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Research Article

Rhetorical Structures of Abstracts Written for TESOL International Conferences

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ABSTRACT

Introduction: The current research aimed to investigate rhetorical move structures in abstracts written for TESOL international conferences by non-native speakers of English.

Methodology: Sixty abstracts were collected from Vietnamese and Thai proceedings published by three universities. These abstracts were written for the TESOL conventions in the period 2018-2019. The study used the five-move scheme (I-P-M-R-D) adapted from Pho's (2008) framework for move analysis with the assistance of the automatic text analysis and move occurrences soft wares AntMover and AntConc.

Results: Results from the study showed that Methodology, Result, and Purpose sections played vital parts in abstract writing while Introduction and Discussion seized small portions in the corpus. The present study also indicated that the authors wrote papers for TESOL conferences did not strictly follow the five-move sequence as expected due to word limitation and face-to-face mode of paper presentations at conventions. Non-linear move patterns were also recognized that are aligned with the findings of previous research studies.

Conclusion: The findings of this study revealed that the abstracts written for TESOL international conferences in this research have followed the P-M-R order of an abstract rhetorical structure. This study's findings on rhetorical structures could be of great assistance in helping novice writers in composing well-structured abstracts for TESOL conferences.

1. Introduction

Writing an abstract for journal publications or conferences is a crucial and challenging task, particularly for novice researchers. The abstract serves as a concise summary of a research article or paper, highlighting its main objectives, methods, results, and conclusions. Scholars have emphasized the abstract's dual role: first, it condenses the content of the full article, and second, it represents the study in a way that attracts the attention of potential readers. (Bhatia, 1993; Hyland, 2009; Russo, 2020; Swales, 1990). By reading an abstract, readers can decide if they continue their reading or not.

The significance of the abstract lies in its ability to guide readers' decisions. According to Martín-Martín (2003), after the title, the abstract is typically the first part of the paper readers examine. They often use the abstract to decide whether the full article is worth reading, which underscores the need for clarity and precision in its construction. Pho (2008) further argues that the abstract functions as a "selling point" for the article. Literature shows that inexperienced writers still find it difficult to write abstracts required by international conferences' norms. Busch-Lauer (1995), for example, discovers linguistically and structurally unclear abstracts "may hamper the general readability for the scientific community" (p. 769).

According to Ren and Li (2011), novice writers do not feel confident with their abstract writing. Thus, writing abstracts for TESOL international conventions needs rhetorical knowledge and guidelines to produce well-structured abstracts. However, review shows that abstract writing in the field of TESOL for conferences is still limited (Lorés-Sanz, 2004; Nguyen et al., 2014; Nguyen, 2018). That is the reason the author of this paper is trying to fill the gap

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by doing a critical discourse analysis to find out the rhetorical structures of conference abstracts, aiming to assist novice writers perform good abstracts for TESOL international conventions.

2. Literature review

2.1. Why are abstracts needed?

Abstracts, as a genre, are scientific discourses. They condense and summarize what writers have included in their papers. Abstracts describe the objectives, methods, and findings of the research (Alfolaranmi, 2024; Badri, 2019; Brown, 2019; Dos Santos, 1996; Salager-Meyer, 1990). In addition, when the full papers are not accessible, abstracts are alternate sources. For a TESOL conference, abstracts precede full papers for initial screening. Before the conference takes places, abstracts are screened and reviewed by experts in the field in order to select qualified presentations at the convention. Therefore, before authors submit their full papers, authors must provide abstracts as a summary of "a longer report from which readers will have an concise knowledge of the full article." (Bhatia, 1993, p. 78).

Other scholars (e.g. Herbst et al., 2024; Hyland, 2000; Russo, 2020; Martín-Martín, 2004) continue to emphasize the job of abstracts to summarize. Martín-Martín (2002) notes abstracts are the readers' first encounter with the text after the paper's title. Similarly, abstracts, according to Hyland (2000), are a rich source of interactional characteristics that reflect how individuals attempt to position themselves within communities. Abstracts have multiple purposes: helping readers understand the goal of the study; summarizing the research and reminding readers of essential materials included in the full paper if they have previously read it before. Hence, as Dos Santos (1996), Russo (2020), and Yoong Wei et al. (2020) stated, abstracts are crucial to the exposure of scientific endeavors insofar as they increase the research's visibility, discussion, and influence. In short, abstracts are self-contained, brief summaries which describe the full contribution or content of an academic publication that is worth reading or not reading.

2.2. Previous studies

Swales' (1990) work has served as the foundation for the genre of move analysis. According to Swales (2004), a move is a "discoursal or rhetorical unit that performs a coherent communicative function in a written or spoken discourse" (pp. 228-229), and each move is composed of steps, which are smaller rhetorical components. Researchers now have a concept of "move-step" or "move-submove" in their rhetorical structure analysis of abstracts or research articles. Swales (1990) suggested the CARS (Create a Research Space) model based on the examination of introductory parts of research publications. After Swales' research in 1990, there has been more interest in studies that look at the rhetorical structure of research papers and, later, the move analysis of research article abstracts.

Literature reveals that moves used in abstracts have been examined in previous research from four different angles: range, quantity, organization, and linguistic aspects (Can et al., 2016). Research has investigated the range or degree to which a move is required. Each move is then labeled "conventional" or "optional". If a move appears in 60% or more than 60% of a section across many papers, that move is classified as "conventional". If it appears in less, it can be classified as "optional" (Can et al., 2016; Kanoksilapatham, 2005). Martin-Martin (2005, p. 5) states that "abstracts comprise, after the paper's title, the reader's first interaction with the text". Abstracts are often freely accessible online. Many publications published papers in other languages rather than in English. Thus, abstracts help readers understand the content of published papers, and move analysis is a common technique for assessing language use, rhetoric, and text arrangement (Herbst et al., 2024; Russo, 2020). Several move systems have been developed in earlier studies for analyzing various sections of research papers in different domains. These schemes consist of a variety of movements and sub-moves (or steps). To provide an example, Stoller and Robinson (2013) researched the Methodology sections of published papers in the discipline of chemistry. They investigated the three key moves which are Move 1 (Describe materials), Move 2 (Explain experimental procedures), and Move 3 (Describe numerical approaches). In addition to these major moves, they also added the two other sub-moves (procedures and instrumentation) to Move 2. They came to a conclusion that these five moves are sufficient to categorize the methodological components of a Methods section of a research paper. Yoong Wei et al. (2022) also investigated moves and sub-moves in abstract constructing and discovered that the frequency of occurrence revealed: the Introduction and the Results moves were conventional, while the Method and the Describing Implication and Recommendation moves were optional.

For abstract organization, Salager-Meyer (1990), Hyland (2000), and Russo (2020) state that a well-structured abstract should include the Introduction, Methods, Findings, and Conclusions sections in a linear order. However, Ren and Li (2011) countered this claim by asserting that the significance of a move is correlated with the amount of time it receives. They found out that abstracts written for research publications had more words in the Results section, whereas abstracts written by students of applied linguistics had more words in the Introduction section. They saw this gap as proof that the students' studies were lacking abstract writing skills, which led to uncertainty regarding their outcomes. Moreover, Can et al. (2016) claim that their writings are difficult to grasp since "these organizational patterns in a non-systematic approach, such as descriptions of many patterns are noticed most frequently" (p. 2). The study offered a visual chart depicting a move organization 50 abstracts that presented a clear picture of all movements employed in abstractions. It is true that earlier research presented these organizational patterns in an unorganized manner, for example, by discussing a few of the most

prevalent patterns. Can's (2016) study has provided a novel visual chart that illustrates how moves are organized over the whole sample of 50 papers.

Lastly, several earlier research looked at rhetorical structures and lexical-grammatical aspects of abstracts written by inexperienced writers (e.g. Amnuai & Wannaruk, 2013; Busch-Lauer, 1995; Hyland & Tse, 2005; Nguyen et al., 2014, Nguyen, 2018; Ren & Li, 2011; Samar et al., 2004; Tseng, 2011). For instance, Nguyen et al. (2014) and Nguyen et al. (2018) distinguished three types of abstracts: informative, combinatory and indicative types of abstracts. Her group implemented a research project with 137 abstracts delivered to two TESOL conferences in Asia. The results show that M, P, and R were frequently employed in moves of the informative type. They explained these moves used repeatedly as they are the key components in an abstract.

Nguyen (2018) herself implemented another study with a corpus of 532 informative abstracts published by Thai university journals, using Hyland's (2000) model. She discovered that the I (Introduction) and C (Conclusion) moves missed from the abstracts as they classified "optional". The researcher of this article also noted that the results of her study missed the D (Discussion) move but added the C move to abstract writing. The missing moves were explained as "cultural variations", and it might be Thai university journals expects authors include "only the P-M-R moves written in the abstracts" (p. 76). Her study found "the most dominant move-sequence (67%) in the informative abstracts was P-M-Pr (=Product/R). In other words, most abstracts of this type began with P, followed by M and Pr, respectively." (p. 76). Can et al., (2016) examined 50 research abstracts in applied linguistics that were published in the journal *English for Specific Purposes* (ESP) in the period of 2011-2013. They found out that purpose, methodology and results were reported in most abstracts. They concluded that their findings were aligned with research done before, and suggested move analysis should be focused further on the "connection between findings of move analyses and teaching materials for academic writing" (Can et al., 2016: abstract). Recently, Agbaglo and Fiadzomor (2021) carried out a study on 100 abstracts of empirical research articles published in *TESOL Quarterly* journal. They looked at move structures and linguistic realization of moves. Their study revealed that Introduction, Method and Conclusion moves are conventional while Purpose and Conclusion moves are optional. The study also revealed linguistic features such as tense, voice, and grammatical subjective roles have significant contributions to research abstract writing. It is worth noticing here that like Agbaglo and Fiadzomor (2021), Nguyen (2018), study did not include the Discussion move in their scheme but added Conclusion move to be counted for frequency of moves in their targeted corpus.

In the field of TESOL, the researcher of this current study recognized that not many published articles related to abstract analysis have been conducted. Most abstract analysis have been done in the field of applied linguistics. As pointed out by Nguyen et al. (2014), Nguyen (2018), and Lorés-Sanz (2004), the reason is that some authors think TESOL and applied linguistics are closely related. The majority of earlier research missed analyzing move length components. The structure of move types and how moves are sequenced are also important components of move-analysis methodologies. This paper merely investigated rhetorical structures of abstracts written for TESOL conferences. Linguistic features analysis within each move category is not the scope of the present study. The present paper seeks answers to following research questions (RQ):

(1) To what extent, do abstracts written for TESOL international conventions follow the typical I-P-M-R-D (Introduction, Purpose, Method, Results, Discussion) move structure suggested by Pho (2008)?

(2) Do the target abstracts contain any irregular move structures? If yes, what are their descriptions?

3. Methodology

This study includes three stages of corpus construction, data collection, and corpus analysis.

3.1. Corpus construction

Sixty research abstracts from the three proceedings of international conferences in the field of TESOL were randomly selected from the proceedings in PDF of Thai and Vietnamese universities. Most of these abstracts were written by the Thai and Vietnamese authors within the period of 2017-2019 while others were written by international authors. For this study, only abstracts were chosen for move analysis whereas the titles and the authors' biography, and key words of the selected abstracts were discarded. Sixty abstracts were chosen to build the corpus that are considered sufficient for the generalization and comparison with previous research (Can et al., 2016). All the abstracts selected for the corpus analysis delivered to these international conferences had to align with the word limitation within a length of not over 250 words (Bouchricha, 2024; Brown, 2019). In order to be selected for the conference presentations, all of these contributed articles had to go through peer-reviewed process assigned to experienced reviewers. Table 1 presents a descriptive statistical analysis of the corpus size.

Word and sentence counts for the abstracts were automatically done by an online software designed by Seo Tool Center (https://seotoolscentre.com/online-sentence-counter). The results showed that there were totally 12,331 words and 483 sentences were used to form 60 abstracts. In average, each abstract written for these three international TESOL conferences received 8.05 sentences.

Table 1 above shows that the average number of words in the abstract data was 205.51. That means most authors complied with the TESOL conferences' guidelines for abstract writing in which word limit is counted from 200-250 words. However, there were still some abstracts which used more than 250 words (e.g., #3; #19) or less than the

Table 1.
Words, Sentences and their Mean Lengths of Abstracts Used in the Corpus

Number of Abstracts Analyzed	Total Number of Words in Corpus	Total Number of Sentences	Average Number of Words in Each Abstract	Mean Length of Abstracts in Terms of Sentences
60	12,331	483	205.51	8.05

words required (e.g., #1; #32). The average number of sentences in each abstract ranged from three to thirteen sentences.

3.2. Coding moves in TESOL conference abstracts

Each abstract was randomly numbered with a hash symbol (e.g., # 1, # 60). Pho's (2008) move framework (see Table 3) adapted from Dos Santos's (1996) and Hyland's (2004) five-move pattern was used for this study. Each move in abstracts were automatically recognized using the AntMover version 1.1.0 designed by Anthony (2016). Table 2 illustrates part of the move analysis in the abstract corpora performed by the AntMover software.

When the Results moves were produced by the *AntMover*, the researcher manually double-checked the moves and renamed the move labels according to the move functions recommended by Pho's move framework. To gain inter-coder reliability of the results, another reviewer who is an expert in the field was invited to cross-check the results. The analyses of the two coders were then compared. After reconciling discrepancies between the two coders, a Cohen's kappa value of 0.80 was achieved for both, calculated using SPSS. This indicates a substantial level of inter-coder agreement (Can et al., 2016).

Table 3 shows the modified version of Pho (2008) with questions asked and description for more practical move coding in abstracts.

Pho's (2008) framework was used in this study due to its clear distinctions made between each move. I used the abbreviations I, P, M, R, and D to symbolize each move in each abstract. In this study, the sentence was the unit of coding, although it could contain embedded phrases or embedded clauses. Both top-down and bottom-up methods were used to analyze the data. The bottom-up analysis, as proposed by Can et al., (2006), looked for linguistic signals to classify the modifications, whereas the top-down analysis emphasized the abstract information.

3.3. Analyzing range, amount, and organization

In order to measure range, as recommended by Hyland (2004), Can et al., (2016); Kanoksilapatham (2005), Pho (2008), and Yoong Wei et al., (2022), the researcher of this study categorized a move as "conventional" if it appeared in at least 60% of the abstract, but if it appeared in less than 60% of the abstract, it would be classified as "optional".

To measure amount, the researcher tagged each sentence to find out a move or moves it contained. Then, the researcher examined tag frequency to determine the quantity of the corresponding move.

To investigate the organization of the moves in the corpus, the researcher created a chart to help me visualize the whole data set (see Figure 1). Then the researcher counted the moves and grouped them in five categories (I, P, M, R, D) using Excel to build a chart representing the organization of the moves in the 60 abstract data set (see Figure 2 & Figure 3).

Table 2.
Moves Analysis by the AntMover Version 1.12 Designed by Anthony (2016)

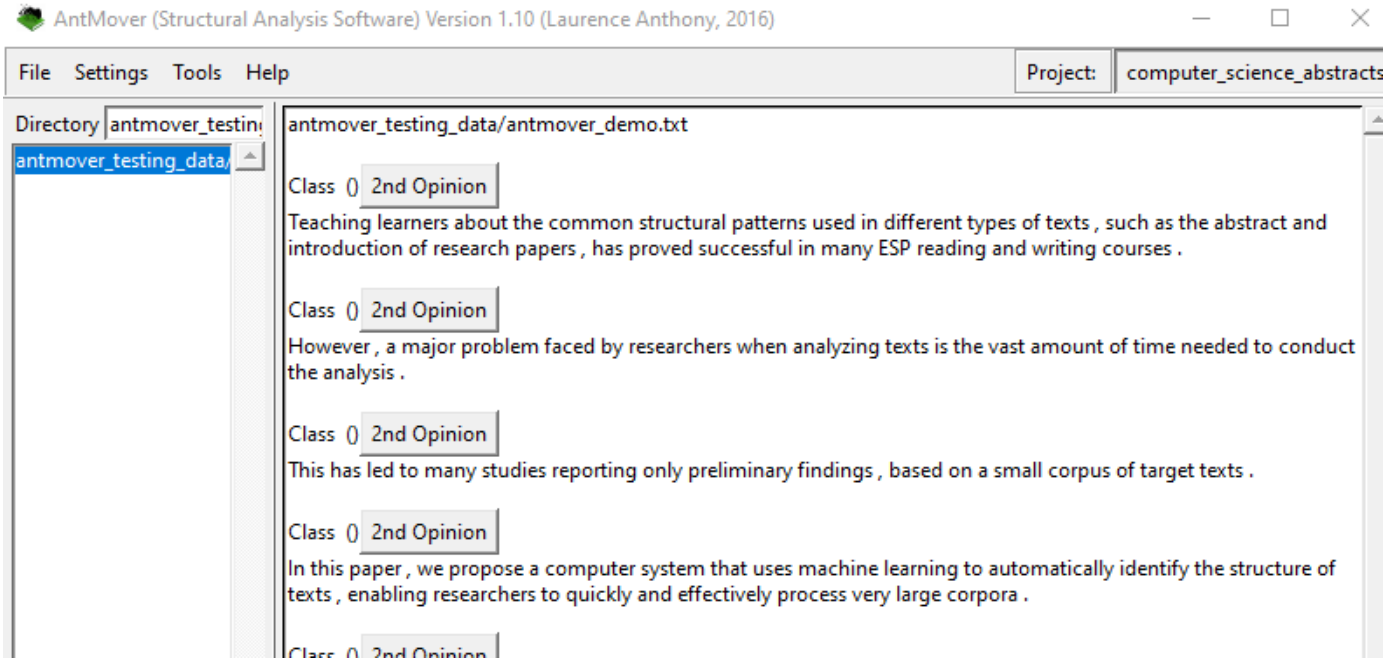


Table 3.
Framework for Move Coding, Adapted from Pho (2008)

Abstract moves by Pho (2008)	Function/Description	Question asked	Move labels & abbreviations in the present study
Situating the research	Setting the scene for the current study	What is known about the field?	Introduction (I)
Presenting the research	Stating the purpose of the study, research questions and hypothesis	What is the study about?	Purpose (P)
Describing the methodology	Describing the materials, subjects, variables and procedures, etc.	How was the research done?	Method (M)
Summarizing the findings	Reporting the main findings of the study	What did the research find?	Results (R)
Discussing the research	Interpreting results/findings and/or giving recommendations	What do the results mean?	Discussion (D)

4. Results and Discussion

The Results and Discussion section of this study are presented in a sequence related to the two research questions raised in the Literature Review section.

4.1. Addressing the first research question

To what extent do TESOL abstracts follow the I-P-M-R-D (introduction, purpose, method, result, and discussion) move structure suggested by Pho (2008)?

4.1.1. Amount of moves in five-move abstracts

Among 60 abstracts, only four abstracts (6.7%) contained all five move types (#29, # 37, # 46, and #49), although other researchers like Hyland (2004) found even lower percentage (5%), while Can et al. (2016) found a much higher percentage (34%). 56 abstracts (93.3%) lacked at least one move in the current study.

The results show that R (28%) was the most frequent move existed in all abstracts of five moves while M (24%) was the second most frequent move while other previous research findings that M was the most frequent move (e.g. Can et al., 2016; Hyland, 2004; Pho, 2008). Pho's (2008) study found that M seized 100% while Nguyen (2018) said M seized 95% in her analysis of 584 TESOL abstracts. This finding shows that most writers recognized the importance of Methodology section in writing abstracts for TESOL international conferences. Agbaglo and Fiadzomor (2021) and Yoong Wei et al. (2022) revealed similar results about the M move in their recent studies as reviewed by the researcher of this current study in the Previous Studies section.

The third most frequent move was P (18%) and D (18%). P and D shared equal portions of percentage. These four moves occupied 88% of the whole corpus and are believed to bring to the readers the most important features of a research article: the research purpose, methodology, and study results and discussion. These elements help readers decide to continue their further reading or not as Can et al., (2016) stated, "because readers expect the abstract to explain their purposes, describe the methodology, and report the results, including these three moves will increase the chances of getting their article read." (p. 6). The I move (12%) seized the lowest percentage of the five-move corpus. However, these moves were not written in a linear order I-P-M-R-D as recommended by Pho (2008). In addition, all of these moves appeared in less than 60% of the abstract (see Table 4), they were then classified as "optional" in this study.

In a brief view, 60 abstracts written for TESOL conferences in this study focused their writing on the *results* of the study, describing their research *methodology* and presenting the *purpose* and then *discussion* of their research. Most abstracts have four moves as indicated in the next section of this article. This finding is aligned with

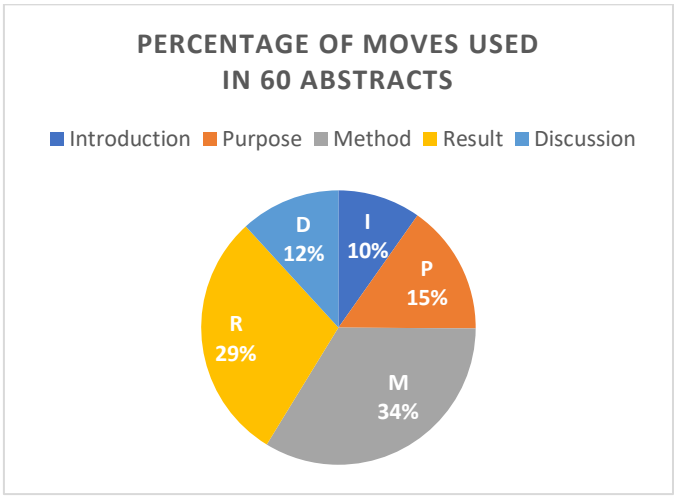


Figure 1.
Percentage of Moves Used five-move Abstracts

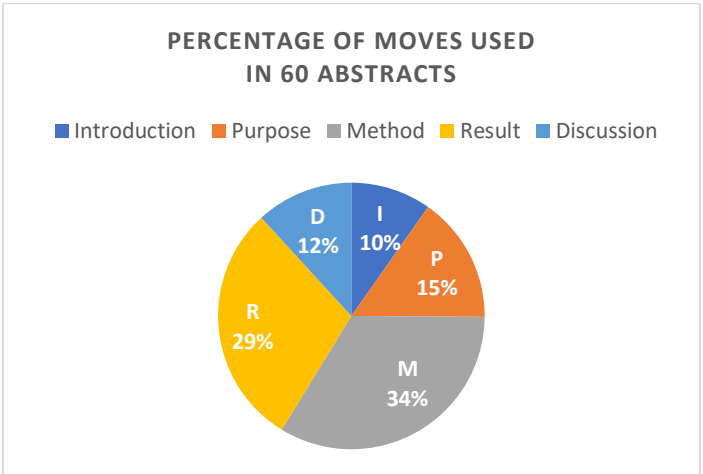


Figure 2.
Frequency of Move Occurrence and Distribution at Sentence Level

Abstract:	beginning -->end of an abstract													
#1	I	P	I	P										
#2	I	I	P	M	M	M	I	I	P					
#3	I	I	I	P	M	M	M	I	I	P				
#4	I	P	M											
#5	I	I	I	P	P	M	R	R						
#6	R	P	P	P	P	P								
#7	I	P	M	M	R	R								
#8	P	M	M	M	R	M	R	R						
#9	P	P	M	R	P									
#10	R	M	M	R	R	R	R	P	M	P	R	R	R	
#11	P	M	P	M	R	R								
#12	I	I	I	M	M	P	P	P						
#13	R	R	R	P	M	R	R	R						
#14	R	P	R	R	M	M	R	R	M					
#15	I	P	R	R	P	P	M	R	R	M				
#16	R	I	M	M	R	M	R	M	M					
#17	I	I	I	R	M	R	R	R	I	M	M	R	R	
#18	R	M	M	M	M	M	M	M	M	M	R	R	R	
#19	R	M	M	M	M	M	M	M	M	M	M	R	R	
#20	P	M	M	M	R	R	R	R	M	P	M	M		
#21	M	I	P	M	M	M	R	R	I	M	R			
#22	P	P	I	M	M	M	R	R	I	M	R			
#23	R	D	P	M	P	M	P	M	M	M				
#24	R	D	D	R	D	M								
#25	R	D	D	M	M	R	M	R	D					
#26	I	I	D	D	M	M	R	D	D					
#27	D	D	R	P	P	M	M	M	R	D				
#28	R	I	I	R	I	M	P							
#29	R	P	R	M	D	I	R							
#30	R	I	I	I	M	P								

Abstract:	beginning -->end of an abstract													
#31	R	I	I	I	M	P								
#32	M	M	R											
#33	P	M	M	R	R									
#34	I	M	P	M	M	M	M	M	M	R	R	M		
#35	I	I	I	M										
#36	I	I	M	M	R	R								
#37	I	P	P	M	M	M	R	D	D	D				
#38	P	R	R	R										
#39	D	D	R	R	M	D	R							
#40	P	M	R	R	R	R								
#41	P	P	M	M	R	R	R	R						
#42	D	P	I	I	D	D								
#43	M	P	P	M	I	M	M	M	R					
#44	M	P	M	M	M	M	M	R	D					
#45	M	R	R	R	R	P	M	D	D					
#46	M	P	P	I	R	M	D	D						
#47	D	D	D	D	M	M	R	R	R					
#48	I	M	M	M	R	P								
#49	I	R	D	P	M	M	R	R						
#50	P	M	M	R	M	M	R	D	D					
#51	P	M	M	R	M	R	R	R	R					
#52	R	D	P	M	M	D	D	R						
#53	P	P	M	M	M	M	R	R						
#54	R	M	M	D										
#55	P	M	M	M	M	P								
#56	P	M	M	M	M	M	R	D						
#57	P	P	M	R	D	R	D							
#58	D	D	P	P	M	M	R	M						
#59	M	M	M	M	M	M	M	M	R	R	D			
#60	D	M	M	M	M	R	R	R	R	D				

Figure 3.
Move Structure in the Whole Data of 60 Abstracts

the findings of the previous research articles written for journals or TESOL conferences (e.g., Agbaglo and Fiadzomor, 2021; Can et al., 2016; Hyland, 2004; Nguyen, 2018; Pho, 2008; Yoong Wei et al., 2022). Can et al. (2016) stated that when writing abstracts, authors desire to "promote their studies", thus "the purposes, the methodology, and the results, including these three moves will increase the chances of getting their article read." (p. 6).

Table 4.
Number and Percentage of Abstracts with Five Moves in the Present Study (n = 60).

Move	*n*	%	Range
I	72	12	Optional
P	113	18	Optional
M	248	24	Optional
R	217	28	Optional
D	87	18	Optional

3.1.2. Amount of moves in the 60 abstract corpus

Table 5 below shows the number of moves used in 60 abstracts.

This table shows that M (248 moves) received the most frequent use in writing TESOL abstracts. This suggests that writers focused on Methodology when wrote their papers for these three TESOL conferences. R and P received 217 and 113 moves respectively. This indicates that most authors of international conferences not only placed their article importance on the methods but also on the research results and the purpose of their abstracts while D had 87 moves for the Discussion, and the I move had the lowest move usage (72) for the Introduction portion.

When examining the moves used in 60 abstracts serving as a corpus for the analysis, it is recognized that the expected I-P-M-R-D order is not strictly followed, as reported by Pho (2008), and Ren and Li (2011). M seized the largest percentage of moves used (34%), R (29%) and P (15%) respectively. I had the smallest quantity (10%) while D seized 12% of the 60 abstract corpus. M seized the largest portion and this finding coincided with findings by Can et al., (2016) and Yoong Wei (2022). In Can's (2016) study, M was "present 100% in the abstracts" (p. 6). Most writers claimed that M is a "conventional move" that should be included in their abstract composing (Agbaglo et al., 2021; Can et al., 2016; Nguyen, 2018;). Although the D move seized only 12%, it does not mean that Discussion is not important in writing TESOL abstracts. When put R and D together, they occupied 27% of the corpus which indicates the results and discussions sections played a vital role in research-based papers for

Table 5.
Moves Used in the 60 Abstract Corpus

The present study	Scheme	Number of abstracts	Move and percentage of rhetorical structure				
			I	P	M	R	D
	Pho (2008)	60	72	**113**	**248**	**217**	87

TESOL international conferences or conventions. Despite the I and D moves had low percentage (10% and 12% respectively), they still needed to be present in abstracts as "authors may have calculated space for the other parts of their writing." (Can et al., 2016; Nguyen, 2018).

4.2. Addressing the second research question

Do the target abstracts contain any irregular move structures? If yes, what are their descriptions?

4.2.1. Organization of moves (sequence, linearity)

In order to find out answers to this question, a linear or non-linear order that the moves followed in the target abstracts was observed. Figure 3 represents a single abstract in line from start to end. To measure linearity, "all consecutive moves from the same category were merged as one move" recommended by Can et al., (2016, p. 10). If an abstract that had five moves in linear order of I-P-M-R-D, it is named "a completely linear move". If an abstract that did not follow this linear order, it is labeled "a non-linear move".

4.2.2. Completely linear and Semi-linear patterns

As mentioned, abstracts which contain all five moves I-P-M-R-D would be "completely linear". Surprisingly, there was only one abstract (#37) seizing 6.7% of the whole sixty abstracts that followed this completely linear pattern as illustrated below:

<I> Collaborative learning has conspicuously been crucial scaffolding on learning a target language over the past decades. <P>This study aimed to explore students' perceptions of vocabulary learning through collaborative small group works. <P> Additionally, it attempted to figure out what activities effectively supported this process, including the potential difficulties students encountered while participating in small groups collaboratively in EFL classroom during four consecutive months. <M> Thirty-four English for International Communication (EIC) students were chosen purposely as participants. <M> The data were gathered by means of the questionnaire including 20 items of learner perceptions and one open-ended question to express students' learning problems. <M> The obtained data was quantitatively transcribed on the perceptions and qualitatively justified vocabulary learning troubles. <R> Findings indicated that participants believed collaborative small group work has obviously been practical. <D> Most of them admitted that they could gradually memorize more new lexical items. <D> Furthermore, enlarging more unfamiliar words and phrases while working with their classmates showed greatly beneficial result rather than working individually. <D> It was noted that over half of students have been firmly certain that six diverse small group tasks enable them to learn a great number of lexical items. <D> However, there might probably be some drawbacks on the process. (#37)

Among 60 abstracts written for TESOL conferences, abstract # 37 is the only abstract that followed the I-P-M-R-D sequence order recommended Pho (2008), and this order is being used to look for linearity of other abstracts as well. Other three abstracts (#29, #46, and #49), though also containing five moves, they did not strictly follow the linear order I-P-M-R-D. However, the results of this study reveal that some abstracts followed a *semi-linear* order as they lacked some move types to be ranked as complete linearity. Table 6 shows the semi-linear patterns of these abstracts.

There were 17 semi-linear abstracts (25.1%), namely #1, #2, #3, #4, #5, #7, #32, #33, #35, #40, #41, #48, #51, #53, #56, #57, and #59. Some of these abstracts omitted the I move but most of them omitted the D move. From the researcher's observation, TESOL abstract writers followed the P-M-R sequence that was aligned with the sequence reported by Cross and Oppenheim (2006), Pho (2008), Saeeaw and Tangkiengsirisin (2014), and Nguyen (2018). Saeeaw et al., (2006) stated that these moves "were present in almost all abstracts and were recognized as the conventional moves of the genre." (p. 10).

4.2.3. Non-linear patterns

Non-linear abstracts can be understood as the abstracts did not follow the expected I-P-M-R-D move order in this study. There were 42 abstracts (74%) that lacked at least one move in their move patterns as illustrated in the following table:

Table 6.
Frequencies and Percentages of Linear and Semi-linear Patterns in 27 Abstracts

Linearity	Move Patterns					Frequency	Percentage of 60 abstracts
Linear	I	P	M	R	D	1	1.7%
Semi-linear	I	P	M	R	--	2	3.3%
Semi-linear	I	P	--	--	--	1	1.7%
Semi-linear	I	--	M	R	--	2	3.3%
Semi-linear	I	--	M	--	--	1	1.7%
Semi-linear	--	P	M	R	D	2	3.3%
Semi-linear	--	P	M	R	--	4	6.7%
Semi-linear	--	--	M	R	--	1	1.7%
Semi-linear	--	--	M	R	D	1	1.7%

Table 7.
Frequencies of Non-linear Move Patterns in 42 Abstracts

Repeated Non-linear Move Sequences	Frequency	Number of Moves	Percentage of non-linear patterns in 42 abstracts
I I I R M R R R I M M R R	1	3	7.1
I M P M M M M M M R R M	1	4	9.5
I P R R P P M R R M	1	3	7.1
I I D D MM R D D	1	4	9.5
I I I M M P P P	1	3	7.1
P P I M M M R R R I R	1	4	9.5
P M M M R M R R	1	3	7.1
P M P M R R	1	3	7.1
P P M R P	1	3	7.1
P R R R	1	2	4.8
M I P M M M R R I M R	1	4	9.5
M P P M I M M M R	1	4	9.5
M P M M M M M R D	1	4	9.5
M R R R R P M D D	1	3	7.1
R R R P M R R R	1	3	7.1
R P R R M M R R M	1	3	7.1
R I I R I M P	2	4	9.5
R D P M P M P M M M	1	4	9.5
R D D R D M	1	3	7.1
R P R M D I R	1	4	9.5
R D D M M R M R D	1	4	9.5
R I I I M P	2	4	9.5

42 abstracts were classified as "non-linear" as they lacked at least one move type. The following is an excerpt from abstract #56, illustrating a non-linear order:

<P>The present study investigates the effect of modified Kagan Cooperative Learning model on the oral communication ability of the Bhutanese students. <M>The 45 participants in this quasi-experimental study were employed using two intact classes: control (n=22) and experimental (n=23). <M>The two groups were pretested on oral communication ability prior to the implementation of the modified Kagan CL to check their level of oral communication ability. <M>The experimental group was taught through modified Kagan CL model while the control group was taught through conventional method for seven weeks. <M>At the end of the study, a post-test was administered. <M>Data were analyzed using paired sample t-test, independent sample t-test, and one-way ANOVA. <R>The result showed that there was a significant difference between experimental and control group on oral communication ability test and performance-based assessment at the significant level of .05. <D>To sum up, this paper hopefully concludes that the students were able to develop their oral communication ability after implementation of Modified Kagan CL in the class. (#56)

Abstract #56 presents the purpose (P) first before research method (M) was repeated four times. The repetition of M in this non-linear move pattern raises questions of the important role of research methodology in abstract writing before approaching the well-structured sequence I-M-R-D (Salager-Meyer, 1990), or the moves in a logically linear order I-P-M-R-D (Can et al., 2016; Yoong Wei et al., 2022). Table 6 shows us non-linear patterns that the moves changed their order, and as in most cases, these moves are frequently repeated more than once perhaps with the author's intention. The issue may stem from the fact that most authors of these articles are novice, inexperienced in writing well-structured abstracts as mentioned by Nguyen et al. (2014) and Nguyen (2018). Nguyen et al. (2014) stated that most TESOL authors "had never written for TESOL conference abstracts before", and this issue of comprising non-linear structured abstracts "tends to suggest that the majority of these authors were inexperienced authors." (p. 6)

Table 7 above lists the non-linear patterns occurred in the corpus. Most of these non-linear patterns contain four moves, but some abstracts in particular have only two moves (e.g., the P-R-R-R non-linear pattern) in which the author only mentioned the Purpose and the Result sections in his or her research, counting 4.8% of the 42 non-linear patterned abstracts. Abstract #38 shows below us this pattern.

<P>This research aimed to pragmatically analyze and to demonstrate the illocutionary acts of the 70 selected utterances of the two main characters in the film Zootopia based on Austin's (1962) and Searle's (1971) speech acts theory. <R>The results showed that utterances produced by Judy Hopps and Nick Wild were categorized as: 1) 10 utterances of the assertive level; functioned as stating, claiming, lying, hypothesizing, and describing, 2) 20 utterances of the directive level; functioned as ordering, asking, warning, requesting, commanding, challenging, and defying, 3) 20 utterances of the commissive level; functioned as intending, promising, swearing, threatening, and negotiating, 4) 20 utterances of the expressive level; functioned as saying goodbye, complaining, encouraging, thanking, consoling, blaming, apologizing, greeting, priding, mocking, and admiring, and 5) the declarative level was not found in the 70 selected utterances of the two main characters. <R>The research findings could assist ESL and EFL learners understanding of the filmatic utterances for deeper appreciation of literary works. <R>In addition, the findings could give raise to the application of films as teaching tools to teach pragmatic skills and enhance the understanding of speakers' implicit linguistic meanings for ESL and EFL learners. (#38)

Table 8 below also reveals 22 non-linear patterns is the

most frequent cyclical non-linear pattern used. The 4.2.0 version *AntConc* concordancer software (Anthony, 2016) was used to recognize the M and R moves which occurred 59 and 58 times in these non-linear patterns as illustrated in Table 8 below.

These moves formed the M-I-P-M-M-M-R-R-I-M-R, M-P-P-M-I-M-M-R, M-P-M-M-M-M-M-R-D, and M-R-R-R-R-P-M-D-D patterns in which M moves were used many times as indicated in the following M-P-M-M-M-M-M-R-D non-linear pattern below:

<M>In this study, the Autonomous Learning Process (ALP) is a 15-week training program involving learning strategy training based on the four dimensions of learner autonomy, speech training, and reflection training. <P>The objective was to examine the effect of the ALP on English public speaking ability of nineteen Thai undergraduate students enrolling in an international program and its effect size. <M>Quantitative data was collected from the speech tests. <M>Two raters assessed the speeches on a public speaking ability rubric, and interrater reliability was calculated to ensure the reliability of the speech scores. <M>The dependent samples t-test indicated that the average scores of the post-test speech (mean=3.90, SD=0.29) were significantly improved (p<0.01) from the pre-test speech (mean=3.15, SD=0.35). <M>The effect size is 2.33 which means that its magnitude is "large". <M>Qualitative data was also drawn from the students' written reflections after the speeches. <R>The findings suggested that the ALP improved students' English public speaking ability with regards to speech organization, speech content, speech delivery, and language use. <D>The study's implications and recommendations were also discussed. (#44)

Table 9 shows that the R move is repeatedly used in the non-linear patterns:

The following R-R-R-P-M-R-R-R pattern shows the R moves were also repeatedly used.

<R>Behavioral studies have shown that language anxiety causes the learners to react slowly to the lesson, which makes it hard for them to make progress during their course and lowers their learning motivation (Horwitz, 1986). <R>Moreover, learners' anxiety also affects the classroom atmosphere and makes teachers demotivated in teaching (Macintyre, 1995). <P>This research aimed at investigating the causes of language anxiety and evaluating interactive activities used in class to foster learners' participation. <M>The research was conducted with six groups of 120 second- year students at intermediate level at University of Engineering and Technology (UET), Vietnam National University (VNU), Hanoi during their fifteen-week semester. <R>The findings showed five main causes of language anxiety namely Trait Anxiety, learners' opinion about learning English as a foreign language (EFL), learners' level of English, the way teachers treat the students , and how classroom activities are organized by teachers. <D>Among these main causes, the way teachers organized classroom activities was the leading reason for learners' anxiety. <R>The findings also

Table 8.

M Moves Occurred and Recognized by AntConc

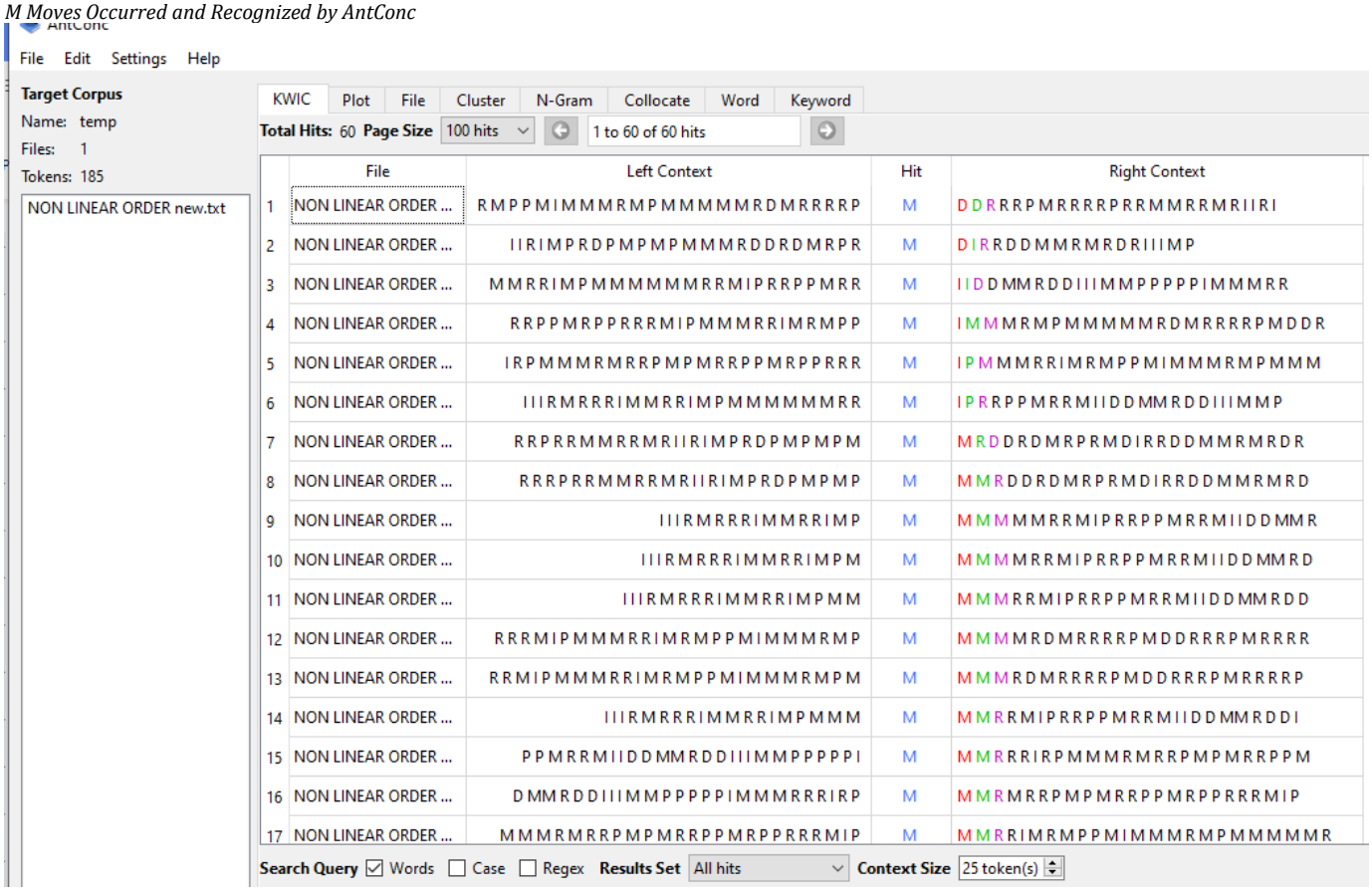
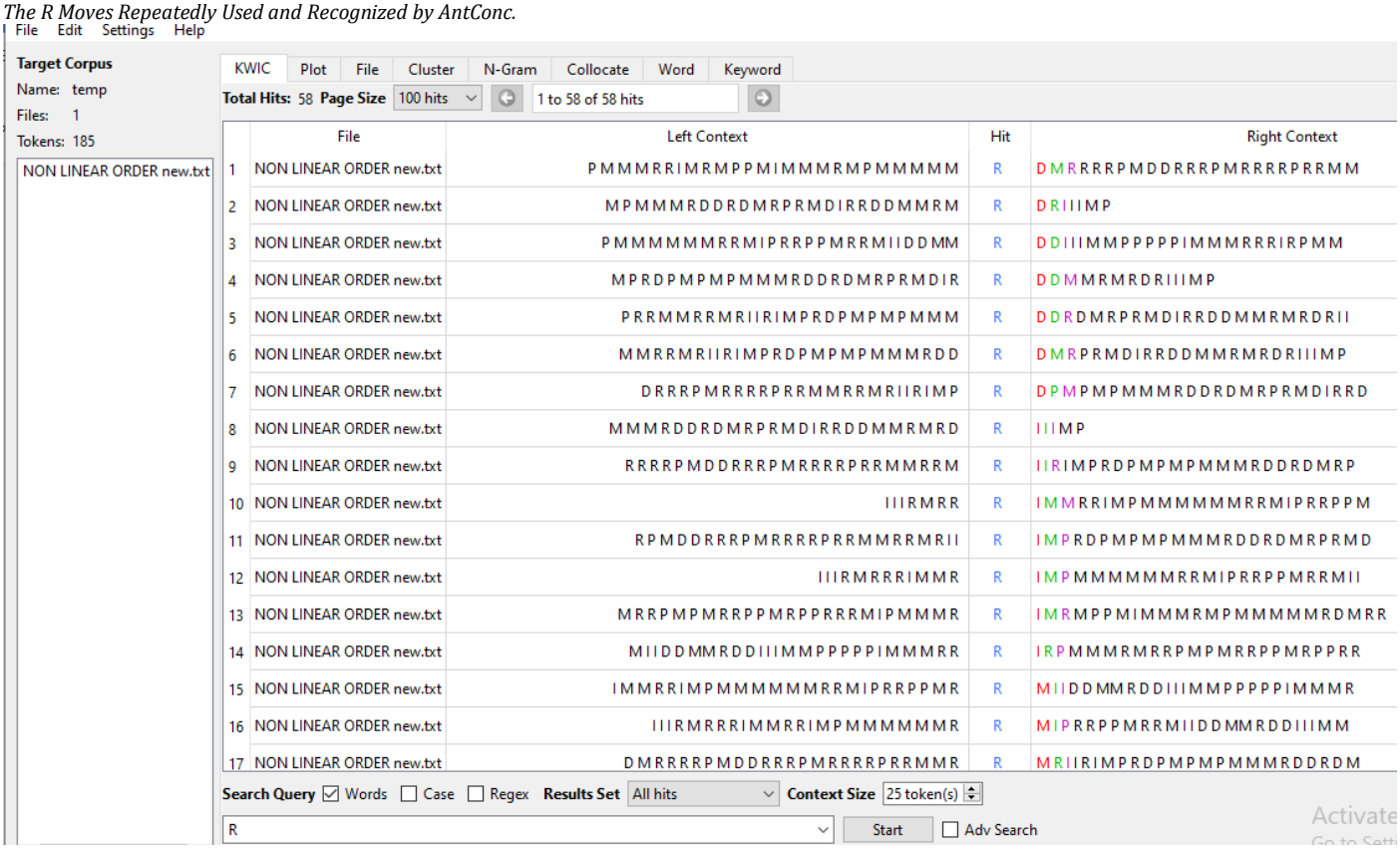


Table 9.
The R Moves Repeatedly Used and Recognized by AntConc.



showed the effectiveness of selected classroom activities in which group work and the whole class work were the most useful, whereas pair work and individual work revealed their weaknesses in improving learners' participation in class. (#13)

All R occurrences of these non-linear patterns indicate that when TESOL writers wanted to give detailed information about research results (Can et al., 2016; Nguyen, 2018), they needed to embed these moves in two or more sentences (Can et al., 2016). Other non-linear patterns indicated that the M moves were frequently used as demonstrated in the following P-M-M-M-M-M-R-D pattern.

<P>The present study investigates the effect of modified Kagan Cooperative Learning model on the oral communication ability of the Bhutanese students. <M>The 45 participants in this quasi-experimental study were employed using two intact classes: control (n=22) and experimental (n=23). <M>The two groups were pretested on oral communication ability prior to the implementation of the modified Kagan CL to check their level of oral communication ability. <M>The experimental group was taught through modified Kagan CL model while the control group was taught through conventional method for seven weeks. <M>At the end of the study, a post-test was administered. <M>Data were analyzed using paired sample t-test, independent sample t-test, and one-way ANOVA. <R>The result showed that there was a significant difference between experimental and control group on oral communication ability test and performance- based assessment at the significant level of .05. <D>To sum up, this paper hopefully concludes that the students were able to develop their oral communication ability after implementation of Modified Kagan CL in the class. (#56)

The hypothesis is that these TESOL authors want to emphasize the methodology of their research in the abstracts delivered to the conference for acceptance consideration. Thus, we can conclude that M and R are the most frequently recycled moves, followed by P as shown in Table 6 which summarizes 42 non-linear patterns. The results of these non-linear patterns also demonstrate that there exists "move embedding" (Can et al., 2016; Yoong Wei, 2022) among the recognized 42 non-linear patterns as Can et al., (2016) has pointed out in his study. He concludes that if sentences contain "more than one move", there will be named "move embedding." (p. 14).

5. Conclusion

Although this study analyzed the move structures of only sixty abstracts from three TESOL international proceedings, the results show that in writing abstracts, the authors emphasized Purpose, Methodology, and Results more than Introduction and Discussion implications. This study's findings on rhetorical structures could be of great assistance in helping novice writers in composing well-structured abstracts for TESOL conferences. This current study used technology to analyze abstract structures that is considered the strength of this study. In pedagogical implications, the research findings contribute to move analysis and/or textual analyses that can assist writers in designing

materials for academic writing.

For future studies, in-depth analysis can focus on a large database of abstract corpus from other disciplines. Recognizing rhetoric structures when move analysis is implemented in a larger corpus of abstracts in TESOL and in other disciplines is needed to assist educators and writers to understand linguistic structures related to move analysis for creating and designing teaching materials. Technology such as automatic move-coding software programmes or apps like *AntMover* (Anthony, 2016) need to be developed with a joint hand of software developers and researchers in this special field of study for the utilization of move and text structure analysis.

Declarations

Competing interest

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Authors' contribution

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Availability of data and materials

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Ethical considerations

Ethical issues (including plagiarism, consent to publish, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancy) have been checked by the authors.

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