Move and Text Analysis of the Discussion section in Humanities and Social Sciences Research Articles

Zirivarnphicha Thanajirawat[a]*, Chokchai Chuea-nongthon[b]

a Department of English for International Communication, Faculty of Liberal Arts, Rajamangala University of Technology Rattakosin, Thailand.

b General Education Department, Faculty of Liberal Arts, Rajamangala University of Technology Rattanakosin

Abstract

The discussion section of a research article is the last section in which non-native researchers, especially in humanities and social science, face problems in determining its pattern and structure. In addition, there are fewer studies on this subject of discussion section in research articles in the domain of humanities and social sciences. This study attempted to understand the pattern and structures of the discussion section in research articles for easy and convenient writing of this section. The population consisted of 30 research articles published in the Scopus database and belonged to Quartiles 1-3 between 2004 and 2018. All research articles were in humanities and social sciences and included three field groups: language, linguistics, and language teaching; business, management, accounting, economics, marketing, and finance; and other fields of humanities and social sciences. The data were analyzed by grammatical theories, text analysis by Ure (1989), and the move structure model adopted from J. M. Swales (1990, 2004), Kanoksilapatham (2005), and Peacock (2002). This research found that the text pattern analyzed by Ure (1989) was "Specialized / Written text / Monologue / Discussion / Exploring + Recommending; while the results of move structure revealed that there were seven moves that occurred in the discussion section. They were Move1: Preparing for the presentation of results, Move2: Reporting results, Move3: Stating comments on the results, Move4: Stating limitations of the study, Move5: Recommendation, Move6: Implications, and Move7: Claim. Two moves contained steps: Move1 and Move 3. Only Move2 occurred obligatorily while the others were optional occurring.

Keywords: Research Article, Discussion, Text Analysis, Rhetorical Structure, Move Analysis

Introduction

The English language is an international language or the world's lingua franca, with billions of native and non-native speakers worldwide (Peeravudhi, 2006). In addition, English has played a significant role as a global language in different communicative aspects, especially in international academic exchange among scientists, scholars, academics, and researchers, as Crystal (2003) stated that English was the medium of a great deal of the world's knowledge, especially in such areas as science and technology.

In the English language skills of communication of non-native speakers, writing skill is more important and difficult than other skills. Especially academic purposes, non-native speakers must have various writing problems as writing is often considered the most difficult skill for non-native writers. English language is still a barrier for many non-native academics and non-native speakers (NNS), who are unable to present their work in English such as Research articles (RAs) to acceptable standard. Moreover, RAs are mostly composed of abstract, introduction, literature review, methodology, results, and discussion section. The discussion section in RAs is the last section that presents the results analysis, comparison and confirming research findings with previous researches; often referring, and making claims about contribution to the knowledge domain (Basturkmen, 2012; Dujsik, 2013; Le & Harrington, 2015; Ruiying & Allison, 2003; J. M. Swales, 2004). The discussions section also sometimes includes limitations, recommendations, and implication of the study (Al-Shujairi, Tan, Abdullah, Nimehchisalem, & Imm, 2020; Fryer, 2012; Moyetta, 2016). Al-Shujairi and Al-Manaseer (2022) stated that "the discussion section is considered a crucial part of the writing process of RA. Research writers find it difficult to write an effective discussion for their results, which could be due to the unawareness of the various move functions that shape this section." Therefore, the discussion section of RAs written by NNS researchers is a considerable problem causing their articles to be rejected for publication (Flowerdew, 2001), and it is the greatest difficulty in writing (Dudley-Evans, 1994).

In the recent years, many researchers have discussed about the generic structure of different sections of RAs (e.g., Flowerdew and Wan (2010); Hirano (2009); Kanoksilapatham (2007); Khany and Tazik (2010); J. M. Swales (1990, 2004)). The aims of these studies were analyzed by using generic structure made effective by NNS who would become proficient writers among different members of their discipline's community. The genre analysis approach has a tendency to identify the move-step structure of RAs across different disciplines. A 'move' is defined as a function of a specific segment of the texts in a general level while a 'step' is a very specific rhetorical means used to manifest and realize the move functions (Ruiying & Allison, 2003).

J. M. Swales (1990), Ruiying and Allison (2003), and Kanoksilapatham (2005) state that moves and steps in a text make it coherent and well-organized. They help to produce a text with smoothly related sentences following a single purpose logically. Writers need to know the nature of moves and steps to present sets of purposes in a written text, therefore having a proficient knowledge of English as well as the move-step structure of RAs, which can highly contribute to the publication of RAs in prestigious journals. Flowerdew (2001) also believed that discussion section was the part that the novice writers may face problems with. He asserted that in this section the writers need to evaluate their findings and provide evidence for their implication; thus they need to have knowledge of organizing this section.

Based on the reviews of the discussion section of several RAs, by applying the principles of genre analysis, these RAs can be divided into three categories: 1) scientific disciplines such as chemical engineering (Peng, 1987), comprising MSc dissertations and biology (Hopkins & Dudley-Evans, 1988), and medicine (Nwogu, 1997); 2) English for specific purposes and applied linguistics (Amirian, Kassaian, & Tavakoli, 2008; Dujsik, 2013; Ruiying & Allison, 2003; Sabet & Kazempouri, 2015; Santikul, 2019); and 3) across different fields of study such as history, political science, and sociology (Holmes, 1997), disciplines including physics, biology, environmental science, business, language and linguistics, public and social administration, and law (Peacock, 2002).

Although a few studies have conducted the genre analysis of the discussion section of RAs in humanities and social sciences, especially in English for specific purpose and applied linguistics, the other disciplines of humanities and social sciences have been investigated less. Thus, in order to fulfill the gap and provide a clear picture of the rhetorical construction of the discussion section in humanities and social sciences in RAs, this study aimed to analyze the rhetorical structure of the discussion sections of research articles in humanities and social sciences specific to three fields namely language, linguistics and language teaching; business, management, accounting, economics, marketing and finance; and other general disciplines of humanities and social sciences. Besides, this study aimed to analyze the text typology pattern of discussion sections and investigate the usage of writing techniques in RA discussion section. This study would help NNS and novice writers understand the structure of the discussion section and apply the knowledge to write RAs for publication and successful publishing which they think was difficult and arduous.

Conceptual framework of Text typology and Genre and Move Analysis

Text typology framework for classifying texts (Ure,1989)

Ure (1989) has proposed a conceptual framework for classifying the widely known texts. It is a classification of text based on four criteria: the first is the expertise, divided into specialized and non-specialized; the second is a medium divided into spoken and written; the third is a social purpose, divided into expounding, reporting, recreating, sharing, recommending, enabling, exploring, and doing; and the last one is the experience, divided into reflection and action. The text typology of Ure (1989) is shown in Table 1.

Table 1. *Ure Text typology (1989)*

		written		spoken			
		dialogue	monologue		dialogue		
specialized	1	Letter	Reference book	Lecture	Debate	expounding	reflection
		Menu	Text book				
non-specialized	2	Questionnaire	History	Statement in evidence	Cross examination	reporting	
			Biography				
			News report				
	3	Comic strip	Memoirs	Radio commentary	Drama	recreating	
			Novels				
			Stories		Folk play		
					Collaborative narrative		
	4	Letter, personal	Diary	Reminiscence	Conversation	sharing	
	5	Letter, business	-	-	Co-operation	doing	action
	6	Letter, agony aunt	Advertisements	Prayers	Consultation	recommending	
			Blurb		Business messages		
			Advice				
			Warnings				
	7	Open letter: exhortation	Act of parliament	Sermon	Demonstration	enabling	
			Regulations				
			Knowledge				
specialized	8	Letter to the editor	Critical studies	Speech (TV talks)	Discussion	exploring	reflection
			Investigations				

Genre analysis and Move Analysis

Genre analysis was pioneered by J. M. Swales (1981) to analyze the rhetorical structure of the text in terms of the move structure model. In addition, J. M. Swales (1981, 1990, 2004) addressed the significance of move analysis as an approach for analyzing research writing. Move analysis is an analytical tool to elucidate a rhetorical or generic structure appearing in academic writing to comprehend the communicative purpose of the text by locating the discourse units within it. Swales' genre analysis (1990, 2004) illuminates the components of the Introduction section of an article through smaller units of texts called "move", and each move consists of subunits called "step". Swales' genre analysis has been accepted and then many studies have examined and reviewed RA in multiple academic disciplines on the rhetorical structure of various sections: Introduction, Methods, Results, and Discussion (Anthony, 1999; Atai & Samani, 2012; Brett, 1994; Bruce, 2009; Crookes, 1986; Dudley-Evans, 1994; Flowerdew, 2001; Hopkins & Dudley-Evans, 1988; Jogthong, 2001; Kanoksilapatham, 2005, 2007; J. M.-H. Lim, 2010; J. M. H. Lim, 2006; Nwogu, 1997; Ozturk, 2007; Peacock, 2002, 2011; Peng, 1987; Posteguillo, 1999; Ruiying & Allison, 2003; Samraj, 2002, 2008; J. Swales & Najjar, 1987; J. M. Swales, 1981, 1990; Williams, 1999; Wood, 1982).

Methodology

- *Research Design and Corpus complication*

This research employed the qualitative research design. The samples were thirty-five humanities and social sciences articles, officially indexed in Scopus (Quartiles 1-3) and published during 2014 – 2018. Thirty discussion sections were extracted from the sampled RAs, which were classified into three fields of humanities and social sciences with 10 articles each from languages, linguistics and language teaching; business, management, accounting, economics, marketing and finance field; and other general humanities and social sciences disciplines (Rao, 2017). All indexed articles are shown in Table 2. The data were analyzed by using text typology of grammatical theories (Ure, 1989) and move analysis model (Kanoksilapatham, 2005; Peacock, 2002; J. M. Swales, 1990, 2004).

Table 2. *Details of RAs (indexed in Scopus, Q 1-3, 2014 – 2018) from which discussion sections were extracted*

Fields of Study	Lists of Journals	Numbers of Articles	Quartiles	Numbers of Discussions used for analyzing
Languages, Linguistics and Teaching	1. Language and Speech	2	Q1	10
	2. 3L: The Southeast Asian Journal of English Language Studies	3	Q1	
	3. Journal of Second Language Writing	1	Q1	
	4. Asian EFL Journal	3	Q2-Q3	
	5. The Modern Language Journal	1	Q1	
Business, Management, Accounting, Economics, Marketing and Finance	6. Economics	1	Q2	10
	7. Asia Pacific Management Review	7	Q2-Q3	
	8. Journal of Co-operative Organization and Management	1	Q2	
	9. Journal of Environmental Economics and Management	1	Q1	
Other disciplines of Humanities and Social Sciences	10. Sociology of Education	1	Q1	10
	11. Evolution and Human Behavior	7	Q1	
	12. Endeavour	2	Q2-Q3	

- *Data Analysis*

This research employed grammatical theories and text analysis of Ure (1989), and the move structure model of J. M. Swales (1990, 2004), Kanoksilapatham (2005) and Peacock (2002). The analysis involved steps to look for organization and pattern, identify text analysis and moves analysis by a combination of linguistic evidences and text combination, work from a sentence-level analysis, assign all sentences to a move, and summarize patterns, structures, and usage of English language on discussion section of RA. The move structure model which was adopted from J. M. Swales (1990, 2004), Kanoksilapatham (2005), and Peacock (2002) consisted moves as shown in Table 3:

Table 3. *The move structure model adopted from Kanoksilapatham (2005); J. M. Swales (1990, 2004), and Peacock (2002)*

J. M. Swales (1990, 2004) Based only on the discussion section of RAs	Kanoksilapatham (2005) Moves and Steps especially in RA Discussion	Peacock (2002) Moves in RA Discussion
Move 1: Provide background information	Move 1: Contextualizing the study ○ Step 1: Describing established knowledge ○ Step 2: Making generalizations	Move 1: Information (background about the theory, research aims and methodology)
Move 2: Statement of findings	Move 2: Consolidating results ○ Step 1: Restarting methodology ○ Step 2: Stating selected findings ○ Step 3: Referring to previous literature ○ Step 4: Explaining differences in findings ○ Step 5: Making claims ○ Step 6: Exemplifying	Move 2: Finding (with or without a reference to a graph or table)
Move 3: Un/expected outcome	Move 3: Stating limitations	Move 3: Expected and unexpected outcome
Move 4: Referring to past studies	Move 4: Suggestions further studies	Move 4: Reference to previous research
Move 5: Explanation		Move 5: Explanation
Move 6: Exemplification		Move 6: Claim
Move 7: Deduction and Hypothesis		Move 7: Limitation
Move 8: State recommendation for further research		Move 8: Recommendation

Results

Results of the pattern analysis of the text typology (Jean Ure,1989)

This research analyzed the discourse of discussion section in a RA. The purpose of this research was to classify text typology based on Ure's text typology (1989). The finding revealed that the pattern of the text of RA in the discussion section was a message or media about the written language. When classified according to the people involved in the communication, it could be called a monologue because the messenger in this communication was a single, unilateral language user, with no response from the audience. Next, when classified according to the purpose of communication, the texts in the discussion section represent the type of writing where the objective is to discuss results obtained from research. In addition, comparing or checking the results of previous researchers show whether the researcher's work was the same or different as that of other researchers. The results of the format analysis of the texts according to Ure (1989) can be simply stated as follows: Specialized / Written text / Monologue / Discussion / Exploring + Recommending. Additionally, when we analyze deeply the content of the data, the texts from the discussion section are classified as Exploring and Recommending Studies.

- *Results of the move analysis in the discussion section of RA*

In the current study, the structure of move analysis pertaining to the discussion section of RA was classified into 7 moves. Regarding the frequency of each move, it was found as follows: Move1: Preparing for the presentation of results (23.34%), Move2: Reporting results (100%), Move3: Stating comments on the results (54.44%), Move4: Stating limitations of the study (33.34), Move5: Recommendation (26.47%), Move6: Implications (20%), and Move7: Claim (3.34%). There are two moves which contained steps. These moves are Move 1 and Move 3. All of the moves are shown in Table 4:

Table 4. *All of the Moves and their frequency were found in the discussion section of RA in Humanities and Social Sciences.*

Move/Step	Description	N 30	n Bus	Lan	Hum	% 100	Obligatory / Conventional / Optional
Move 1	**Preparing for the presentation of results**	90	9	9	3	23.34	**Optional**
Step 1	(Re) stating aims/purposes/hypotheses	30	6	4	2	40.00	
Step 2	Previewing specific details before placing the results	30	2	1	0	10.00	
Step 3	(Re) stating research procedures concerning data collection and data analysis	30	1	4	1	20.00	
Move 2	**Reporting results**	30	10	10	10	100.00	**Obligatory**
Move 3	**Stating comments on the results**	120	19	22	17	48.33	**Optional**
Step 1	Explaining the results	30	4	5	2	36.67	
Step 2	Making generalization or interpretations of the results	30	5	3	6	46.67	
Step 3	Evaluating the current findings with those from previous studies or with regard to the hypotheses	30	7	10	7	80.00	
Step 4	Summarizing specific/individual results	30	3	4	2	30.00	
Move 4	**Stating limitations of the study**	30	5	3	2	33.34	**Optional**
Move 5	**Recommendation (suggestions for further studies)**	30	2	4	2	26.67	**Optional**
Move 6	**Implications**	30	3	2	1	20.00	**Optional**
Move 7	**Claim (a generalization arising from the result)**	30	0	1	0	3.34	**Optional**

Note: N = Total numbers of RA, n = numbers of RA that moves and steps were found; Bus = Business, Management, Accounting, Economics, and Marketing and Finance fields, Lan = Language, Linguistics and Language Teaching; Hum = Other General disciplines of Humanities and Social Sciences.

According to Kanoksilapatham (2005), the criteria of occurrence rate shows that moves that occur 100% are considered obligatory, those that occur 60-99% are considered conventional, while those that occur less than 60% are considered optional. Table 4 shows only Move 2 is seen obligatory, Move1, 3, 4, 5, 6, and 7 are optional, and there is no conventional.

The following sections provide the description of individual moves followed by sample excerpts drawn from the corpus.

Move1: Preparing for the presentation of results

Move1 occurred in 23.34% of corpus. As per the criteria of Kanoksilapatham (2005), Move 1 is considered optional. Moreover, this move consists of 3 steps. They are Step 1: (Re) stating aims / purposes / hypotheses; Step 2: Previewing specific details before placing the results, and Step 3: (Re) stating research procedures concerning data collection and data analysis.

Step1 of (Re) stating aims / purposes / hypotheses, occurred in 12 (40% of the corpus) of 30 articles. This step presented the objectives or hypotheses of the current research before it started the discussion. It was the basic information review about the research to remind the reader and help him understand. Most of this step used Present Simple and Past Simple Tenses throughout the discussion section. A few examples of Step 1 are presented below.

*(1) The present study **explored** the association between the intensity of social media use for CRM and the business performance satisfaction of Thai microenterprises. [BMA06]*
*(2) This **confirms** the hypothesis that learning English confers an advantage in perceiving distortions to Spanish speech when they match structures found in the L2. [LLL04]*

Step 2 represented previewing specific details before placing the results. In this Step2, the author would like to present some information or issues before the discussion. The examples of Step 2 used mostly Present Simple and Past Simple and sometimes Present Perfect Tenses as I nthe following examples:

*(3) When it **comes** to discussion of the effects of the effect of SPS measures on Vietnam's rice export, **it is obviously that** at the same level of income importers applying SPS measures **have experienced** remarkably lower trade with Vietnam compared to importers that do not use a phytosanitary treatment, across all estimates. [BMA05]*
*(4) It **is** evident that when there is any change in the classroom it will impact the teacher, learner, teaching and learning as these are the key players in the classroom. [LLL07]*

Step 3 dealt with (Re) stating research procedures concerning data collection and data analysis. In the Step 3, the author would tell the audience again about the process of collecting, analyzing, and another methodology review. This step used the same tenses as in Step 1.

*(5) The sample population of this study **was** EFL students in Iran. [LLL08]*
*(6) The main caveat of this paper **is** to use mask purchase behavior to imply its use behavior. [BMA02]*

Move2: Reporting results

Move2 occurred in all of the articles in the corpus (100%), so this move was considered obligatory. Present Simple and Past Simple Tenses were the core tenses of this move, as revealed in the following examples:

*(7) The results **revealed** that users develop social identification with virtual groups and even with platforms that foster these groups. [BMA09]*
*(8) The finding **shows** that product innovation (PI) positively influences the market driving (MD). [BMA11]*

Move3: Stating comments on the results

Move3 occurred in 48.33% of the corpus, and under criteria of Kanoksilapatham (2005), this move is considered optional. This move presented the interpretation, reference to previous researches, or explaining the research result. This move consisted of 4 steps: Step 1: Explaining the results; Step 2: Making generalization or interpretations of the results; Step 3: Evaluating the current finding with those from previous studies or with regard to the hypotheses; and Step 4: Summarizing specific / individual results. All steps of this move were represented by Present Simple and Past Simple Tenses.

Step 1: Explaining the results occurred in 11 (36.67% of the corpus) of 30 articles. This step presented clearly or obvious results, and stated why and how those results were gotten. For example:

*(9) **Another way that can help explain** why teachers were not interested in professional workshops may be due to their beliefs about teaching ESP. [LLL06]*
*(10) **There were evidence** of more collaborative learning and peer support and coaching in the classroom because of the easy access to one another in the new space. [LLL07]*

Step 2: Making generalization or interpretations of the results occurred in 24 (80% of the corpus) of 30 articles. This step presented the interpretations, explanation, or generalization of the result. For example:

(11) ***A possible explanation for this is that*** *Vietnam might accumulate experience and beforehand considers the SPS requirements for market access and might ensure sufficient compliance prior entering the market.* [BMA05]

(12) *As these students characterize themselves as creative persons,* ***it can be implied that*** *they can alternatively adapt their thinking style to the situations.* [LLL08]

Step 3: Evaluating the current finding with those from previous studies or concerning the hypotheses occurred in 14 (46.67% of the corpus) of 30 articles. This step evaluated or compared the research results with the previous studies. Additionally, some findings found that there was a comparison of the research result with the hypotheses. The examples of Step 3 used mostly Present Simple and Past Simple and some Present Perfect Tenses as follows:

(13) ***Those predictions have been evaluated against*** vote rates *(Bermingham & Smeaton, 2011; Ceron, Curini, Iacus, & Porro, 2014; Gayo-Avello, Metaxas, & Mustafaraj, 2011; Jungherr, Jürgens, & Schoen, 2012; Metaxas, Mustafaraj, & Gayo-Avello, 2011; Skoric, Poor, Achananuparp, Lim, & Jiang, 2012; Tumasjan, Sprenger, Sandner, & Welpe, 2010), against a number of seats (Sang & Bos, 2012), and also as dichotomous decisions (Metaxas et al., 2011).* [BMA04]

(14) ***Similar to*** *hoax emails,* ***this study showed*** *pragmatic strategies both in structure and content of the chatting records, which indeed had an impact on cheats' acts of requesting.* [LLL09]

(15) ***The difference between*** *Ezzi (2012)* ***and this study is that*** *the first study only compared between second year and fourth year students while this study investigated anxiety in the four years which enables the researchers to discuss the factors behind the relationship between anxiety and year of study.* [LLL01]

Step 4: Summarizing specific/individual results occurred in 9 (30% of the corpus) of 30 articles. This step concluded the particular issue result after presenting the overall research result. Step 4 also used only Present Simple Tense as follows:

(16) ***Finally, it is also important to mention and discuss*** *the contradiction between what teachers wanted, and what they actually did to highlight the personal and contextual factors influencing their efficacy.* [LLL06]

(17) ***Based on the findings, it can be concluded that,*** *the better the product innovations offered by a rabbit meat business in the district of Ngablak is, the better the sustainable competitive advantage in the face of competitors will be.* [BMA11]

Move4: Stating limitations of the study

Move4 occurred in 33.34% of the corpus, and it was considered optional under the criteria of Kanoksilapatham (2005). This move indicated the limitation found in the research, such as the limitation of research methodology or results. Move 4 also used Present Simple and Past Simple Tenses as follows:

(18) ***The results of this research lack reliability because*** *the research method had several weaknesses, for example, the ….* [BMA03]

(19) ***Although our study included*** *both face-to-face and online courses,* ***the fact that*** *the participating teachers did not teach both course types is a limitation.* [LLL02]

Move5: Recommendation (suggestions for further studies)

Move5 occurred in 26.67% of the corpus, and it was considered optional under the criteria of Kanoksilapatham (2005). This move indicated the limitation found in the research, such as the limitation of research methodology or results. The words that usually found in this move were "further, future, suggest, and investigation", and only Present Simple was found as follows:

(20) ***In this study, we suggest possibilities of*** *predicting seats against tweets count and for that, we have considered a total of 8,877,275 Social Media tweet.* [BMA04]

(21) ***Further research should also examine*** *the discourse features of TEF and the types of CF embedded in that might contribute to its success.* [LLL02]

Move6: Implications

Move 6 occurred in 6 of 30 articles or 20% of the corpus, and it was considered optional. This move stated the guidelines of research result applying or the contribution of current research result. As this move would like to reveal the real thing, this move also used only Present Simple as follows:

(22) ***The practical implication of this result is that*** *parties need to actively manage media buzz on social networking sites (tweeter) to stimulate its capability in managing more seats.* [BMA04]

(23) ***Our findings contribute to*** *the emerging evidence that supporting others (including non-kin) has beneficial health effects for the helper (Brown & Okun, 2014; Morrow-Howell, Hinterlong, Rozario, & Tang, 2003; Musick, Herzog, & House, 1999; Okun, Yeung, & Brown, 2013; Shnotkin, Blumstein, & Modan, 2003).* [GHS12]

Move 7: Claim (a generalization arising from the result)

Move 7 occurred only one of 30 articles or 3.34% of the corpus, and it was considered optional. This move presented the generalization of research result to show the strengths or pros of research result as shown below:

(24) **This naturally meant better** *confidence and improved motivation in the language classroom.* [LLL07]

Discussion

The purpose of this study was to indicate the pattern and structures in the discussion section of RA by rhetorical moves (Kanoksilapatham, 2005; Peacock, 2002; J. M. Swales, 1990, 2004). Based on the analysis of 30 research articles from 3 disciplines: 1) Languages, Linguistics and Language Teaching, 2) Business, Management, Accounting, Economics, Marketing, and Finance, and 3) Other Disciplines of General Humanities and Social Sciences were extracted into 30 research discussions. It was found that the rhetorical structure of discussion sections of research articles published in the Scopus database Quartiles 1-3) covered humanities and social sciences articles consisted of 7 Move types in the discussion section.

First, the pattern of the text typology was obtained according to Ure (1989) in the discussion section of RA and observed as **Specialized / Written text / Monologue / Discussion / Exploring + Recommending**. In the discussion section, exploring refers to the details, methodology, and hypotheses, often comparing alternative ones and arguing in related studies. Moreover, recommending refers to promoting, or advising the audiences to undertake future research (Pitts, 2017). Second, the findings of moves in this study revealed that Move 2 was very important and obligatory required (occurred 100%) while Move 1, Move 3, Move 4, Move 5, Move 6, and Move 7 were optional.

Move 2 explained reporting results that correlated in Statement of finding, Statement of results, Explain specific outcome, Consolidating results, Finding, Results, Revising results, or Summarizing results (Dudley-Evans, 1994; Dujsik, 2013; Falahi & Erzi, 2003; Holmes, 1997; Kanoksilapatham, 2005, 2007; Nwogu, 1997; Peacock, 2002; Santikul, 2019; Sithlaothavorn & Trakulkasemsuk, 2016; J. M. Swales, 1990, 2004). Move 3 explained summarizing results (Ruiying & Allison, 2003), Move 1: Reporting findings (Dobakhti, 2016), and Move 4: Reporting results (Boonyuen, 2017). All of those stated these moves indicate the findings' numerical value, reference to a graph, table, or others.

Additionally, some previous studies found that the discussion section consisted of stating or restating methodology (Kanoksilapatham, 2005, 2007) whereas, in this research, Move 1 Step 3: Stating research procedures concerning data collection and data analysis was found in Move 1: Preparing for the presentation of result or previous studies in Move 1: Background information which described background about the theory, research aims/purposes/hypotheses, details before placing the results, and methodology (Muhammad Talha et al., 2022). Moreover, although Move 3: Stating comments on the results, occurred 48.33% and was considered optional as same as Move 1, Move 4, Move 5, Move 6, and Move 7 that were considered an optional occurred in the range of 3.34% - 46.67% in corpora, Move 3 Step 3: Evaluating the current findings with those from previous studies or with regard to the hypotheses occurred 80% in corpora.

It was also revealed that Move 3 Step 3 was usually required for writing in the RA discussion section. On the contrary, Move 7: Claim (a generalization arising from the result) that only occurred 3.34% as hardly required. Based on the terms of frequency, the overall findings of move structure are shown in Table 5 as follow:

Table 5. *The overall findings of move structure in the discussion section of RAs in Humanities and Social Sciences are sequenced based on the terms of frequency.*

No.	Move / Step	Description	N 30	% 100	Obligatory / Conventional / Optional
1.	**Move 2**	**Reporting results**	**30**	**100.00**	**Obligatory**
2.	**Move 3** Step 2	Evaluating the current findings with those from previous studies or with regard to the hypotheses	30	80.00	**Optional**
3.	**Move 3** Step 3	Evaluating the current findings with those Making generalization or interpretations of the results	30	46.67	**Optional**
4.	**Move 1** Step 1	**Preparing for the presentation of results** (Re) stating aims/purposes/hypotheses	30	40.00	**Optional**
5.	**Move 3** Step 1	**Stating comments on the results** Explaining the results	30	36.67	**Optional**
6.	**Move 4**	**Stating limitations of the study**	**30**	**33.34**	**Optional**
7.	**Move 3** Step 4	**Stating comments on the results** Summarizing specific/individual results	30	30.00	**Optional**

No.	Move / Step	Description	N	%	Obligatory / Conventional / Optional
			30	100	
8.	**Move 5**	**Recommendation (suggestions for further studies)**	30	**26.67**	**Optional**
9.	**Move 6**	**Implications**	30	**20.00**	**Optional**
10.	**Move 1**	**Preparing for the presentation of results**			
	Step 2	Previewing specific details before placing the results	30	10.00	**Optional**
11.	**Move 1**	**Preparing for the presentation of results**			
	Step 3	(Re) stating research procedures concerning data collection and data analysis	30	10.00	**Optional**
12.	**Move 7**	**Claim (a generalization arising from the result)**	30	**3.34**	**Optional**

The sequential move structure of the RA discussion section found in this study was /±Move1+Move2±Move3±Move4±Move5±Move6±Move7/ (+ is always occurred and ± is optional occurred). The move structure in this study also represents that the sequential pattern can happen when writing research articles in the discussion section is from Move1 to Move7 serially or freely switching sequence by forcing occurred of Move2. In addition, the text pattern of this section should be organized by the authors' idea or their purposes.

It was also discovered that mostly Present and Past tenses were used in writing the discussion section of RAs. Present Simple tense was used to interpret the findings or results of the researcher's opinions or ideas. Moreover, this tense also indicated the facts that match the theories, frameworks, or previous studies. However, past simple tense was used to reveal or explain the findings or results taken in the discussion. It was only in the Move 5: Recommendation (suggestions for further studies), we found three tenses: Present tense, present simple, and present progressive.

When comparing this research finding of move structure with the previous studies on RA discussion section including the studies of J. M. Swales (1990, 2004) based only on the discussion section of Ras Boonyuen (2017); Dobakhti (2016); Dudley-Evans (1994); Dujsik (2013); Falahi and Erzi (2003); Holmes (1997); Kanoksilapatham (2005, 2007); Nwogu (1997); Peacock (2002); Ruiying and Allison (2003); Sithlaothavorn and Trakulkasemsuk (2016); and Santikul (2019) found that the first part of Move that all researchers, except Dobakhti (2016), started with preparing for the presentation of results covering the writing about information such about background, aims, purposes, hypotheses, theories, specific details, and others (as shown in Table 6).

The second part of move that is obligatory to write and occurred in all researcher studies is about the findings or results of that research. Although this part talks about the research findings or results, this also covers the findings' numerical value, reference to a graph, table, and previous research, methodology, commenting, interpreting, comparing results with literature or previous studies, hypothesis, evaluating, claims, expected or unexpected outcome, and explanation on findings or results (see Table 8).

The third part of move may write about the claim covering a generalization arising from the results and the exemplification (Dudley-Evans, 1994; Dujsik, 2013; Falahi & Erzi, 2003; Holmes, 1997; Kanoksilapatham, 2005, 2007; Peacock, 2002; J. M. Swales, 1990, 2004) as shown in Table 8. The fourth and the last part of moves occurring when the researcher uses for writing in the RA discussion section are limitations and recommendations/suggestions for future research, respectively. For the fourth part was found in the most studies except J. M. Swales (1990, 2004) and Holmes (1997) while the last part of move is about recommendations or suggestions for future research covering the deductions and implications occurred in all studies. The comparison between the move structure of this research finding and previous studies have shown in Table 6 as follow:

Although when comparing the move structure as shown in Table 7, it can be divided into 5 parts, with some differences in the scopes of move and steps. Especially in part 2: Move about the findings or results of that research, it was found that some studies covered more details and steps. For instance, Move2: Consolidating results covered Move2 Step1: restarting methodology; Move2 Step2: stating selected findings covered Move2 Step3: referring to previous literature; Move2 Step4 explained difference in findings; Move2 Step 5 made claims, and Move2 Step6: exemplified. However, for this part 2 not only according to Kanoksilapatham (2005, 2007) that had some differences in move details and steps, it also was found in the studies of Dobakhti (2016) that might be covered Move1: reporting findings covered Move1 Step1: stating findings, Move1 Step2: summarizing findings, Move2: referring to data to provide evidence for findings, Move3: commenting on findings including Move3 Step1: explaining finding, Move3 Step2: interpreting findings, and Move3 Step3: evaluating findings, Move 4: supporting the explanation, and Move5: comparing findings with literature.

Sithlaothavorn and Trakulkasemsuk (2016) found that Move2: revising results may cover Move3: interpreting results, Move4: comparing results with literature, Move5: accounting for results, and Move6: summarizing the study. Boonyuen (2017) and Santikul (2019) also found similar results, in which Move3: summarizing results, and the differences of move names as Move 4: reporting results of Boonyuen (2017) and Move 2: reporting results of Santikul (2019), Move5:commenting on results and Move4: commenting on results, and Move6: summarizing the study and Move5: summarizing the study, respectively.

Table 6. *Comparison between the move structure of this research finding and previous studies*

Research List	Part 1: Move about preparing for the presentation of results	Part 2: Move about the findings or results	Part 3: Move about claim	Part 4: Move about limitations	Part 5: Move about recommendations or suggestions for further studies
J. M. Swales (1990, 2004) Based only on the discussion section of RAs	/	/	/		/
Dudley-Evans (1994)	/	/	/	/	/
Holmes (1997) based on Hopkins and Dudley-Evans (1988)	/	/	/		/
Nwogu (1997)	/	/		/	/
Kanoksilapatham (2005, 2007)	/	/	/	/	/
Peacock (2002)	/	/	/	/	/
Falahi and Erzi (2003)	/	/	/	/	/
Ruiying and Allison (2003)	/	/		/	/
Dujsik (2013)	/	/	/	/	/
Dobakhti (2016)		/		/	/
Sithlaothavorn and Trakulkasemsuk (2016)	/	/		/	/
Boonyuen (2017)	/	/		/	/
Santikul (2019)	/	/		/	/
Thanajirawat and Chuea-nongthon (2019) from this study	/	/	/	/	/

Additionally, part 4: Move about limitations had more move details and steps found in the studies of Ruiying and Allison (2003), Sithlaothavorn and Trakulkasemsuk (2016), Boonyuen (2017) and Santikul (2019). All these studies indicated Moves and steps covered the indicating of the limitations, the importance / advantage / significance, and the evaluating methodology. The steps of part 5: Move about recommendations / suggestions for future research was found in the studies of Nwogu (1997), Ruiying and Allison (2003), Sithlaothavorn and Trakulkasemsuk (2016), Boonyuen (2017), Santikul (2019). There were more move details and steps that were found in part 5, stating research conclusion, making deduction, promoting or recommending future research, and indicating the research implication. All these are presented in Table 7.

Table 7. *Comparing move structure model analyzing results of the current study with previous studies*

Part	Move	Descriptions	Occurred
1	Preparing for the presentation of results / Background information	Background, aims, purposes, hypotheses, theories, specific details, and others	Optional
2	The findings or results of that research	The research findings / the results of that research, the findings' numerical value, reference to a graph, table, and previous research, methodology, commenting, interpreting, comparing results with literature or previous studies, hypothesis, evaluating, claims, expected or unexpected outcome, explanation on findings or results	Obligatory
3	Claim / exemplification	A generalization arising from the results, exemplification	Optional
4	Limitation	Indicating limitations of findings, indicate importance / advantage, evaluating methodology	Optional
5	Recommendations / Suggestions for future research	Recommendation for further research, suggestions from future research, deductions, research implication	Optional

Conclusion and Implications

Writing the English language in the RA discussion section, particularly in Humanities and Social Sciences has been considered a requirement for the authors who would like to publish their research article in an international journal that may be indexed in Scopus databases. This research aimed to analyze and compare English patterns, structures, and usage in the RA discussion section. Therefore, the authors who are non-native speakers can use the pattern, structure, and usage of this research finding to overcome their English writing problems in the RA discussion section.

The findings of this study reveal that the pattern of the text typology (Peacock, 2002; Ure, 1989) and the structure of rhetorical moves (Kanoksilapatham, 2005; J. M. Swales, 1990, 2004) indicate the same way of writing the RA discussion section. "**Specialized / Written text / Monologue / Discussion / Exploring + Recommending**", from text typology pattern which is the exploring under discussion and Move 2: Reporting results describe the findings or results that typically public values or hypotheses, often comparing alternative ones, and arguing with previous studies. Moreover, this part also has some covering Move1: Preparing for the presentation of results and Move3: Stating comments on the results. For recommending of text typology pattern and Move5: Recommendation (suggestions for further studies) are similarly to advise or recommend the related researches for the future. This part usually uses the key words such as "further, future, suggest, investigation, etc."

Concluding from the comparing of the research findings should have implied that the move structure of the RA discussion section occurred at least 5 moves: Move1 that states about preparing for the presentation of results / background information, Move 2 is about the findings or results of that research, Move 3 is claim / exemplification, Move 4 is limitation, and Move 5 is Recommendations / Suggestions for future research. Only the move of findings or results of that research is obligatory while the others are optional (see Table 7).

From the pattern of text typology and the move structure findings, the author believes that this research study contributed to the method guidelines that compose the pattern of the text typology, the move structure, and the comparing move structure model to help the authors who are non-native speakers and novice writer easier to write RA discussion section for publication or any international purposes. Moreover, the findings in this study can facilitate teachers, graduate students, and non-native scholars in teaching and apply to their disciplinary.

Concerning suggestions for further studies, they may analyze the discussion section in other disciplines to find out the move structure and move cycles. Additionally, future work could also examine the rhetorical structure of other RA sections for supporting the authors who are non-native speakers can improve their English language in academic writing and can publish their RA worldwide in the International Journals.

Acknowledgements

References

Al-Shujairi, Y. B. J., & Al-Manaseer, F. A.-J. (2022). Backgrounding the Discussion Section of Medical Research Articles. *Open Journal of Modern Linguistics, 12*(1), 71-88. doi: https://doi.org/10.4236/ojml.2022.121008

Al-Shujairi, Y. B. J., Tan, H., Abdullah, A. N., Nimehchisalem, V., & Imm, L. G. (2020). Lexical bundles in the discussion section moves of high impact medical research articles. *Pertanika Journal of Social Sciences & Humanities, 28*(3), 2043-2061. Retrieved from http://psasir.upm.edu.my/id/eprint/86572/1/25%20JSSH-5278-2019.pdf

Amirian, Z., Kassaian, Z., & Tavakoli, M. (2008). Genre analysis: An investigation of the discussion sections of applied linguistics research articles. *The Asian ESP Journal, 4*(1), 39-63. Retrieved from http://asian-esp-journal.com/wp-content/uploads/2016/01/AESP-Volume-4-Issue-1-April-2008.pdf#page=39

Anthony, L. (1999). Writing research article introductions in software engineering: How accurate is a standard model? *IEEE transactions on Professional Communication, 42*(1), 38-46. doi: https://doi.org/10.1109/47.749366

Atai, M., & Samani, A. (2012). Exploring genre variations in research article introductions within a single subdiscipline: EOP versus EAP. *The Asian ESP Journal, 8*(1), 5-23. Retrieved from https://www.asian-esp-journal.com/wp-content/uploads/2013/11/Volume-8-1.pdf

Basturkmen, H. (2012). A genre-based investigation of discussion sections of research articles in dentistry and disciplinary variation. *Journal of English for Academic Purposes, 11*(2), 134-144. doi: https://doi.org/10.1016/j.jeap.2011.10.004

Bermingham, A., & Smeaton, A. (2011). On using Twitter to monitor political sentiment and predict election results. In *Proceedings of the Workshop on Sentiment Analysis where AI meets Psychology (SAAIP 2011)* (pp. 2-10). Retrieved from https://aclanthology.org/W11-3702.pdf

Boonyuen, M. T. (2017). *Analysis of Textual Organization of Research Article Discussion Sections in the Second Language Writing Discipline.* (Doctoral dissertation). Thammasat University. Retrieved from http://grad.litu.tu.ac.th/assets/public/kcfinder/upload_grad_web/public/13_2017_THARINEE%20BOONYUEN_7-8-18.pdf

Brett, P. (1994). A genre analysis of the results section of sociology articles. *English for specific purposes, 13*(1), 47-59. doi: https://doi.org/10.1016/0889-4906(94)90024-8

Brown, S. L., & Okun, M. A. (2014). Using the caregiver system model to explain the resilience-related benefits older adults derive from volunteering. In *The resilience handbook: Approaches to stress and trauma* (pp. 169-182). New York, NY, US: Routledge/Taylor & Francis Group. Retrieved from https://psycnet.apa.org/record/2013-32134-013

Bruce, I. (2009). Results sections in sociology and organic chemistry articles: A genre analysis. *English for specific Purposes, 28*(2), 105-124. doi: https://doi.org/10.1016/j.esp.2008.12.005

Ceron, A., Curini, L., Iacus, S. M., & Porro, G. (2014). Every tweet counts? How sentiment analysis of social media can improve our knowledge of citizens' political preferences with an application to Italy and France. *New media & society, 16*(2), 340-358. doi: https://doi.org/10.1177/1461444813480466

Crookes, G. (1986). Towards a validated analysis of scientific text structure. *Applied linguistics, 7*(1), 57-70. doi: https://doi.org/10.1093/applin/7.1.57

Crystal, D. (2003). *English as a global language* (2nd ed.). Cambridge university press. doi: https://doi.org/10.1017/CBO9780511486999

Dobakhti, L. (2016). A genre analysis of discussion sections of qualitative research articles in applied linguistics. *Theory and Practice in Language Studies, 6*(7), 1383-1389. doi: http://dx.doi.org/10.17507/tpls.0607.08

Dudley-Evans, T. (1994). Genre analysis: An approach to text analysis for ESP. In *Advances in written text analysis* (pp. 233-242). Routledge. doi: https://doi.org/10.4324/9780203422656-17

Dujsik, D. (2013). A Genre Analysis of Research Article Discussions in Applied Linguistics. *Language research, 49*(2), 453-477. Retrieved from https://hdl.handle.net/10371/86507

Ezzi, N. A. A. (2012). The impact of gender on the foreign language anxiety of the Yemeni university students. *International Journal of Applied Linguistics & English Literature, 1*(2), 65-75. doi: https://doi.org/10.7575/ijalel.v.1n.2p.65

Falahi, M. M., & Erzi, M. (2003). Genre Analysis in Language Teaching: An Investigation of the Structure of the Discussion Section of Language-Teaching-Journal Articles. *Iranian Journal of Applied Linguistics, 6*(1), 69-81. Retrieved from https://www.sid.ir/en/Journal/ViewPaper.aspx?ID=4485

Flowerdew, J. (2001). Attitudes of journal editors to nonnative speaker contributions. *TESOL quarterly, 35*(1), 121-150. doi: https://doi.org/10.2307/3587862

Flowerdew, J., & Wan, A. (2010). The linguistic and the contextual in applied genre analysis: The case of the company audit report. *English for Specific purposes, 29*(2), 78-93. doi: https://doi.org/10.1016/j.esp.2009.07.001

Fryer, D. L. (2012). Analysis of the generic discourse features of the English-language medical research article: A systemic-functional approach. *Functions of language, 19*(1), 5-37. doi: https://doi.org/10.1075/fol.19.1.01fry

Gayo-Avello, D., Metaxas, P., & Mustafaraj, E. (2011). Limits of electoral predictions using twitter. *Proceedings of the International AAAI Conference on Web and Social Media, 5*(1), 490-493. Retrieved from https://ojs.aaai.org/index.php/ICWSM/article/view/14189

Hirano, E. (2009). Research article introductions in English for specific purposes: A comparison between Brazilian Portuguese and English. *English for Specific purposes, 28*(4), 240-250. doi: https://doi.org/10.1016/j.esp.2009.02.001

Holmes, R. (1997). Genre analysis, and the social sciences: An investigation of the structure of research article discussion sections in three disciplines. *English for specific Purposes, 16*(4), 321-337. doi: https://doi.org/10.1016/S0889-4906(96)00038-5

Hopkins, A., & Dudley-Evans, T. (1988). A genre-based investigation of the discussion sections in articles and dissertations. *English for specific purposes, 7*(2), 113-121. doi: https://doi.org/10.1016/0889-4906(88)90029-4

Jogthong, C. (2001). *Research article introductions in Thai: Genre analysis of academic writing.* (Unpublished doctoral dissertation). West Virginia University. Retrieved from https://www.proquest.com/openview/0d319e691393a6b2fda9b3ce68cb9c13

Jungherr, A., Jürgens, P., & Schoen, H. (2012). Why the pirate party won the german election of 2009 or the trouble with predictions: A response to tumasjan, a., sprenger, to, sander, pg, & welpe, im "predicting elections with twitter: What 140 characters reveal about political sentiment". *Social science computer review, 30*(2), 229-234. doi: https://doi.org/10.1177/0894439311404119

Kanoksilapatham, B. (2005). Rhetorical structure of biochemistry research articles. *English for specific purposes, 24*(3), 269-292. doi: https://doi.org/10.1016/j.esp.2004.08.003

Kanoksilapatham, B. (2007). Writing scientific research articles in Thai and English: Similarities and differences. *Silpakorn University International Journal, 7*, 172-203. Retrieved from https://www.thaiscience.info/Journals/Article/SUIJ/10499122.pdf

Khany, R., & Tazik, K. (2010). A comparative study of introduction and discussion sections of sub-disciplines of applied linguistics research articles. *Journal of Research in Applied Linguistics, 1*(2), 97-122. Retrieved from https://iranjournals.nlai.ir/handle/123456789/127864

Le, T. N. P., & Harrington, M. (2015). Phraseology used to comment on results in the discussion section of applied linguistics quantitative research articles. *English for Specific Purposes, 39*, 45-61. doi: https://doi.org/10.1016/j.esp.2015.03.003

Lim, J. M.-H. (2010). Commenting on research results in applied linguistics and education: A comparative genre-based investigation. *Journal of English for academic Purposes, 9*(4), 280-294. doi: https://doi.org/10.1016/j.jeap.2010.10.001

Lim, J. M. H. (2006). Method sections of management research articles: A pedagogically motivated qualitative study. *English for Specific Purposes, 25*(3), 282-309. doi: https://doi.org/10.1016/j.esp.2005.07.001

Metaxas, P. T., Mustafaraj, E., & Gayo-Avello, D. (2011). How (not) to predict elections. In *2011 ieee third international conference on privacy, security, risk and trust and 2011 ieee third international conference on social computing* (pp. 165-171). IEEE. doi: https://doi.org/10.1109/PASSAT/SocialCom.2011.98

Morrow-Howell, N., Hinterlong, J., Rozario, P. A., & Tang, F. (2003). Effects of volunteering on the well-being of older adults. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 58*(3), S137-S145. doi: https://doi.org/10.1093/geronb/58.3.S137

Moyetta, D. (2016). The discussion section of English and Spanish research articles in psychology: A contrastive study. *ESP Today, 4*(1), 87-106. Retrieved from http://www.esptodayjournal.org/pdf/current_issue/3.6.2016/DANIELAMOYETTA-full%20text.pdf

Musick, M. A., Herzog, A. R., & House, J. S. (1999). Volunteering and mortality among older adults: Findings from a national sample. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 54*(3), S173-S180. doi: https://doi.org/10.1093/geronb/54B.3.S173

Nwogu, K. N. (1997). The medical research paper: Structure and functions. *English for specific purposes, 16*(2), 119-138. doi: https://doi.org/10.1016/S0889-4906(97)85388-4

Okun, M. A., Yeung, E. W., & Brown, S. (2013). Volunteering by older adults and risk of mortality: a meta-analysis. *Psychology and aging, 28*(2), 564–577. doi: https://doi.org/10.1037/a0031519

Ozturk, I. (2007). The textual organisation of research article introductions in applied linguistics: Variability within a single discipline. *English for specific purposes, 26*(1), 25-38. doi: https://doi.org/10.1016/j.esp.2005.12.003

Peacock, M. (2002). Communicative moves in the discussion section of research articles. *System, 30*(4), 479-497. doi: https://doi.org/10.1016/S0346-251X(02)00050-7

Pitts, P. J. (2017). 21st Century Pharmacovigilance: Intuition, Science, and the Role of Artificial Intelligence. Journal of Commercial Biotechnology, 23(1). https://doi.org/10.5912/jcb766

Peacock, M. (2011). The structure of the methods section in research articles across eight disciplines. *The Asian ESP Journal, 7*(2), 99-124. Retrieved from https://scholars.cityu.edu.hk/en/publications/publication(5a833362-bb37-4f08-8927-536da662a0bb).html

Peeravudhi, T. (2006). *Use of Writing Strategies Among First-year Students in the MA (English for Careers) Programme.* (MA thesis). Language Institute, Thammasat University.

Peng, J. (1987). Organizational features in chemical engineering research articles. *ELR journal, 1*(1), 79-116

Posteguillo, S. (1999). The schematic structure of computer science research articles. *English for specific purposes, 18*(2), 139-160. doi: https://doi.org/10.1016/S0889-4906(98)00001-5

Ruiying, Y., & Allison, D. (2003). Research articles in applied linguistics: Moving from results to conclusions. *English for specific purposes, 22*(4), 365-385. doi: https://doi.org/10.1016/S0889-4906(02)00026-1

Rao, S. K. (2017). R&D Spending & Success: Key Trends, Issues & Solutions. Journal of Commercial Biotechnology, 23(1). https://doi.org/10.5912/jcb772

Sabet, M. K., & Kazempouri, M. (2015). Generic structure of discussion sections in ESP research articles across international and Iranian journals. *Advances in Language and Literary Studies, 6*(2), 87-95. Retrieved from http://journals.aiac.org.au/index.php/alls/article/view/1368

Samraj, B. (2002). Introductions in research articles: Variations across disciplines. *English for specific purposes, 21*(1), 1-17. doi: https://doi.org/10.1016/S0889-4906(00)00023-5

Samraj, B. (2008). A discourse analysis of master's theses across disciplines with a focus on introductions. *Journal of English for academic purposes, 7*(1), 55-67. doi: https://doi.org/10.1016/j.jeap.2008.02.005

Sang, E. T. K., & Bos, J. (2012). Predicting the 2011 dutch senate election results with twitter. In D. Inkpen & A. Farzindar (Eds.), *Proceedings of the workshop on semantic analysis in social media* (pp. 53-60). Association for Computational Linguistics (ACL). Retrieved from https://aclanthology.org/W12-0607.pdf

Santikul, B. (2019). *An analysis of Move Structures in Discussion Sections Written by Inner and Expanding Circles of English Users Appearing in International Journals.* (MA thesis). Burapha University. Retrieved from http://ir.buu.ac.th/dspace/handle/1513/121

Shmotkin, D., Blumstein, T., & Modan, B. (2003). Beyond keeping active: Concomitants of being a volunteer in old-old age. *Psychology and aging, 18*(3), 602–607. doi: https://doi.org/10.1037/0882-7974.18.3.602

Sithlaothavorn, J., & Trakulkasemsuk, W. (2016). A Move Analysis of Research Discussion Section in English Articles Published in Thai and International Journals. *Reflections, 21*, 24-46. Retrieved from https://so05.tci-thaijo.org/index.php/reflections/article/view/113965

Skoric, M., Poor, N., Achananuparp, P., Lim, E.-P., & Jiang, J. (2012). Tweets and votes: A study of the 2011

singapore general election. In *2012 45th hawaii international conference on system sciences* (pp. 2583-2591). IEEE. doi: https://doi.org/10.1109/HICSS.2012.607

Swales, J., & Najjar, H. (1987). The writing of research article introductions. *Written communication, 4*(2), 175-191. doi: https://doi.org/10.1177/0741088387004002004

Swales, J. M. (1981). *Aspects of article introductions*. University of Michigan Press. doi: https://doi.org/10.3998/mpub.3985899

Swales, J. M. (1990). *Genre analysis: English in academic and research settings*. Cambridge University Press. Retrieved from https://searchworks.stanford.edu/view/666902

Swales, J. M. (2004). *Research genres: Explorations and applications*. Cambridge University Press. doi: https://doi.org/10.1017/CBO9781139524827

Thanajirawat, Z., & Chuea-nongthon, C. (2019). *Comparative of Format, Structure and Usage of English Language in Research Writing*. Rajamangala University of Technology Rattakosin. Nakornpathom: Thailand.

Muhammad Talha, Fei Wang, Darchia Maia, & Marra, G. (2022). Impact of information technology on accounting and finance in the digital health sector. Journal of Commercial Biotechnology, 27(2). https://doi.org/10.5912/jcb1299

Tumasjan, A., Sprenger, T., Sandner, P., & Welpe, I. (2010). Predicting elections with twitter: What 140 characters reveal about political sentiment. *Proceedings of the International AAAI Conference on Web and Social Media, 4*(1), 178-185. Retrieved from https://ojs.aaai.org/index.php/ICWSM/article/view/14009

Ure, J. (1989). *Text Typology*. MS.

Williams, I. A. (1999). Results Sections of Medical Research Articles:: Analysis of Rhetorical Categories for Pedagogical Purposes. *English for Specific Purposes, 18*(4), 347-366. doi: https://doi.org/10.1016/S0889-4906(98)00003-9

Wood, A. S. (1982). An examination of the rhetorical structures of authentic chemistry texts. *Applied linguistics, 3*(2), 121-143. doi: https://doi.org/10.1093/applin/III.2.121

Appendix –1

List of Research Articles Used in Analysis (All RAs indexed in Scopus (Q 1 to Q3)

1. Language, Linguistics and Language Teaching (LLL)

AMR ABDULLATIF YASSIN & NORIZAN ABDUL RAZAK. (2017). Investigating The Relationship Between Foreign Language Anxiety In The Four Skills and Year of Study Among 3 Yemeni University EFL Learners. *3L: The Southeast Asian Journal of English Language Studies*. 23(3): 147 – 159. [Q1] [LLL01]

Estela Ene & Thomas A. Upton. (2018). Synchronous and asynchronous teacher electronic feedback and learner uptake in ESL composition. *Journal of Second Language Writing*. 41: 1-13. [Q1] [LLL02]

HELEN ZHAO and BRIAN MACWHINNEY. (2018). The Instructed Learning of Form– Function Mappings in the English Article System. *The Modern Language Journal*. 10(1): 99-119. [Q1] [LLL03]

Matthew T. Carlson. (2018). Making Room for Second Language Phonotactics: Efffects of L2 Learning and Environment on First Language Speech Perception. *Language and Speech*. 61(4): 598-614. [Q1] [LLL04]

Mostafa Taghizadeh Langari. (2017). Teacher Burnout and Its Effect on Effective Teaching as Perceived by Students. *The Asian EFL Journal Professional Teaching Articles*.103: 4-18. [Q2-3] [LLL05]

Nga Thanh Nguyen & Nga Dung Ngo. (2017). Understanding Teacher Efficacy to Teach English for Specific Purposes. *The Asian EFL Journal Professional Teaching Articles*. 102: 4-16. [Q2-3] [LLL06]

RADHA M K NAMBIAR, NOORIZAH MOHD NOR, KEMBOJA ISMAIL & SHAHIRAH ADAM. (2017). New Learning Spaces and Transformations in Teacher Pedagogy and Student Learning Behavior in the Language Learning Classroom. *3L: The Southeast Asian Journal of English Language Studies*. 23(4): 29 – 40. [Q1] [LLL07]

Reza Khany & Khalil Tazik. (2017). Creativity Styles and Thinking Styles among Iranian EFL learners. *The Asian EFL Journal Professional Teaching Articles*. 103: 19-41. [Q2-3] [LLL08]

TAN KIM HUA, MOHAMMAD ABDOLLAHI-GUILANI, & CHEN CHEN ZI. (2017). Linguistic Deception of Chinese Cyber Fraudsters. *3L: The Southeast Asian Journal of English Language Studies*. 23(3): 108 – 122. [Q1] [LLL09]

Tessa Bent & Rachael Frush Holt. (2018). Shhh… I Need Quiet! Children's Understanding of American, British, and Japanese-accented English Speakers. *Language and Speech*, 61(4): 657-673. [Q1] [LLL10]

2. Business, Management, Accounting, Economics, Marketing and Finance (BMA)

Afirah Azudin & Noorhayati Mansor. (2018). Management accounting practices of SMEs: The impact of organizational DNA, business potential and operational technology. *Asia Pacific Management Review*. 23: 222-226. [Q2-3] [BMA01]

Junjie Zhang & Quan Mu. (2018). Air pollution and defensive expenditures: Evidence from particulate-filtering facemasks. *Journal of Environmental Economics and Management*. 92: 517-536. [Q1] [BMA02]

Kriengsak Chareonwongsak. (2017). Enhancing board motivation for competitive performance of Thailand's co-operatives. *Journal of Co-operative Organization and Management*. 5: 1-13. [Q2] [BMA03]

Md Safiullah, Pramod Pathak, Saumya Singh, Ankita Anshul. (2017). Social media as an upcoming tool for political marketing effectiveness. *Asia Pacific Management Review*. 22: 10-15. [Q2-3] [BMA04]

Nguyen Thi Thu Thuong. (2018). The effect of Sanitary and Phytosanitary measures on Vietnam's rice exports. *EconomiA*. 19: 251-265. [Q2] [BMA05]

Peerayuth Charoensukmongkol & Pakamon Sasatanun. (2017). Social media use for CRM and business performance satisfaction: The moderating roles of social skills and social media sales intensity. *Asia Pacific Management Review*. 22: 25-34. [Q2-3] [BMA06]

Rajendran Muthuveloo, Narendran Shanmugam, Ai Ping Teoh. (2017). The impact of tacit knowledge management on organizational performance: Evidence from Malaysia. *Asia Pacific Management Review*. 22: 192-201. [Q2-3] [BMA08]

Tien Wang. (2017). Social identity dimensions and consumer behavior in social media. *Asia Pacific Management Review*. 22: 45-51. [Q2-3] [BMA09]

Wan-I. Lee, Shan-Yin Cheng & Yu-Ta Shih. (2017). Effects among product attributes, involvement, word-of-mouth, and purchase intention in online shopping. *Asia Pacific Management Review*. 22: 223-229. [Q2-3] [BMA10]

Wuryanti Kuncoro & Wa Ode Suriani. (2018). Achieving sustainable competitive advantage through product innovation and market driving. *Asia Pacific Management Review*. 23: 186-192. [Q2-3] [BMA11]

3. Other General Humanities and Social Sciences (GHS)

Anthony M. Johnson. (2018). "I Can Turn It on When I Need To": Pre-college Integration, Culture, and Peer Academic Engagement among Black and Latino/a Engineering Students. *Sociology of Education*. 1st published December 7, 2018. https://doi.org/10.1177/0038040718817064 [Q1] [GHS01]

Anthony M. Johnson. (2019). "I Can Turn It on When I Need To": Pre-college Integration, Culture, and Peer Academic Engagement among Black and Latino/a Engineering Students. *Sociology of Education*. 92(1): 1-20. [Q1] [GHS01]

Caroline Uggla, Eshetu Gurmuc, & Mhairi A. Gibson. (2017). Are wives and daughters disadvantaged in polygynous households? A case study of the Arsi Oromo of Ethiopia. *Evolution and Human Behavior*. 39: 160-165. [Q1] [GHS02]

Coren Lee Apicella. (2014). Upper-body strength predicts hunting reputation and reproductive success in Hadza hunter–gatherers. *Evolution and Human Behavior*. 35: 508-518. [Q1] [GHS03]

Joanna Wincenciak, Corey L. Fincher, Claire I. Fisher, Amanda C. Hahn, Benedict C. Jones, LisaM. DeBruine. (2015). Mate choice, mate preference, and biological markets: the relationship between partner choice and health preference is modulated by women's own attractiveness. *Evolution and Human Behavior*. 36: 274–278. [Q1] [GHS04]

Jennifer C. French .(2015). The demography of the Upper Palaeolithic hunter–gatherers of Southwestern France: A multi-proxy approach using archaeological data. *Journal of Anthropological Archaeology*. 39: 193-209. [Q1] [GHS05]

Kok Wei Tan a, Brigitte A Graf b, Soma Roy Mitra c, & Ian D Stephen. (2017). Impact of fresh fruit smoothie consumption on apparent health of Asian faces. *Evolution and Human Behavior*. 38: 522-529. [Q1] [GHS07]

Robin I.M. Dunbar, Richard Sosis. (2018). Optimising human community sizes. *Evolution and Human Behavior*. 39: 106-111. [Q1] [GHS09]

Sally Gregory Kohlstedt. (2016). Museum perceptions and productions: American migrations of a Maori hei-tiki. Endeavour. 40(1). 7-23. [Q2-3] [GHS10]

Sonja Hilbrand, David A. Coall, Denis Gerstorf, Ralph Hertwig. (2017). Caregiving within and beyond the family is associated with lower mortality for the caregiver: A prospective study. *Evolution and*

Human Behavior. 38: 397–403. [Q1] [GHS12]

Sophie Hedges, Monique Borgerhoff Mulder, Susan James, David W. Lawson. (2016). Sending children to school: rural livelihoods and parental investment in education in northern Tanzania. *Evolution and Human Behavior*. 37: 142-151. [Q1] [GHS13]