. The present paper analyzes the rhetorical structures and linguistic features of English abstracts written by Thai authors. Data were collected from 30 applied linguistics abstracts published in six TCI-indexed journals. Verb tenses, voices, and interpersonal devices in the abstracts were examined. The findings showed that the product move was the most frequent. The occurrence of verb tenses and voice varied according to the moves. Both active and passive voice appeared frequently in the method move. The frequency of attitudinal markers was higher than that of other interactional resources. It was found in the present study that the employment of rhetorical moves with their linguistic characteristics and metadiscoursal devices can be a useful tool for Thai writers to write their research article abstracts in the field of applied linguistics. Besides, the findings will serve as a guideline for teachers in designing genre-related materials for teaching EFL learners.

Keywords: Textual organization, moves, research articles, linguistic features, abstracts

Introduction
Abstract is an important section of a research article (RA) since it is used to capture the essence of the whole article. By reading the abstract, readers can learn some of the key points contained in a journal article. However, it is a challenging task for unskilled authors, especially non-native writers of English, to write abstracts in English. This is because writers need to establish their main claims and also present themselves as competent members of a language community (Hyland, 2005) in a language that is not their mother tongue. Since English has now become a lingua franca for international communication, being able to write an abstract in English is one of the requirements for international publication or academic conferences. It is now common that an English version of an abstract should be

published even when the articles are written in languages other than English (Lorés, 2004; Martín, 2003). This practice makes the English abstract a vital part of international RA publications.

Analyzing the rhetorical structures of RA abstracts and their linguistic realization serves as one of the approaches for providing a clearer and deeper understanding of the abstract genre. A move analysis model has been gradually established and applied to assist inexperienced authors in acquiring a better understanding of the rhetorical structure of RA abstracts. The move analysis, as stated by Swales (1990), encompasses a type of communicative event serving a particular communicative purpose used by a particular discourse community. A sequence of distinct moves to realize the overall communicative purpose of an abstract varies according to the genre which is a socially recognized way of using language by members of the same discourse community (Hyland, 2002). Moves can be realized by certain lexical features and grammatical constructions. Therefore, the linguistic features of an abstract are important and play a vital role in a move-based analysis.

To fully understand the structure of abstracts, most move-based research studies tend to identify not only the use of moves, but also the linguistic realizations of each move, such as tense, voice usage, and metadiscoursal markers (Indrian & Ardi, 2019; Liu & Huang, 2017; Suntara, 2018; Tseng, 2011; Walková, 2019; Zhang, Thuc, & Pramoolsook, 2012). As stated by Salager-Meyer (1992) and Santos (1996), moves are realized by different linguistic resources. For example, the present tense was extensively employed in abstracts to convey a summary of the articles while the past tense was found to be used in concluding the research findings (Cooley & Lewkowicz, 2003). Furthermore, some research studies (see Amnuai, 2019a; Tseng, 2011; Zhang et al., 2012) found that present tense was used to give some background knowledge of the research being conducted while past tense was applied to state the methodology and present the results of the research. Each move can be classified based on its linguistic realizations, such as grammatical subject, tense and voice usage (Pho, 2008). As demonstrated in a comparative study by Amnuai (2019b), only the present tense was found in the purpose move in the international corpus while in the Thai corpus this move was expressed using both present and past tenses. Therefore, analyzing the rhetorical moves and key exponents used to realize these moves will broaden EFL students' knowledge of the genre-based approach to academic writing. In this regard, learners will be benefitted from being able to differentiate the rhetorical moves of abstracts and their linguistics features, and this will help them to have a clearer picture of how abstracts are constructed.

It is clear that a move analysis involves the identification of the communication purposes of particular text units and that each move should be realized by using certain linguistic resources, such as tense, voice and metadiscoursal devices. There has not been any study that focused on these issues, particularly with an analysis of applied linguistics RA abstracts written by Thai writers in English. Therefore, two research objectives were set to fill this gap. The first was to find which rhetorical moves are used by Thai writers when writing their abstracts in English. The second was to investigate how those rhetorical moves are realized linguistically.

The results of the analyses will reflect the rhetorical structures and their linguistic realizations employed in the abstracts written by Thai writers. This will provide practical guidelines for authors who are interested in writing and publishing their research articles in English.

Methods

Data collection

The corpus of the present study was compiled from 30 English abstracts written by Thai authors in the field of applied linguistics. The abstracts that were written with foreign co-authors were excluded. The abstracts were selected from international journals published by well-known universities in Thailand. The journals can be accessed via an electronic database. Six journals were selected, including (1) Humanities, Arts and Social Sciences Studies, (2) Journal of Studies in the English Language, (3) LEARN Journal: Language Education and Acquisition Research Network, (4) PASAA, (5) Suranaree Journal of Social Science, and (6) The New English Teacher. These journals were qualified for the analysis because they were classified in Tier 1 and Asian Citation Index (ACI) indices, which were ranked by the Thai-Journal Citation Index Center (TCI), and can be tracked through https://tci-thailand.org/. In addition to these two recognized indices, *PASAA* journal has also been included in the SCOPUS index. Using purposive sampling, five RA abstracts were taken from each journal. The abstracts chosen from these journals were published during the years 2016-2019. All of the RAs selected were constructed using the conventional section format of Introduction-Method-Result-Discussion/Conclusion.

Data analysis

To analyze the moves in the abstracts, Hyland's (2000) model (see Table 1) was adopted. This widely-used framework is appropriate for analysis since it has been developed from the analysis of a large number of abstracts (800) across eight fields. Furthermore, it has been used as a model for move analyses in many studies (e.g. Amnuai, 2019a; Darabad, 2016; Li & Pramoolsook, 2015; Zanina, 2017; Zhang et al., 2012). This model contains five moves, namely Introduction, Purpose, Method, Product, and Conclusion, which fully cover the communicative functions of the abstracts in the field of applied linguistics. The cut-off points for move classifications were based on Kanoksilapatham (2005)'s criteria, which classified the frequency of occurrence of each move ranging from obligatory, to conventional, and to optional (i.e. 100%, 60%-99%, and less than 60% of the corpora, respectively).

Table. 1 Hyland's (2000) move model

Move	Function
Introduction	Establishes the context of the paper and the motives for the research.
Purpose	Indicates the purpose, thesis or hypothesis, and outlines the intentions behind the paper.
Method	Provides information on the design, procedures, assumptions, approach, data, etc.

Product	States the main findings or results, the argument, or what was accomplished.
Conclusion	Interprets the results, examines the implications, draws inferences, and points to applications or wider implications.

The analysis of the metadiscoursal devices was based on Hyland (2005). Five interactional metadiscoursal types were identified in the present study (see Table 2). In Hyland and Jiang's study (2018), the metadiscoursal device was divided into two types (interactive and interactional resources). The first type includes a group of resources that "allow the writer to manage the information flow to establish his or her preferred interpretations" (Hyland & Jiang, 2018, p. 20). The second type is centered on "the participants of the interaction and display the writers' personae and a tenor consistent with community norms" (Hyland & Jiang, 2018, p. 20). However, the present study focused on only the interactional devices because these devices express the author's opinions to involve the reader in the arguments or to mark the degree of intimacy with his or her readers through language. In the present study, besides tense and voice, interactional devices were also included in the analysis. These linguistic features are important since previous studies found that these features discouraged non-native learners when writing research articles (e.g. Flowerdew, 2001; Pho, 2008; Walková, 2019). As shown in their study, Thai postgraduate students faced difficulties in writing academic papers because of having a low proficiency in English. Their limited knowledge of the grammar for academic writing as well as their limited word used in the fields also contributed to their writing difficulties (Srikrai, et al., 2016).

Each abstract was analyzed in terms of its rhetorical moves and linguistic features (tense, voice, and metadiscourse) manually and then the results were coded and compared. To avoid any subjectivity in coding the moves, and in the identification of the moves and linguistic features, they were analyzed independently by the researchers. The agreement between the identification of the moves and their linguistic realizations needs to be identical in terms of frequency and position. When there were disagreements on identifying moves and their linguistic realizations, a discussion took place. The results of the analyses are presented in terms of frequencies and percentages.

Table.2 Hyland's (2005) Metadiscourse

Metadiscourse	Function	Examples
Hedges	To withhold the writer's full commitment to a proposition	might/perhaps/possible/about
Boosters	To give emphasis, force or show writer's certainty of a proposition	in fact/definitely/it is clear that
Attitude Markers	Express the writer's attitudes to a proposition	unfortunately/I agree/surprisingly
Engagement Markers	To refer to something explicitly or to build a relationship with the reader	consider/note that/you can see that
Self-mentions	Explicit reference to author(s)	I, we, our, my, etc.

Results and Discussion

Analysis of the textual organization

The results for the frequency of moves with their percentages are in Table 3.

Table 3. Frequency of Moves in the Abstracts

Move	Frequency	Percentage
Introduction (I)	23	77%
Purpose (P)	21	70%
Method (M)	27	90%
Product (Pr)	29	97%
Conclusion (C)	15	50%
*Structuring the Presentation (SP)	5	16%

As shown in Table 1, the five moves proposed by Hyland (2000) were found in the present study. The frequencies of the moves for the Introduction, Purpose, Method, and Product moves ranged from between 60-100 percent. Only the Conclusion move was optional as its frequency of occurrence was 50 percent. It was found that five of the abstracts contained a certain communication function which signaled to the readers what the article contained (see Example 1). This new move was called Structuring the Presentation (SP). Its position was at the end of the abstracts and it always consisted of one or two sentence(s). According to Nwogu, (1997), the occurrence of a new move should be about 50 percent regularly. However, the present study did not discard the new move even if its occurrence was less than 50 percent. This is because its function reflects some important characteristics of the genre of applied linguistics abstracts. Its frequency of 16 percent (5 abstracts) in the corpus was particularly significant for understanding the rhetorical structures used by Thai writers.

The high frequency of occurrence of the Product move was also found in previous studies. Its frequency reached nearly 80 percent in some other applied linguistics corpora (e.g. Can, Karabacak, & Qin, 2016; Pho, 2008; Ren & Li, 2011; Suntara & Usaha, 2013). For example, the frequency of this move was one hundred percent in a corpus of applied linguistics RA abstracts conducted by Pho (2008). The Presenting results move was relatively high at over 80 percent, such as in agricultural abstracts in Zang et al. (2012), Tourism (Ahmed, 2015), dental abstracts (Vathanalaoha & Tangkiengsirisin, 2018), and an ICT abstracts (Amnuai, 2019a). This implies that this move is an important part of an abstract and should be applied in nearly all disciplines. Therefore, it is essential for the writing of an abstract.

Example 1

The pedagogical implications were also suggested. (Abstract 15)

Move ordering pattern

The five ordering patters for the most linear moves in the present study are presented in Table 3.

Table 3. Five Most Frequent Linear Move Sequences

Move	Frequency
1. I-P-M-Pr-C	6
2. I-P-M-Pr	4
3. I-M-Pr-C	3
4. P-M-Pr-C	3
5. P-M-Pr	3

Table 3 presents the ordering patterns in the abstracts of the corpus. Five linear move sequences were found. The preferred sequence was the linear I-P-M-Pr-C pattern. This is different from Hyland's (2000) study which found that pattern number 5 (P-M-Pr) was the most frequent structure in his large corpus. From the findings of the present study, it can be seen that Thai authors prefer to develop their abstracts in the linear sequence of "I-P-M-Pr-C", that is, the abstract begins with the background information and then states the objective of the study. The methodological usage and the research findings were then subsequently described. Finally, the abstract ended with the conclusion in which the results were interpreted and their wider implications suggested. This implies that the Thai authors were likely to adopt the conventional structure when writing their RA abstracts. In a similar study conducted by Vathanalaoha & Tangkiengsirisin (2018), the ideal pattern of "I-P-M-Pr-C" showed a relatively high frequency in their international dental RA abstracts. They found that abstracts published in international journals were formed in the five linear patterns beginning with giving the background, stating the purpose, describing methods, presenting results, and ending with a conclusion while abstracts written by Thai dental authors were different. By contrast, the abstracts of Thai dental authors started with the purpose followed by methods, results, and the conclusion. The Introduction move was used less often in their study. The linear I-P-M-Pr-C structure in the present study is dissimilar to Ahmed's (2015) study. He found that the nonlinear pattern was found more frequently than the linear pattern which he believed may have been affected by the application of moves in organizing abstracts in that particular discourse community. Also, types of research design, as well as the authors' style, were the causes of variations in the order of the moves (Almed, 2015).

The results show 11 non-frequent move patterns as delineated in Table 4. They show the variety of structures used in applied linguistics abstracts. Interestingly, there were five embedded patterns where the authors tried to merge two moves within a sentence. The combined moves were the Purpose and Method moves. It was found that all the embedded moves were constructed as complex sentences. Therefore, only the independent clauses of the sentences were counted for the frequency of the moves. The embedded structure is shown in Example 2, where the Purpose move (italic) was used to start the sentence and followed by the Method move (bold).

Example 2

(Purpose Move) *To understand more about the roles of English in print advertisement in Thailand*, (Method Move) **this study analyses the language used in 100 facial cosmetic advertisements available in Thai magazines**.

Table 4. Non-frequent move patterns

Structure	Move	Frequency
Linear	1. I-P-Pr	1
	2. I-M-Pr	1
Embedded	3. I-*P*+*M*-Pr	1
	4. I-*P*+*M*-Pr	1
	5. P-M-*M*+*Pr*-C	1
	6. M-I-*P*+*M*-Pr-C	1
New Moves	7. *M*+*P*-M-Pr-SP	1
	8. I-P-M-Pr-C-SP	1
	9. P-SP	1
	10. I-M-Pr-SP	1
	11. I-P-M-Pr-SP	1

In the present study, a new move was found and named "structuring the presentation." The function of this newly added move was to guide readers towards the points presented in the research article. Five abstracts contained this new move and they were structured in different forms. However, these five abstracts were similar in one respect, namely, that the new move was at the end of the abstracts. Two possible reasons can be used to explain this. First, the authors tried to persuade the readers to continue reading the whole paper or, secondly, they might have had only a limited space in the abstract for that information. Therefore, the authors preferred to leave out this information in the abstracts because the readers would read it in the paper. Although the present study shows a limited frequency for the use of the new move, it nonetheless reflects the rhetorical structure of RA abstracts generated by Thai writers.

Tenses and voice usage

The following section contains the research findings concerning the tense and voice used in the corpus.

Table 5. Verb Tense Frequency in Each Move in the Corpus

Move Types	I	P	M	Pr	C	SP	Total
Total Number of Abstracts Containing Move Types	23	21	27	29	15	5	100
Past tense	1	11	23	23	1		59
Present tense	18	11	4	8	14	5	60
Present perfect tense	7	-	-	-	-		7
Future tense	-	1	-	-	-		1

Active voice	12	21	8	20	12	73
Passive voice	4	2	7	1	-	14
Active + Passive voice	6	-	11	7	3	27

As shown in Table 5, the present simple tense was the most frequently used tense in all five moves, especially in the Introduction and Conclusion moves. This high frequency of the present simple tense in the Introduction and Conclusion moves can be explained by the fact that the authors tried to relate their studies to the field and referred their findings to the discourse community. It was found that the present perfect tense was used only in the Introduction move. This is because the function of the Introduction move is to establish the context of the paper, provide the background to the study and show the importance of the topic to the community. Using the present tense adds the effect of liveliness and contemporary relevance (Swales & Feak, 2004). In their study, Swales & Feak (2004) found that abstracts in the hard sciences, such as physics, chemistry, and astrophysics, are likely to use the present tense more often than the social sciences. Conversely, the present tense was the most frequently used tense in the present study. The shift to a dynamic and active tone by using the present tense could to some extent be the result of the Thai authors trying to make their research lively and fresh to their readers.

The past tense was the second most frequently used tense in the corpus. It was frequently used in the method and product moves. Such a high frequency correlated with that reported in previous research studies (Alhuqbani, 2013; Kanoksilapatham, 2012; Lim, 2006; Zang, et al., 2012). According to their functions, these two moves are used to address work that has been completed at the time of writing, thus the style of writing of these two moves is likely to require a direct and objective tone. The Method move aims to describe the methods employed and the Product move aims to show the results of the study, which leaves little opportunity for the authors' argumentation or comments. Therefore, the use of the past tense was relatively higher than that of the other tenses.

The use of the active voice was much more frequently used than the passive voice and it occurred in nearly all moves. However, the passive voice was found frequently in the Method move. It was found that the combination of active and passive voices was the second most frequently used pattern in the corpus. Generally, writing texts in the active voice is considered to be easier for understanding than the passive voice (Lorés, 2004; Swales, 1990), and the passive voice is frequently used to depersonalize information (Weissberg & Buker, 1990). The writers in the present study tried to avoid the agent by placing the emphasis on the methodology procedure and how the treatment was carried out or how the instruments were used. Tu and Wang (2013) and Hanidar (2016) found that the passive voice was the preferred choice for describing research methods in various fields. Analyzing a large number of abstract corpora in four disciplines (Biology, Mechanical Engineering, Linguistics, and Medicine), Hanidar (2016) reported that the passive voice was found in all fields but with different degrees of frequency. These findings illustrate the need for focused instruction in academic writing

classes on raising English language learners' awareness of the conventions in using verb tenses and voice when writing abstracts for publication.

Interactional resources

The interactional metadiscoursal devices suggested by Hyland (2005) were found in different numbers according to the types of the move, as shown in Table 6.

Table 6. Interactional metadiscoursal devices

	I	P	M	Pr	C	Sub-Total
Hedges	3	0	0	4	4	11
Attitudinal markers	8	0	0	7	8	23
Boosters	1	0	0	2	4	7
Sub-total	12	0	0	13	16	Total 41

Table 6 shows the use of metadiscoursal devices in the abstracts written by Thai authors. There were a total of 41 devices in a corpus of 30 abstracts. Only three 3 out of 5 interactional resources proposed by Hyland (2005) were found in the present study. The most frequent interactional resource used by Thai authors in Table 6 was attitudinal markers, and its usage was comparatively high in the Introduction, Product and Conclusion moves. The second most frequently used type was the hedge and then, thirdly, the booster. Based on the number of overall occurrences, two types of metadiscoursal devices (engagement markers and self-mentions) were not found in the present study. However, Gillaerts and Van de Velde (2010) and Hyland (2005) reported that interactional resources played an important role in RA abstracts.

To some extent, the findings are similar to the study of Zang et al. (2012), who found that the distribution of the hedge and the attitudinal markers was quite high in agricultural abstracts. Hyland and Jiang (2018) examined the tendency to use metadiscoursal devices in journal articles in four disciplines over the past 50 years. Interestingly, they found a dramatic fall in the interactional markers in the field of applied linguistics. They also revealed that there had been a significant decrease in the number of interactional metadiscoursal devices in the soft fields. Their findings demonstrated that authors tried to show their objectivity in presenting research papers, especially in the field of applied linguistics. The reason behind this trend might be the influence of the guidelines and manuals on abstract writing set by the journals, which require an objective style (Gillaerts & Van de Velde, 2010). It can also be due to the authors' lack of linguistic expressions for communicating their viewpoints and relationship with their readers (Zang et al., 2012). For these reasons, interactional metadiscoursal devices should be one of the instructional topics for writing classes, especially in EFL contexts.

The employment of the 3 resources (hedge, attitudinal marker, and booster) in only 3 moves in the present study must be the result of the functions of the moves. As we know, Introduction and Conclusion moves aim to give great importance to the authors' perspectives on their research or the previous literature related to their studies. This may be the reason why attitudinal markers and hedges were used.

However, these findings are different from a study by Zang et al. (2012), which found that there were no metadiscoursal devices in the product move. But, in the present study, all three types of devices were found in the product move but with different degrees of usage. Although the function of the product move is to state the main findings of the research, the Thai authors appeared to add or reveal their personal views using the hedge, attitudinal marker, and booster, as shown in Examples 3, 4, and 5 respectively. These usages demonstrate how Thai authors construct their abstracts in the field of applied linguistics.

> Example 3
> More importantly, under the sub-types of citations, the international scholars tended to use considerably more non-integral structures, including source and identification, while the integral structure, verb-controlling, *seemed* substantially preferred by Thai scholars. (Abstract 3)

> Example 4
> The Pearson correlation coefficient between vocabulary size and years of study was significant and positive yet *relatively weak* (r=.201, p<.01) which indicated that years of study were partly related to vocabulary size. (Abstract 5)

> Example 5
> These were motivated by their sensitivity to a person of higher status and the Thai values of being caring and considerate, showing gratitude, and being modest. TEs, however, differed *significantly* from TTs *noticeably* in their use of direct strategies. (Abstract 15)

Furthermore, the omission of two other types of resources (engagement markers and self-mentions) is interesting. In academic writing, authors have a choice of presenting themselves to the readers in explicit or implicit ways (Walková, 2019). However, the Thai authors in this study did not interact with their readers by using any personal pronouns. This finding is in line with Zang et al. (2012), who found that only one abstract used the self-mention device. In contrast, Liu and Huang (2017) obtained different results. They found that the trend of using self-mention markers increased in economics abstracts written by Chinese authors. Walková (2019) also reported that the use of authorial reference in RAs written by native English writers was higher than that of L2 English writers. The native English authors used self-mention when stating their research procedures while the non-native English authors employed this device when announcing the purpose, intention, or focus of the study. Although in the past three decades, explicit self-reference has not been widely used in academic writing as papers using the device might be rejected for publication, first-person pronouns have gradually been acknowledged as "a powerful means by which writers express identity by asserting their claim to speak as an authority, and this is a key element of successful academic writing" (Hyland, 2002, pp. 1093–1094).

The findings of the present study demonstrated how Thai authors wrote abstracts in the field of applied linguistics. They were not likely to communicate directly to their readers by using self-mention devices or engagement markers although it is possible to use them in mentioning the authors themselves or in addressing readers directly. This is because using personal pronouns can shorten the distance between the authors and their readers (Swales & Feak, 2004). To some extent, these results might provide a practical guideline for assisting inexperienced Thai authors or non-native writers to write their research abstracts effectively.

Conclusion

The analysis of 30 abstracts written in English by Thai authors in the field of applied linguistic yielded some useful information. Five moves proposed by Hyland (2005) were found with different degrees of frequency. The product move was ranked number one which was followed by the method move. The third rank was the introduction move and the purpose move was the fourth in rank with a frequency of 70 percent of the corpus. The least frequent was the conclusion move with a frequency of 50 percent. The new move "structuring the presentation (SP)" was only found in five of the abstracts (16%). The linear ordering pattern (I-P-M-Pr-C) was the most frequently used structure in the corpus.

The Thai authors tended to use the present tense in writing their abstracts, especially in the introduction and conclusion moves. The past tense in the passive form was frequently used in the method and product moves. The attitudinal marker was the most frequent interactional resource used by the Thai authors to communicate with their readers. The results show that only three metadiscoursal devices (hedge, attitudinal marker, and booster) were employed in the corpus. The conclusion move showed a very high usage of these devices.

The findings are expected to have pedagogical implications for the integration of a genre-based approach with linguistic features in terms of tense, voice, and interactional resources in various aspects of writing. The rhetorical organization and their linguistic realizations found in the present study can be actively incorporated into the programs or curriculum for Thai undergraduates or higher levels of studies, for example, in research writing courses for those who find it difficult to write well-structured RA abstracts for publication. That means that teachers can incorporate the research findings of the rhetorical moves, linguistic features as well as the interactional metadiscoursal devices in their teaching materials by providing genre-based tasks or activities to raise students' awareness of the necessary rhetorical organization and its linguistic realizations. Such provisions would provide students with opportunities to experience the genre and the linguistic resources of RA abstracts and make them more sensitive to the styles of language usage set by their discourse community.

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