

# **A** Move Analysis of Research Discussion Section in English Articles Published in Thai and International Journals

Jirawat Sithlaothavorn

Wannapa Trakulkasemsuk

King Mongkut's University of Technology Thonburi

## **Abstract**

*Based on the influential study of Swales in 1990, academic research articles are said to consist of four main sections, namely introduction, methodology, results and discussion. Move analysis studies of academic articles in various disciplines usually concentrate on the introduction, methodology or results section, yet seem to neglect the discussion section. This study, therefore, attempts to fill in the missing piece by analysing moves used in the discussion section of research articles (henceforth RA discussion). Twenty RA discussions from Thai and international journals were collected as data for this move analysis. The analytical framework was adapted and developed based on Jalilifar et al. (2012) and Amnuai and Wannaruk (2013). Findings reveal that the presence of moves in RA discussions in Thai and international journals are not different. In addition, unlike other sections where move patterns could be outlined, this study finds that there is no manifested move pattern of the discussion section. The only disparity is that discussion sections in Thai journals mainly incorporate informative moves, while evaluative moves occur more noticeably in international journals. Therefore, if one considers international journals to be of higher quality than Thai journals, an integration of evaluative moves in the discussion section can be one crucial factor.*

**Keywords:** *discussion section, move analysis, research articles, Thai and international journals*

## **1. Introduction**

Research articles (RAs) generally consist of four main sections, namely Introduction, Methodology, Results and Discussion (IMRD). The knowledge of this generic structure of research articles, however, may not help authors much with how to write. To be more specific, there is a typical approach to analyze RAs, which is genre analysis. Genre analysis is used to investigate both the common structure of writing and language use in texts under the same discourse community. Therefore, genre analysis studies enable

us to understand and participate professionally as members of a certain discourse community (Thornbury & Slade, 2006).

Genre analysis studies of RAs can be done based on their disciplines such as science, business, medicine, humanities and so on. In each discipline, researchers usually scope down their studies by selecting a particular section for analysis such as Introduction section (e.g. Swales, 1990; Samraj, 2005; Sayfour, 2010), Methods section (e.g. Bruce, 1983; Swales, 1990; Lim, 2006) and Results section (Brett, 1994; Berkenkotter & Huckin, 1995; Holmes, 1997; Yang & Allison, 2003). However, by reviewing previous studies, there appears to be a relatively small number of investigations into the discussion section. In fact, this section should not be neglected since it is as important as other sections. The main purpose of the research discussion section is to shift the focus of a research article from research results or findings to wider significance of that research study (Swales, 1990). In other words, it is the section in which the authors offer their own voices by discussing the significance of their findings, comparing their findings with previous studies, proposing their point of view on theoretical contribution as well as explaining why the findings occurred as they did (Bithchener, 2010). Hence, RA discussion which is a remarkable section to be further explored is of interest in this study.

A number of previous studies have investigated RA discussion in particular such as medicine (Nwogu, 1997), social sciences (Holmes, 1997; Lewin et al., 2001), biochemistry (Kanoksilapatham, 2007), and applied linguistics (Yang & Allison, 2003; Amnuai & Wannaruk, 2013). Meanwhile, there are some genre analysis studies that compare RA discussion across several disciplines such as across seven disciplines (physics and material science, biology, environmental science, business [marketing and management], language and linguistics, public and social administration, and law) by Peacock (2002), and three engineering sub-disciplines (civil, software, and biochemical) by Kanoksilapatham, 2012. Nevertheless, there has appeared to be at least one study investigating RA discussion in the field of applied linguistics research articles (Amirian et al., 2008). Therefore, to add more information about the move structure of RA discussion, this study aims to investigate RA discussion sections in academic journals of language and communication. Besides, this study aims to explore similarities and differences in move structures between RA discussion sections in Thai local journals and international journals.

## 2. Genre and move analysis

Normally, a genre can be defined as a type of discourse that occurs in a particular setting that has distinctive and recognizable patterns and norms of organization and structure and that has particular and distinctive communicative functions (Richards & Schmidt, 2002). In addition, Swales (1990) points out that communicative purposes determine the



content, style and the structure of the genre. As a result, different genres have different purposes, and so contain different generic structures or rhetorical structures. These two definitions imply that groups of people from different social groups and professions or 'discourse communities' use different types of English in different circumstances. And within the same discourse communities, they may share the same interest, which determines what should be appropriate words, structures, and patterns for writing under a particular context. To identify their conventions, a close examination is needed.

Genre analysis usually refers to the approach to analyse conventions of writing, particularly research writing of graduate students (such as Hyland, 2004; Swales, 2004; Swales & Feak, 2004; Cheng, 2006; Paltridge & Starfield, 2007; Tardy, 2009). It is believed that knowing the conventions can facilitate new authors in academic writing. To understand the conventions, move analysis (Swales, 1990) should be conducted. According to Bhatia (1993), moves can be made of distinctive elements of generic structure. This is, the text is described as a sequence of 'moves', where each move not only focuses on its own goal but also contributes to the overall communicative purposes of genre (Swales, 1990). Normally, by forming each move to analyze discourse, there are generally two approaches - top-down approach and bottom-up approach (Biber, Connor & Upton, 2007).

For the top-down process, an identification of communicative purposes has to be created and then an investigation of linguistic features in a certain move is done to support the move analysis. On the contrary, the bottom-up process begins with an identification of remarkable linguistic features. Then, the features are utilized in order to identify moves and steps. Even though the two approaches seem to analyse moves from totally different perspectives, a research study conducted by Lieungnapar and Watson Todd (2011) reveals that most of the moves found by both approaches are similar. Thus, there seems to be no conclusive answer whether top-down or bottom-up is better. Both of the approaches serve different purposes. While top-down views a genre move as context, bottom-up views genre as content and function. Since language learning and language communication research can be considered as one of the contexts in the language field, which requires the shared knowledge of a discourse community, the approach applied in this study is the top-down approach so as to investigate this particular genre move.

### **3. Previous studies of move analysis in RA discussion**

The majority of previous studies on genre analysis in the discussion section can be divided into two main types: hierarchical move framework and single-level scheme. Hierarchical move framework views texts as consisting of hierarchical chunks: moves and steps. This means a text consists of different moves and a move consists of steps. On the other hand, single-level scheme views a text as a sequence of different moves

without further steps (Yang & Allison, 2003). Table 1 below lists the previous studies of RA discussion applying hierarchical move framework.

**Table 1** Hierarchical move framework of discussion section

Kanoksilapatham (2007)	Kanoksilapatham (2012)	Yang & Allison (2003)	Annui & Wannaruk (2013)
Contextualizing the study - Describing established knowledge - Making generalization	Review the present study	Background information	Background information
Consolidation of results - Restating methodology - Stating major findings - Referring to previous literature - Explaining differences in findings - Making claims - Exemplifying	Consolidation of results - Report results - Explain results - Conclude results - Extrapolate results - Compare results - Exemplify results - Claim values of results	Reporting results	Reporting results
Stating Limitations	State limitations and possible further research	Summarizing results	Summarizing results
Suggesting Further Studies		Commenting on results - Interpreting results - Comparing results with literature - Accounting for results - Evaluating results	Commenting on results - Interpreting results - Comparing results with literature - Accounting for results - Evaluating results
		Summarizing the study	Summarizing the study
		Evaluating the study - Indicating limitations - Indicating significance/advantage - Evaluating methodology	Evaluating the study - Indicating limitations - Indicating significance/advantage - Evaluating methodology
		Deductions from the research - Making suggestions - Recommending further research - Drawing pedagogic implications	Deductions from the research - Making suggestions - Recommending further research - Drawing pedagogic implications

Based on Table 1, Kanoksilapatham (2007) has conducted a contrastive rhetoric study. She compared all four sections (IMRD) in the Biochemical field written in Thai and English in academic journals. From her results, the discussion section could be classified into four moves and eight steps. Furthermore, the results indicated that moves and steps of academic journals written in Thai and English shared some similarities. Then, Kanoksilapatham (2012) studied three engineering sub-disciplines: civil, software, and biochemical. There were three moves and seven steps identified in these three sub-disciplines. Also, the results suggested that all of them shared a common set of moves and steps. Other studies were conducted in the discipline of applied linguistics. In 2003, Yang and Allison (2003) investigated three sections from results to conclusions. They offered the hierarchical move framework, which later was adopted by Annui and Wannaruk's (2013) study. This framework comprised seven moves and ten steps. In addition, by comparing Thai and international journals they found that Move 7 (Deduction from the research) was an important move in the Thai corpus.

**Table 2** Single-level scheme of discussion section

Hopkins & Dudley-Evans (1988)	Nwogu (1990)	Dudley-Evans (1994)	Holmes (1997)	Lewin et al. (2001)	Peacock (2002)	Jalilifar et al. (2012)
Background Information	Highlight Overall Research Outcome	Information Move	Background Information	Report Accomplishments	Information Move	Information Move
Statement of Result	Explain Specific Research Outcomes	Statement of Result	Statement of Result	Evaluate Congruence of Findings	Finding	Finding
(Un)expected Outcomes	State Research Conclusion	Findings	(Un)expected Outcome	Offer Interpretation	(Un)expected Outcome	(Un)expected Outcome
Reference to Previous Research (Comparison)		(Un)expected Outcome	Reference to Previous Research	Ward Off Counterclaims	Reference to Previous Research	Reference to Previous Research
Explanation of Unsatisfactory Result		Reference to Previous Research	Explanation of Unsatisfactory Result	State Implications	Explanation	Explanation
Exemplification		Explanation	Generalization		Claim	Claim
Deduction		Claim	Recommendation		Limitation	Limitation
Hypothesis		Limitation	Outlining Parallel or Subsequent Development		Recommendation	Recommendation
Reference to Previous Research (Support)		Recommendation				
Recommendation						
Justification						

As seen from Table 2, Nwogu (1990) analyzed 15 medical journals and identified three moves in the discussion section. Lewin et al. (2001) suggested that there were five moves identified in the social science genre. The rest of the studies would seem to be primarily based on two schemes: Hopkins and Dudley-Evans (1988), who suggested 11 moves and Dudley-Evans (1994), who suggested nine moves. Also they proposed a three-part framework for discussion in terms of move cycles: *introduction*, *evaluation*, and *conclusion*. The purpose of introduction is to set the background knowledge by restating the aim of the study and summarizing what has been done. Next, the evaluation part is the body of the discussion where the writers state the key results and the main claims. Then, all main claims and results are summarized in the conclusion.

One of the pioneering studies on genre analysis in RA discussion across disciplines was completed by Holmes (1997), who employed the framework of Hopkins and Dudley-Evans (1988) to investigate discussion sections in the field of social science across three disciplines (history, political science, and sociology). The results revealed that there was no obligatory move. Also, he argued that in his genres only eight moves could be identified, thus leading to a renamed and modified framework.

In 2002, Peacock compared native speakers (NS) and non-native speakers (NNS) in his cross-investigation of seven disciplinary fields: physics and material science, biology, environmental science, business (marketing and management), language and linguistics, public and social administration, and law. His study employed the Dudley-Evans (1994) model for analysis. The results suggested that there was no obligatory move and the Dudley-Evans model needed to be revised by combining Move 2 (statement of results) and Move 3 (findings). Also, the results revealed that NNS in the field of humanities made an inappropriate number of Move 8s (recommendations).

Finally, Jalilifar et al. (2012) investigated one discipline, applied linguistics, with a comparison between local (Iranian) and international journals. They applied the Dudley-Evans model and agreed with Peacock's previous assertion that it needed modification. Thus, their proposed model comprised eight moves as indicated in Table 3. Furthermore, by comparing the local and international applied linguistics journals, Jalilifar et al. (2012) found the tendency of low frequency of local RA discussion's Move 5 (reference to previous research), indicating that local writers did not relate their work to previous research.

Based on the previous move analysis studies, it could be seen that the hierarchical move framework could provide the viewpoint of move analysis in particular details. As argued by Yang and Allison (2003) who offered the hierarchical move framework, the single-level scheme is not detailed enough and the hierarchical move framework is more preferable. In contrast, although the hierarchical move framework provides the details of move identification, the single-level scheme has underlined the cyclic nature of move in an RA discussion section since a move-step order would seem too rigid and a rare phenomenon (Swales, 1990). As discussion section is where the author largely relies on opinion expression, the style of writing that allows authors to express their opinion freely would be more required and thus, the single-level scheme can better provide the approach to the convention of RA discussion structure due to the cyclic nature of move in writing freely. This justification led to the adaptation and development of two previous single-level schemes proposed by Jalilifar et al. (2012) and Amnuai and Wannaruk (2013) so as to answer the research questions as follows.

### **Research questions**

1. What are the rhetorical moves in the discussion sections of language learning and communication articles in Thai and international journals?
2. How similar are the moves in discussion sections of papers in Thai and international journals and how do they differ?



## 4. Methodology

### 4.1 Data collection

Two corpora used in this study were compiled from the discussion section of Thai and international journals in language learning and communication from 2009 to 2014. To ensure that the two corpora were comparable and were good representatives of quality research articles, criteria for selecting journals were set. Firstly, each article should contain all the four major sections, which are the Introduction, Methods, Results and Discussion (IMRD) sections (Swales, 1990; Lim, 2006). Secondly, all the articles in the two corpora were from quality journals. That is, Thai journals were listed in the Thai Citation Index Centre (TCI) and international journals in the SCImago Journal & Country Rank (SJR). Thai research articles discussions (henceforth TAs) were chosen from *Language and Communication* and *PASAA* which were produced by National Institute of Development Administration (NIDA) and Chulalongkorn University, respectively. Meanwhile, international research articles discussions (henceforth IAs) were chosen from *Language and Intercultural Communication* and *Language learning*. Then, ten discussion sections from Thai research articles were selected and compiled based on a comparable number of words as representatives of TAs. Similarly, ten discussion sections from international research articles were selected and compiled based on a comparable number of words as representatives of IAs. The size of the Thai corpus was 13,504 words while IAs was 14,772 words.

### 4.2 Data analysis

This study first applied the single-level scheme proposed by Jalilifar et al. (2012) and then the hierarchical move framework proposed by Amnuai and Wannaruk (2013). The reason behind this decision is Jalilifar et al.'s model could not identify the moves of the entire samples during the pilot study. Thus, some steps of Amnuai and Wannaruk's model were also applied to modify the analytical scheme of this study.



**Table 3** Comparative framework of Jalilifar et al. (2012) and Amnuai and Wannaruk (2013)

Jalilifar et al. (2012)	Amnuai & Wannaruk (2013)
Information move	Background information
Finding	Reporting results
(Un)expected outcome	Summarizing results
Reference to previous research	Commenting on results <ul style="list-style-type: none"> <li>- Interpreting results</li> <li>- Comparing results with literature</li> <li>- Accounting for results</li> <li>- Evaluating results</li> </ul>
Explanation	Summarizing the study
Claim	Evaluating the study <ul style="list-style-type: none"> <li>- Indicating limitations</li> <li>- Indicating significance/advantage</li> <li>- Evaluating methodology</li> </ul>
Limitation	Deductions from the research <ul style="list-style-type: none"> <li>- Making suggestions</li> <li>- Recommending further research</li> <li>- Drawing pedagogic implications</li> </ul>
Recommendation	

To validate the analytical scheme, a second coder who had the knowledge of coding move analysis was consulted as suggested in the previous study (Dudley-Evans, 1994) and Holmes (1997, 2001). The randomly selected four TAs and IAs were provided for the coder to code. After the coding was completed, the researcher and the coder discussed, negotiated and clarified the different codings in order to adjust and finalized the coding scheme. Most of the moves were retained, but renamed and redefined. For instance, Jalilifar et al.'s findings move and Amnuai and Wannaruk's reporting results move were combined and renamed into Revisiting results in the modified framework. Then, all coding moves were submitted to the Coefficient of reliability formula so as to double check the reliability of this current modified framework. The results showed 94% reliability, indicating that the current modified framework was highly reliable.

After the modification of the coding scheme, all data were re-coded by the researchers. Then the moves would be classified as "obligatory", "conventional" or "optional". Obligatory are the moves that occur in all texts in a corpus. Conventional are those occurring 60% - 99% of the texts. Optional are those that occur less than 60%. (Amnuai & Wannaruk, 2013). In addition, the move pattern found in this study can be classified into two structures: linear and cyclical move structures. The modified single-level scheme including the explanation of each move is as follows.



**Table 4** The modified single-level scheme of the current study

Move	Explanation
Move 1 : Background information	To set the scene for discussion of the results that follow
Move 2 : Revisiting results	To revisit the results of the study
Move 3 : Interpreting results	To interpret or generalize the results of the study
Move 4 : Comparing results with literature	To compare the similarities and differences with previous studies
Move 5 : Accounting for results	To provide further possible explanation of the facts or give reasons for the observed differences in the findings or (un)expected outcomes
Move 6 : Summarizing the current study	To provide the brief account of the main points from the study
Move 7 : Indicating limitations	To describe the limitations of the research being conducted
Move 8 : Indicating significance	To discuss the strengths of the study which may be significant for applications or implications
Move 9 : Evaluating methodology	To comment on the strengths or weaknesses of the research methodology
Move 10 : Recommendations for further research	To advocate the need for future research or suggest possible areas of further studies
Move 11 : Drawing pedagogical implications	To state the pedagogical significance of the study or indicate necessity for pedagogical changes

## 5. Limitations of the study

In the present study, there are some limitations that should be addressed. Firstly, it deals with the variety of data selected. Since research articles published in English are rarely found in Thailand, it was difficult to select the best representatives from Thai journals. As one of the criteria for data collection was that the Thai journal should be listed in the TCI, the only Thai journal found related to language learning published in English is from Chulalongkorn University, while the only Thai journal found related to language communication published in English is from NIDA. Therefore, the choices for data collection were not widely varied.

Secondly, unlike other studies that have considered the nationality of writers as one of the criteria for data collection, the focus of this study is not on the nationality of the writers. Rather, the quality of research articles is of primary interest. This is because consideration of nationality can be a factor leading to bias against scholars from peripheral countries. To avoid such bias, the names of Thai journals should be listed in the TCI, and international journals should be listed in SJR without concern for authors' nationalities.

## 6. Results

### 6.1 Moves found in TAs and IAs

A number of moves found in Table 5 are from the occurrence of moves in each corpus. The results reveal that the obligatory moves in TAs were *Move 2 Revisiting results* and *Move 4 Comparing results with literature*. Meanwhile, the obligatory moves in IAs are *Move 3 Interpreting results* and *Move 4 Comparing results with literature*.

Secondly, the conventional moves found in TAs are *Move 1 Background information*, *Move 3 Interpreting results* and *Move 5 Accounting for results* whereas *Move 1 Background information*, *Move 2 Revisiting results*, and *Move 5 Accounting for results* are in conventional moves in IAs.

**Table 5** Moves found in TAs and IAs

Moves	TAs (N=10)		IAs (N=10)	
	Occurrence	Percentage	Occurrence	Percentage
1. Background information	7	(70%)**	9	(90%)**
2. Revisiting results	10	(100%)***	9	(90%)**
3. Interpreting results	9	(90%)**	10	(100%)***
4. Comparing results with literature	10	(100%)***	10	(100%)***
5. Accounting for results	8	(80%)**	9	(90%)**
6. Summarizing the study	-	-	1	(10%)*
7. Indicating limitations	2	(20%)*	2	(20%)*
8. Indicating significance	1	(10%)*	1	(10%)*
9. Evaluating methodology	1	(10%)*	4	(40%)*
10. Recommendations for further research	2	(20%)*	4	(40%)*
11. Drawing pedagogical implication	5	(50%)*	4	(40%)*

Note: \*\*\* = obligatory, \*\* = conventional, \* = optional

Finally, the optional moves in both corpora are found to be similar. According to the table, *Move 6 Summarizing the current study*, *Move 7 Indicating limitations*, *Move 8 Indicating significance*, *Move 9 Evaluating methodology*, *Move 10 Recommendations for further research*, and *Move 11 Drawing pedagogical implication* are rarely found in both corpora.

However, a number of moves found in both corpora cannot indicate such a difference. For instance, although *Move 2 Revisiting results* found in TAs are different, the difference

is only 10%. Similarly, such occurrences of *Move 6 – Move 11* found in both corpora do not signify that the moves found between TAs and IAs are really different. Therefore, considering the results, it can be concluded that *Move 1 – Move 5* are very important in TAs and IAs. Nevertheless, *Move 6 – Move 11* are optional in both corpora.

## 6.2 Move patterns

Most of the previous studies of rhetorical organization have attempted to identify move patterns. Normally, move patterns can be classified into two structures: linear and cyclical move structures. With reference to Appendix A, move patterns of discussion sections cannot be really ascertained whether those discussions occurred in TAs or IAs. This is because not only did the linear move patterns such as *Move 1 → Move 2 → Move 3* not occur, but also the cyclical move patterns such as *Move 1 → Move 2 → Move 3 → Move 1 → Move 2 → Move 3* cannot be found systematically at all. Rather, they are in random order such as *Move 2 → Move 5 → Move 4 → Move 3 → Move 1*, signifying that the discussion sections were not patterned. It is entirely dependent on authors to organize their information. However, even though neither linear nor cyclical move patterns can be observed, some similarities and differences can be identified when taking a closer look at the function of each move.

Based on the move analysis, the moves found in this study can be further divided into two main functions by the nature of the moves. Firstly, informative move refers to those moves that provide solid information such as *Move 1, Move 2, Move 3, Move 4 and Move 5*. Secondly, evaluative move refers to those moves that provide further thoughts and interpretation of information such as *Move 6, Move 7, Move 8, Move 9, Move 10 and Move 11*. Also, to compare the similarities and differences of move nature, the raw frequencies of all moves in the two corpora and their proportional distributions are considered as listed in Table 6.

**Table 6** Frequency of moves found in TAs and IAs

Moves	TAs (N=10)	IAs (N=10)
1. Background information	15 (5.70%)	33 (11.66%)
2. Revisiting results	77 (29.28%)	48 (16.96%)
3. Interpreting results	59 (22.43%)	63 (22.26%)
4. Comparing results with literature	58 (22.05%)	68 (24.03%)
5. Accounting for results	33 (11.55%)	32 (11.31%)
6. Summarizing the study	0	1 (0.35%)
7. Indicating limitations	2 (0.76%)	3 (1.06%)
8. Indicating significance	1 (0.38%)	1 (0.35%)
9. Evaluating methodology	1 (0.38%)	19 (6.71%)
10. Recommendations for further research	5 (1.90%)	7 (2.47%)
11. Drawing pedagogical implication	12 (4.56%)	8 (2.83%)
<b>Total</b>	<b>263 (100%)</b>	<b>283 (100%)</b>

Considering the frequency of moves, it can be seen that *Move 1*, *Move 2*, *Move 3*, *Move 4*, and *Move 5* are similar in proportional moves. However, taking a closer look at informative moves and evaluative moves, the results reveal the differences between TAs and IAs. Comparing between each move in both corpora, the frequency of informative moves indicates that *Move 1* is found more often in IAs. Meanwhile, the frequency of *Move 2* is found more often in TAs. The results imply that the authors in international journals tend to provide background information while the authors in Thai journals are likely to repeat the statement of results. Moreover, the frequency of evaluative moves suggests that *Move 9* is found more often in IAs, suggesting that the authors in international journals likely prefer to evaluate their research methodology.

To sum up, the results of move analysis can reveal that moves found in both corpora are similar. Additionally, move patterns in both corpora cannot really be concluded. However, in terms of the compared frequency of the nature of moves, the results exhibit that *Move 2* is found frequently in TAs whereas *Move 1* and *Move 9* occur more often in IAs.

## 7. Discussion

The purpose of this study aims to answer the two research questions. The first research question attempted to reveal rhetorical moves in the discussion sections of language learning and communication in Thai and international journals. Secondly, it concerns

the frequency of similarities or differences of the moves of discussion sections in Thai and international journals.

Firstly, the findings of moves found in this study reveal that *Move 1*, *Move 2*, *Move 3*, *Move 4* and *Move 5* are very important to TAs and IAs while *Move 6*, *Move 7*, *Move 8*, *Move 9*, *Move 10* and *Move 11* are optional in both corpora. This implies that both TAs and IAs share the same goal of conventions in writing RA discussion sections, which may contradict previous studies such as Peacock (2002) and Jalilifar et al. (2012) which compared the rhetorical move between NNS and NS and found differences between NS and NNS. The possible explanations are due to the different assumptions of the current study and the previous studies.

As previously discussed, this study discounted English proficiency of NS and NNS while the previous studies took this factor into account. Consequently, the previous studies selected data based on the nationalities of the writers while this study only compiled the corpora based on the high rank of the journals in order to compare the conventions of rhetorical organization between Thai and international journals. Thus, the comparable data selection may result in having identical communicative purposes of writing RA discussions. Based on this finding, it can be assumed that authors in Thai and international journals know what primary information should be included in the RA discussion section.

However, it is interesting that if the authors in both corpora know what should basically be included in RA discussion sections, what issue can be a factor underlying the different conventions between TAs and IAs? Therefore, move pattern identification can be further explored. The results of move patterns found in this study indicate that neither linear move structure nor cyclical move structure can really be concluded in both corpora. Rather, they are in random order. This reveals that the RA discussion section is not patterned, which may contradict to previous studies such as Dudley-Evans (1994), Kanoksilapatham (2012), and Yang and Allison (2003) which aimed to find out the recycling of prominent move patterns so as to structure the appropriate move patterns of an RA discussion in many disciplines.

As previously discussed, the main characteristic of an RA discussion section is its role as a place where the authors can offer ideas and opinions (Swales, 1990). This means that the RA discussion can offer an opportunity for the authors to freely write when it came to discussing their results, depending on how the authors organize their texts. It can be said that this writing style is an attractive characteristic of RA discussions. If the authors adhere to a rigid pattern in writing, their findings associated with newly established knowledge may not be proposed freely. Therefore, to make this section academically fulfilling, the main propositions and arguments should be considered rather than the pattern of texts.

This notion can be supported by Hoey (1991) who proposes that the pattern in text provided by writers is not compulsory. Furthermore, the relationships of the ideas communicated through clauses and groups of clauses are more important. The results of the current study also agree with this notion. The move patterns found in this study cannot be identified as being in order, but existing at random. Therefore, it can be argued that an RA discussion section really belongs to authors. They can freely discuss their results and express their opinions. The text pattern of this section should not be structured, but it would be better to see how authors organize their ideas and how they propose their arguments in this section.

Although the move pattern cannot really be concluded, the frequency of move nature indicates the difference on the evaluative moves. Based on the findings, it can be seen that evaluative moves tended to occur in IAs more often than in TAs. This can reveal different conventions of organizing an RA discussion between authors in Thai and those in international journals. The authors of Thai journals did not usually integrate the evaluative moves while the authors of international journals would seem to evaluate more, particularly on *Move 9 Evaluating methodology*.

The lack of evaluative moves of authors in Thai journals may be because they may realize that the target audiences who will read their research articles are in Thai settings in which evaluation may not be much preferable. Thus, the authors in Thai journals probably try to conform to the norms and conventions of Thai journals in order to meet readers' expectations. Also, it is widely accepted that national journals may not have many publication requirements. It can be assumed that authors who publish their research study in national journals tend to lack academic experience. Consequently, they may not be confident enough to propose strong arguments or give as much evaluation.

Meanwhile, international journals can normally be considered to have a higher quality than national journals in terms of publication requirements. Therefore, authors who publish in international journals tend to be authors who have more experience. This is because readers may expect to see strong arguments from the authors. Consequently, authors in international journals may be obliged to show their knowledge by providing more evaluation so that they can meet readers' expectations and conform to the publication norms and conventions of international journals.

## 8. Conclusion and suggestions

The findings of this study reveal that TAs and IAs share communicative purposes in writing RA discussions, but differ in the evaluative moves. The similarities of moves found in this study imply that authors in Thai and international journals know what primary information should be provided in the discussion section. However, the findings of the move pattern analysis part show that although there was no explicit



move pattern found in this study, the nature of moves was different for the evaluative moves. These disparities can be explained through readers' expectation, conventions and norms that have impact on the writing of RA discussions.

Therefore, it is recommended for those wishing to publish their research either in Thai or international journals that they need to consider the expectations, conventions, and norms of a larger community or a sub-set of one. For instance, if writers wish to publish their research articles in a larger community, an integration of evaluative moves in the RA discussion section can be one of the crucial factors for consideration.

With regard to suggestions for further studies, they may investigate whether cultural values of the writers affect their decisions when writing RA discussions. For instance, a researcher may find out whether the lack of evaluative moves may be governed by Thai writing style. Also, research may compare the rhetorical organization of RA discussions published in Thai journals written by international writers and in international journals written by Thai authors. By doing so, the results may show whether the cultural background of the writers can affect the style of writing more explicitly.

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#### Authors

**Jirawat Sithlaothavorn** is a customer care officer at jobsDB Recruitment (Thailand) Limited. He received his MA in English for professional and international communication from King Mongkut's University of Technology Thonburi. His areas of interest mainly include language and communication studies, intercultural communication studies and World Englishes.

**Wannapa Trakulkasemsuk** is an assistant professor at the Department of Language Studies, School of Liberal Arts, King Mongkut's University of Technology. Her research interests mainly include World Englishes, English as a Lingua Franca, Language and communication and corpus-based language analysis.  
[wannapa.tra@kmutt.ac.th](mailto:wannapa.tra@kmutt.ac.th)

## Appendix A

### I. Thai journal corpus (Language and Learning)

Paragraph	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
TL1	Move 2	Move 2	Move 2	Move 2												
	Move 9	Move 5	Move 4	Move 8												
	Move 3	Move 4	Move 3													
	Move 11	Move 11	Move 11													
	Move 4															
TL2	Move 11															
	Move 2	Move 2	Move 2	Move 2	Move 2	Move 4	Move 2	Move 3	Move 2	Move 4	Move 4	Move 2	Move 3	Move 4	Move 3	Move 3
	Move 4	Move 5	Move 4		Move 1			Move 4		Move 2	Move 5				Move 2	
	Move 3		Move 2		Move 4											
	Move 4		Move 3		Move 5											
TL3	Move 3		Move 4		Move 4											
TL4	Move 2	Move 2	Move 2	Move 3	Move 2	Move 2										
	Move 4	Move 3	Move 4	Move 4	Move 3											
	Move 2	Move 4			Move 4											
TL5	Move 1	Move 2	Move 2	Move 2	Move 3	Move 1	Move 2									
	Move 2	Move 5	Move 5	Move 3	Move 2	Move 2	Move 3									
		Move 2	Move 3		Move 4	Move 2										
TL6	Move 1	Move 4	Move 7													
	Move 2	Move 11	Move 10													
	Move 4															

## II. Thai journal corpus (Language and Communication)

Paragraph	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
TC1	Move1	Move4	Move3	Move4	Move2	Move5	Move10																
	Move2	Move3	Move4	Move10	Move4	Move3	Move4																
	Move3	Move5	Move5			Move10	Move10																
	Move4	Move4	Move4				Move7																
		Move5																					
TC2	Move4	Move2	Move1	Move1	Move2	Move3	Move3																
	Move2	Move5	Move2	Move3	Move3	Move4	Move2																
	Move3	Move4	Move1	Move2		Move3	Move3																
	Move4	Move3	Move2	Move4			Move4																
	Move5	Move1	Move1																				
		Move2																					
		Move3																					
TC3	Move4	Move3	Move3	Move2	Move3																		
	Move5	Move2	Move5	Move4	Move4																		
	Move2	Move4	Move11	Move5	Move5																		
	Move4	Move5		Move2																			
	Move5	Move2		Move5																			
		Move4																					
TC4	Move2	Move2	Move3	Move1	Move2	Move3	Move3	Move2	Move3	Move3	Move1	Move2	Move2	Move4	Move4	Move4	Move5	Move2	Move5	Move5	Move4	Move11	Move11
		Move4	Move3	Move3	Move5	Move2	Move5	Move3	Move4	Move3	Move2	Move5	Move3	Move2	Move2	Move5	Move3	Move4	Move2	Move3	Move2	Move4	Move4
			Move4			Move5	Move3	Move3	Move5	Move2	Move2	Move3	Move3	Move3	Move4	Move4	Move2	Move2	Move3	Move2	Move3	Move3	Move11
																Move2	Move2						
TC5	Move1	Move2	Move3	Move5	Move2	Move2	Move2	Move2	Move2	Move2	Move11	Move11											
	Move5		Move4	Move4	Move4	Move3	Move5		Move3	Move4													
	Move3		Move3	Move2	Move2	Move2	Move2		Move2	Move2													
			Move11	Move4	Move4	Move3	Move3		Move5	Move4													
				Move3	Move2		Move4		Move5	Move5													

### III. International journal corpus (Language and Learning)

Paragraph	1	2	3	4	5	6	7	8	9	10	11	12	13	14
IL1	Move 3	Move 3	Move 2											
	Move 5	Move 4	Move 3											
		Move 2												
		Move 3												
		Move 2												
IL2		Move 3												
	Move 1	Move 3	Move 3	Move 5	Move 9	Move 3	Move 4	Move 5	Move 5	Move 1	Move 9	Move 10	Move 5	Move 10
	Move 5	Move 1	Move 5	Move 4	Move 4	Move 4	Move 9	Move 9	Move 7	Move 2	Move 1	Move 4	Move 4	
	Move 1	Move 3	Move 3	Move 3	Move 3	Move 5	Move 5	Move 11	Move 7	Move 7	Move 9	Move 9	Move 9	
		Move 4											Move 4	
IL3	Move 1	Move 3	Move 3	Move 9	Move 1	Move 4	Move 1	Move 4	Move 4	Move 2	Move 1			
	Move 2	Move 1	Move 4	Move 3	Move 5	Move 3	Move 4	Move 1	Move 3	Move 4	Move 4			
	Move 1	Move 4		Move 1	Move 3	Move 4	Move 2			Move 5	Move 3			
	Move 2	Move 1		Move 2						Move 9	Move 4			
		Move 4									Move 9			
IL4														
	Move 1	Move 5	Move 3	Move 1	Move 2	Move 5	Move 2	Move 3	Move 2					
	Move 2	Move 4	Move 2	Move 2	Move 3	Move 1	Move 5	Move 4	Move 5					
	Move 1	Move 5	Move 3	Move 4	Move 2	Move 2	Move 1	Move 2	Move 4					
	Move 2	Move 3	Move 4	Move 2	Move 4	Move 3	Move 5	Move 5	Move 3					
IL5	Move 3		Move 5			Move 2	Move 4							
	Move 2		Move 10				Move 5							
	Move 2	Move 4	Move 3	Move 3	Move 1	Move 1	Move 2	Move 1	Move 2	Move 3	Move 3	Move 4	Move 1	Move 2
	Move 4	Move 2	Move 4	Move 4	Move 4	Move 4	Move 5	Move 3	Move 4	Move 4	Move 4	Move 3	Move 3	Move 4
	Move 2	Move 5	Move 3	Move 3	Move 2	Move 5	Move 4	Move 2	Move 3	Move 1	Move 5	Move 4	Move 5	Move 5
					Move 4			Move 1						
					Move 3			Move 4						
					Move 2			Move 1						
					Move 2			Move 1						
					Move 4			Move 3						



#### IV. International journal corpus (Language and Communication)

Paragraph	1	2	3	4	5	6	7	8
IC1	Move 1 Move 4 Move 9	Move 9	Move 3 Move 4 Move 9 Move 4 Move 9	Move 9 Move 4 Move 10	Move 9 Move 4 Move 9	Move 10	Move 11 Move 4 Move 11 Move 4	Move 4 Move 9 Move 10
IC2	Move 2 Move 4 Move 3 Move 4	Move 3 Move 1	Move 2 Move 4 Move 5 Move 3 Move 4 Move 5 Move 4 Move 3	Move 2 Move 3 Move 5 Move 3 Move 4	Move 3 Move 10 Move 4 Move 6			
IC3	Move 2 Move 4 Move 1 Move 2	Move 2 Move 3 Move 2	Move 3 Move 4 Move 3	Move 3 Move 4 Move 3	Move 3 Move 4 Move 5 Move 2			
IC4	Move 2 Move 4 Move 5	Move 4 Move 1 Move 3	Move 9 Move 1 Move 9	Move 1 Move 2 Move 3	Move 3 Move 2 Move 3 Move 8 Move 11			
IC5	Move 3 Move 5 Move 2 Move 3 Move 7 Move 11	Move 4 Move 5 Move 2 Move 4 Move 2 Move 3 Move 4	Move 2 Move 3 Move 4 Move 11	Move 4 Move 3 Move 1 Move 2 Move 11	Move 2 Move 3 Move 4 Move 11			

## Appendix B

### Research articles published in Thai journals

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