ANALYSIS OF TEXTUAL ORGANIZATION OF RESEARCH ARTICLE DISCUSSION SECTIONS IN THE SECOND LANGUAGE WRITING DISCIPLINE

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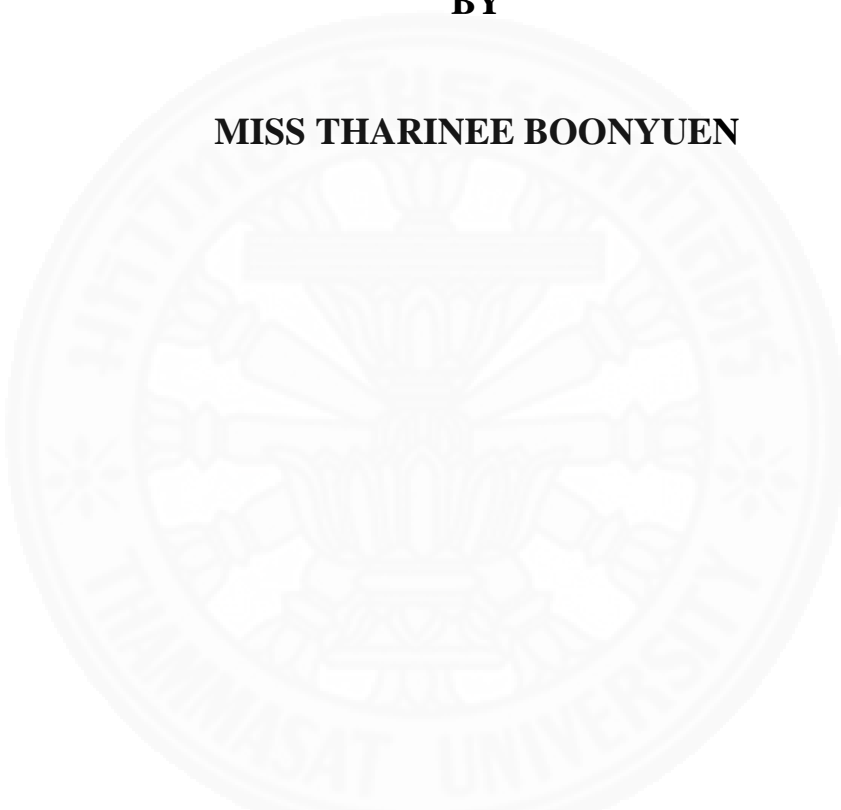
MISS THARINEE BOONYUEN

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY IN
ENGLISH LANGUAGE TEACHING
LANGUAGE INSTITUTE
THAMMASAT UNIVERSITY
ACADEMIC YEAR 2017
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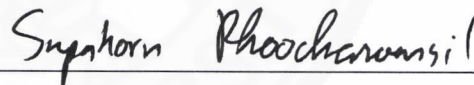
LANGUAGE INSTITUTE

DISSERTATION

BY

MISS THARINEE BOONYUEN

ENTITLED

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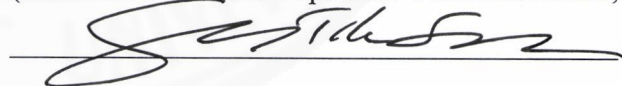THE SECOND LANGUAGE WRITING DISCIPLINE

was approved as partial fulfillment of the requirements for

the degree of Doctor of Philosophy (English Language Teaching)

on June 4, 2018

Chairman   _Supnhorn Phoocharoensil_
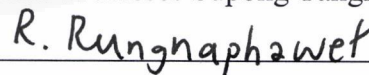
(Assistant Professor Supakorn Phoocharoensil, Ph.D.)

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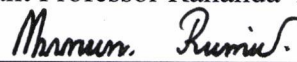
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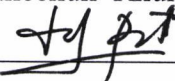
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Dissertation Title	ANALYSIS OF TEXTUAL ORGANIZATION OF RESEARCH ARTICLE DISCUSSION SECTIONS IN THE SECOND LANGUAGE WRITING DISCIPLINE
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Dissertation Advisor	Associate Professor Supong Tangkiengsirisin, Ph.D.
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ABSTRACT

This study explores the textual organization of research article discussion sections in second language writing. Following the framework proposed by Swales, move analysis was conducted on a corpus built from 103 research article discussion sections which were collected from 5 journals contributing to and containing research in second language writing. These journals are *Journal of Second Language Writing, Assessing Writing, Journal of English for Academic Purposes*, *English for Specific Purposes* and *System*. The data were studied to identify the characteristics of the moves and steps used in research article discussion sections in second language writing, the frequency of occurrence of the moves and the patterns of the moves.

The results of the analysis reveal that the textual organization of research article discussion sections in second language writing could be described with 8 moves which are Providing background information (Move 1), Managing the section (Move 2), Summarizing results (Move 3), Reporting results (Move 4), Commenting on results (Move 5), Summarizing the study (Move 6), Evaluating the study (Move 7) and Making deductions (Move 8). Three moves contain steps. These moves are

Move 5 containing 4 steps, Move 7 containing 3 steps and Move 8 containing 3 steps. The moves that appeared in most data were Move 1 (Providing background information), Move 4 (Reporting results), Move 5 (Commenting on results), Move 7 (Evaluating the study) and Move 8 (Making deductions). This finding suggests the main function of the discussion section is to comment on results. The finding also suggests the content that the expert writers prefer to include when they write research discussion sections in second language writing.

The patterns of moves used for the entire section could not be identified as the moves showed no regularity of occurrence. However, some typical sequences of moves could be identified. These sequences were Move 4 → Move 5, Move 4 → Move 5 → Move 8, Move 1 → Move 4 →Move 5, and Move 7 → Move 8. The analysis also reveals a move that has never been reported before in previous studies on research article discussion sections. This move is Move 2 (Managing the section) which is used to announce the organization or outline of the content in the discussion section

This study should give valuable insight into the move analysis of research articles. It will contribute to discourse and genre analysis and benefit the teaching and learning of English for Academic Purposes and English for Specific Purposes. It will also be useful to the academics and graduate students who are writing research articles for publication.

Keywords: Genre analysis, move analysis, second language writing, writing, research articles

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Miss Tharinee Boonyuen

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LIST OF ABBREVIATIONS

Symbols/Abbreviations	Terms
AW	Assessing Writing
ESP	English for Specific Purposes
JEAP	Journal of English for Academic Purposes
JSLW	Journal of Second Language Writing
ST	System
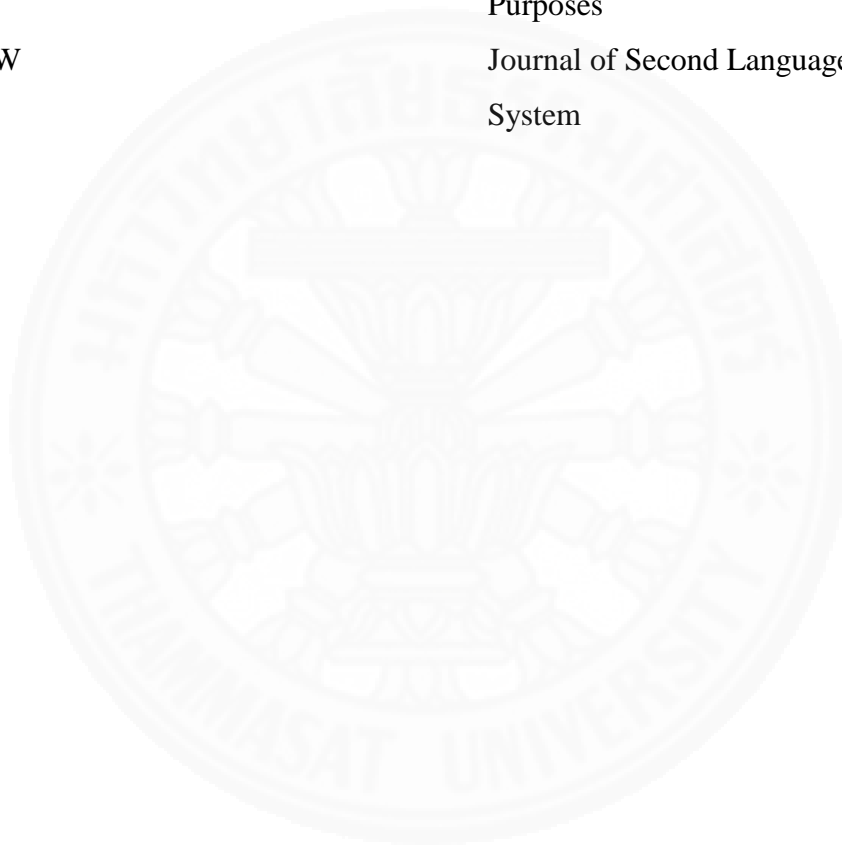
CHAPTER 1
INTRODUCTION

1.1 Overview

This chapter provides the background and rationale of the study, and briefly describes how this study was conducted. The purposes of the study and research questions will also be presented. Finally, limitations and the significance of the research will be discussed.

1.2 Background of the study

Research articles can be regarded as one of the most powerful academic genres. They provide an important channel for academic knowledge circulation (Peacock, 2002). Research is also used as an indicator of university quality and competitiveness. It has an important role in judging and ranking university quality and reputation. Furthermore, research articles influence the lives of academics. Universities worldwide require their staff to publish in major, high impact, peer- reviewed Anglophone journals as a prerequisite for tenure, promotion and career advancement (Hyland, 2009). Postgraduate students are also required to publish their work to meet the program requirements in order to graduate. In the academic world, research articles are a key to knowledge, reputation and achievement.

However, writing a research article and getting it published, especially in international academic journals where English is used as a medium of communication, is not an easy task. One piece of research has to go through a prolonged and complicated writing and peer-review process (ibid). It is tortuous and time-consuming, but it is this tortuous process of writing and reviewing that gives prestige to this genre and makes it a pre-eminent genre of the academy. Experts in various disciplines, academics, and graduate students who wish to publish their work to report their research findings all need to go through the same process. Writers need to develop their work and rewrite according to comments obtained from classmates, colleagues, language advisers, proofreaders, reviewers and editors. Successful publications are those that meet the

standard criteria and conventions of research article writing practices and successfully "situate their work in a rhetorical tradition" (Hyland, 2009, p. 69).

We can see that to successfully write for publications in international journals requires writers to possess many facets of writing ability and knowledge. This is challenging for many writers, especially for writers who have just entered the research writing and publishing community and nonnative English speakers who are linguistically disadvantaged. Flowerdew (1999a) has summarized from previous studies a number of key areas where nonnative speakers of English experience difficulty in writing for publication, namely, grammar, citations, making reference to published sources, building argument, textual organization, relating text to audience, making knowledge claims, how to reveal or conceal the author's viewpoint, use of hedging, and interference of different cultural views on the academic processes. Even though the areas mentioned are considered problematic for nonnative speakers of English, it can be assumed that some or many of these areas should also be problematic for many novice writers regardless of their mother tongue.

Because it is essential that one understand genres in order to take part in the practices of the relevant discourse community (Berkenkotter and Huckin, 1995, p. 29, 43 cited in Peacock, 2002), and due to the fact that there are a number of difficulties in writing for publications as highlighted above, there have been many efforts to investigate these research writing problems to help writers become familiar with the research article genre and gain sufficient knowledge and ability to pursue their goals. Many studies have thus been conducted to explore various aspects of the research article. The studies include the organizational patterning of various sections of research articles such as the introduction (Posteguillo, 1999; Samraj, 2002; Swales, 1981, 1984, 1990, Swales & Najjar, 1987), the results section (Brett, 1994; Thompson, 1993), the discussion section (Hopkins & Dudley-Evans, 1988; Posteguillo, 1999; Amirian, Kassaian & Tavakoli, 2008) and the abstract (Melander, Swales & Fredrickson, 1997; Salager-Meyer, 1990, 1992; Tseng, 2011) and other text features such as uses of tenses, voice, hedging, modality, reporting verbs, pronouns, and citations (e.g. Crompton, 1997; Matsuda, 2001; Hyland, 2001).

As indicated in Flowerdew (1999a), textual organization is one of the problematic areas of writing for publications. This area has received particular attention

from genre analysts. Following Swales' CARS model of move analysis (1990), substantial studies have been conducted to analyse the move structure of research articles in various disciplines. The model has been used to study both the whole body of research articles (e.g. Kanoksilapatham, 2005) and particular sections in research articles such as the method section (Wood, 1982; Nwogu, 1997; Lim, 2006), the results section (Brett, 1994; Thompson, 1993), and the discussion section (Hopkins and Dudley-Evans,1988; Swales, 1990; Nwogu, 1997). The studies conducted, either on a particular section or the combination of all sections, provide evidence of disciplinary variation in terms of textual organization or move patterns.

Hyland (2002) has explained that texts in different disciplines vary because "disciplines have different views of knowledge, different research practices, and different ways of seeing the world" (p. 389). The writer creates texts based on their knowledge of prior texts, and differences such as varying means of establishing truth, and different ways of engaging with readers are reflected in the texts they produce.

Genre analysis research into the move patterns used in different disciplines has revealed that the academic discipline, to some extent, has an influence on the text features. An attempt to explore the influence of academic disciplines on the textual organization or move patterns has been extended from studying and comparing completely different disciplines to studying and comparing closely related disciplines. It was found that differences in the move structures exist even between the disciplines that are closely related (e.g. Samraj, 2002; Suntara & Usaha, 2013) and between the subdisciplines belonging to the same discipline (e.g. Ozturk, 2007; Kanoksilapatham, 2015; Li & Pramoolsook, 2015; Atai and Habibie, 2012). Disciplinary variations in the research article uncovered by genre studies have underlined the importance of specificity in regards to the needs and expertise of those approaching research as learners.

Given the importance of specificity in ESP, the textual organization of research articles as whole texts and in their particular parts has been continually studied. One of the most difficult parts to write being the discussion section, it has received some attention from genre analysts. There are several studies done on the discussion sections of academic disciplines in natural science (e.g. Peng, 1987; Hopkins and Dudley-Evans, 1988; Posteguillo, 1999; Kanoksilapatham, 2005, Basturkmen, 2012)

and social science (e.g. Holmes, 1997; Yang & Allsion, 2003; Amnuai & Wannaruk, 2013). These studies reveal that discussion sections are not linear like introductions but cyclical. However, the typical patterns of moves vary from discipline to discipline. For example, a typical cyclical order found in Posteguillo's (1990) study on 40 research articles from 3 different academic journals in computer science was Move 2 (Statement of result) followed by Move 7 (Deduction and hypothesis) or Move 2 followed by Move 8 (Recommendation). A cyclical pattern observed is Kanoksalipatham's (2005) study on research article discussion sections in biochemistry was Move 12 (Contextualizing the study) followed by Move 13 (Consolidating results). In addition, the models proposed to describe the organization of the discussion sections also vary.

The discussion section seems to have higher complexity than other sections. However, compared with other sections of research articles, this section still receives less attention. Given the importance of the research article in the present academic world, the specificity of learners' needs and expertise in ESP, and the complexity of the section, the discussion section deserves more attention. More studies on this part of research articles are needed.

From a study into the textual organization of the research article introduction sections (Ozturk, 2007), it was found that the move structure of introductions in second language writing seems to have a great deviation from the move structure proposed by the CARS model. These results show that this discipline contains some distinctions, and this makes it interesting to explore further other sections such as the discussion section. Besides, the research article discussion section of this discipline is still underresearched. Exploring the textual organization of the research article discussion sections in this discipline should fill the literature.

Therefore, the present study investigates the textual organization of research article discussion section in second language writing. It aims to find out how expert writers in this discipline prefer to organize their discussion. The results of the study can contribute to the genre analysis, English for Specific Purposes and English for Academic Purposes, and help novice or less experienced writers who write for publications to face this task and equip them with the right knowledge and strategies.

1.3 The present study

Drawing on genre analysis in an ESP tradition, this study explores the textual organization or rhetorical move patterns employed in research articles published in international journals of one academic discipline. It focuses on only one section of the research article which is the discussion section. As said above, this section seems to have high complexity. According to Flowerdew (1999b), among the four sections of the research article (Introduction, Method, Results and Discussion), the introduction and discussion are the most difficult parts to write. They are the sections that have to be redrafted several times before getting published while the method and result section remain almost unchanged (Knorr-Cetina, 1981 cited in Swales, 1990). Investigating the discussion section which is complex and difficult to write should, therefore, be beneficial to research article writers.

The research article discussion sections investigated in this study are from journals contributing to the discipline of second language writing discipline. This discipline is appropriate for this study for many reasons. As found in the previous study on the introduction section, this discipline seems to have some distinctions. Therefore, it is interesting to explore other parts of the research article in this discipline. Besides, research article discussion sections in second language writing is still underexplored. It should be informative and useful to study the research article discussion sections from this discipline. More importantly, the researcher is a member of this discipline. The researcher's familiarity with the discipline and background knowledge can help to facilitate the data analysis and enhance the reliability of the results.

This study analyzed a corpus of 103 research article discussion sections from 5 journals representing second language writing. These journals are *Journal of Second Language Writing, Assessing Writing, Journal of English for Academic Purposes*, *English for Specific Purposes* and *System.* The journals were selected based on their quality and representativeness as well as the availability of the data. The journals used in this study are those that appear in the SCImago Journal Rank database. This is to ensure that the corpus represents high-quality journals in the discipline. In addition, they are established journals which contain sufficient data regarding second language writing, focusing on English as a second and foreign language. The discussion

sections were taken from research articles restricted to a period of 6 years (2010-2015). The articles can be written by any writers regardless of their mother tongue and nationality. As long as they are able to get their articles published in international journals, they can be assumed to be expert writers. Being able to make their work appear in such journals shows that they have successfully gone through the process of writing, reviewing and editing and met the requirements of the target journal.

The corpus was analyzed based on models of discussion sections previously proposed (e.g. Belanger, 1982; Peng, 1987; Hopkins and Dudley-Evans, 1988; Swales, 1990, 2004; Holmes, 1997; Nwogu, 1997; Posteguillo, 1999; Yang and Allison, 2003) in order to describe the moves and sequences used in research article discussion sections in second language writing. The analysis also reveals the organization of the section, the characteristics of each move and step, the function of the section, obligatory moves, conventional moves, optional moves, an opening move, a closing move and the presence and absence of certain moves.

1.4 Research questions

This study aims to investigate how expert writers organize the information in research article discussion sections in second language writing. Based on the purpose of the study, the questions of the research are as follows:

1. How can the characteristics of the moves and steps used in research article discussion sections in second language writing be described?
2. What are the frequency of occurrence of the moves and steps used in research article discussion sections in second language writing?
3. How are the moves and steps typically arranged in research article discussion sections in second language writing?

1.5 Limitations of the study

Because the study focuses on one particular facet of research article discussion sections and issues with the data collection management, some limitations need to be addressed.

1) As the aim of the present study is to explore the overall or macro structure of the discussion sections, the results are limited to the organization of moves. The language used in each move and step is not covered in this study. It should be useful if future studies will also explore the linguistic features in order to find out about the language that the expert writers in second language writing use to achieve each move and step, which can provide language guidance for less experienced writers.

2) The corpus used in this study is built from only 5 research journals largely contributing to second language writing. Therefore, the study does not include the research articles on second language writing published in other journals contributing to a wide range of research areas in applied linguistics. To be able to include those journals may yield some interesting results. However, the data are limited to 5 journals mainly contributing to second language writing to make the data collection practical and manageable. Besides, these 5 journals have been carefully selected to make sure that the discussion sections analyzed in this study are good representative of the population.

1.6 Definitions of terms

- *Genre analysis*: The definition of 'genre analysis' used in this study follows the view of genre analysis in English for Specific Purposes tradition as proposed by Swales (1990, 2004) and Bhatia (1993). The details about this can be found in Section 2.2 of Chapter 2.

- *CARS model:* this is a model of move analysis proposed by Swales (1990), originally used to analyze research article introductions. CARS stands for Creating a Research Space.

- *Move*: this term refers to a unit that performs a coherent communicative function in a text.

- *Step or Strategy*: this term refers to an element of each move. It performs to achieve the communicative function of the move that it belongs to.

- *Frequency of occurrence*: This refers to the number of the research article discussion sections in which a particular move or step appears.

- *Move sequence:* move sequence is the order that moves are arranged.

- *An obligatory move:* a move which occurs in 100% of the corpus is regarded as an obligatory move.

- *A conventional move:* a move which occurs in 60-99% of the corpus is called a conventional move.

- *An optional move:* a move with a frequency of occurrence of less than 60% of the corpus is regarded as an optional move.

1.7 Significance of the study

The study is designed to examine the textual organization or rhetorical patterns of research article discussion sections in second language writing. It should reveal how expert writers prefer to present and organize information in the research article discussion section in the discipline, which provides valuable insights into move analysis.

The findings have important implications for English for Specific Purposes and English for Academic Purposes. The findings are particularly useful for writing for publications in English, particularly in the field of second language writing. The uncovered results regarding the rhetorical move patterns used research article discussion section in second language writing can be utilized by teachers to design academic writing and reading materials and plan a lesson which would help their

learners to efficiently participate in academic reading and writing activities and successfully meet the demands of academic and professional discourse.

Academics or novice writers, especially nonnative English speakers who encounter difficulty in expressing their thoughts and arguments in the research article discussion section in English may also benefit from the research findings. They will at least have some guidelines of how to present the information in the sequences and organization preferred in second language writing. The understanding of the rhetorical patterns employed in the discipline could also help them to approach research article reading and writing tasks conducted in English confidently and efficiently.

In short, this study could benefit move analysts, teachers and learners in ESP and EAP contexts, and academics or novice writers in a professional setting.
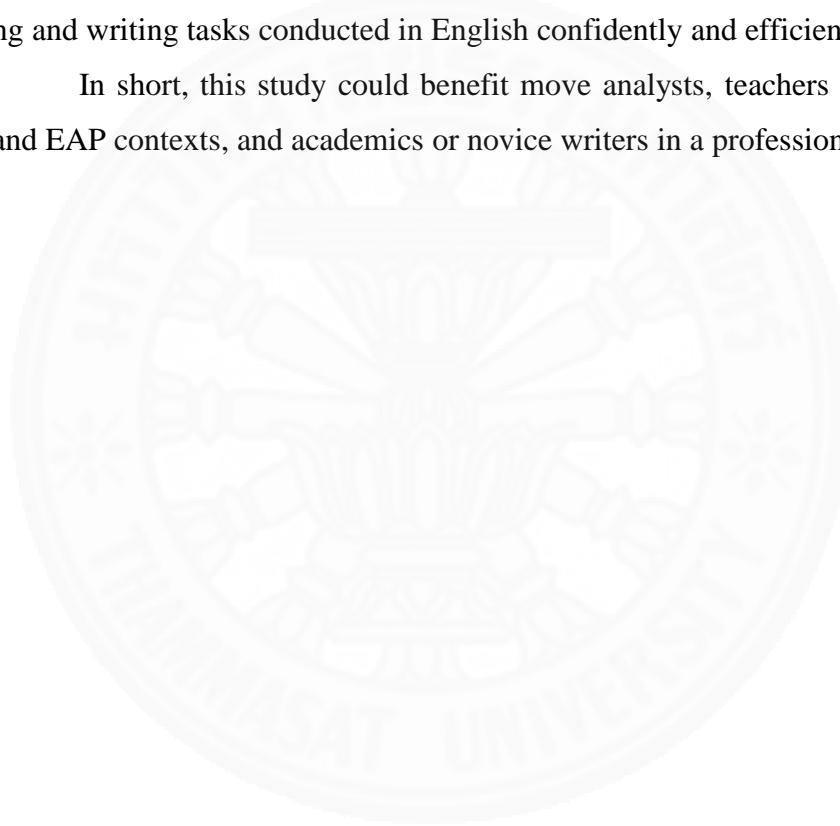
CHAPTER 2
REVIEW OF LITERATURE

2.1 Overview

Chapter 2 first presents the issues related to genre studies. This includes providing the definition of genre and genre analysis, discussing how genre analysis can benefit teaching and learning, describing the traditions of genre analysis, justifying the tradition selected for this study and talking about genre analysis and disciplinary variation. After that, the chapter looks at the origin of move analysis and the development of move analysis. Then, previous studies on the research article discussion section are presented. The last section of the chapter deals with the discipline investigated in this study. The rationale for selecting the discipline and the background and scope of the discipline are provided.

2.2 Genre studies

2.2.1 Genre definition

Genre is a 'fuzzy concept' (Swales, 1990, p. 33). It is influenced by different language theories and approaches, there is thus considerable diversity of views on its definition. For example, Martin, a linguist working within the context of a systemic functional approach, defines genre as 'a staged, goal oriented, purposeful activity in which speakers engage as members of our culture' (1984, p. 25). Eggins and Martin, also influenced by the same approach, proposes that 'different genres are different ways of using language to achieve different culturally established tasks, and texts of different genres are texts which are achieving different purposes in the cultures' (1997, p. 236). Swales, working within the area of English for Specific Purposes, offers a genre definition, which is 'a good fusion of linguistic and sociological factors' (Bhatia, 1993). Swales' description (1990, p. 58) is fairly helpful in identifying genre and its key components.

A genre comprises a class of communicative events, the members of which share set of communicative purposes. These purposes are recognized by the expert members of the parent discourse community, and thereby constitute the rationale for the genre. This rationale shapes the schematic structure of the discourse and influences and constrains choice of content and style. Communicative purpose is both a privileged criterion and one that operates to keep the scope of a genre as here conceived narrowly focused on comparable rhetorical action. In addition to purpose, exemplars of a genre exhibit various patterns of similarity in terms of structure, style, content and intended audience.

Reflected in the definition of genre proposed by Swales are the components that play a role in classifying and shaping genre. They are communicative purposes, members of a certain discourse community whose knowledge, long experience and/or training make them expert members of the community, and text characteristics. The communicative purposes are primarily used as criteria to characterize genre, which means the reason(s) why a certain text is created is used to sort out the texts into the same group and identify their genre. These purposes or the rationale for creating such text are realized by expert members of the community and in consequence formed by this group of people. It is these purposes that influence and constrain the characteristics of the text e.g. the text structure and choice of language and content.

2.2.2 Genre analysis

The concept of genre is diverse according to the linguistic perspectives it draws on. These different linguistic perspectives also alter the study of genres or genre analysis. Generally, genre analysis is 'the study of situated linguistic behavior in institutionalized academic or professional settings' (Bhatia, 2002, p. 22). However, the scope of the analysis, the issues studied and the methodologies adopted vary depending on the background knowledge and the motivating purpose the analyst

brings to their study. Bhatia (1993) identifies, from the point of view of the analysis of functional variation in language, three different kinds of orientation to genre analysis which are linguistics, sociology, and psychology. A study with linguistics orientation, for instance, concerns linguistic analysis on textualization and the use of rhetorical devices and discourse organization while a study with psychology orientation deals with psycholinguistic aspects of genre analysis, such as cognitive structuring and the strategic choices employed by an individual to make the writing effective. Hyland (2009) also identifies three main traditions of genre analysis which are Systemic Functional Linguistics, English for Specific Purposes (ESP) and New Rhetoric. The studies in different traditions approach genre analysis differently, e. g. ESP genre analysis takes on a more linguistic approach.

2.2.3 Importance of genre studies

Genre studies help address the needs of language learners. In other words, the knowledge of genres gained from genre analysis can help to identify what sorts of knowledge are necessary for successful communication in a certain occupational, academic or social context. The knowledge of genres, such as the knowledge about the rhetorical patterns and the language used in texts in a particular discipline or profession, will be used as a basis for teaching learners, enabling them to participate in writing and reading activities of the target genre effectively.

Genre-based approaches to teaching and learning are believed to be able to develop discourse competence which is a key component of a learner's overall communicative competence in language (ibid). According to Hyland (2007, p. 157), ESP emphasizes 'the importance of situatedness of genres in particular contexts through rhetorical consciousness-raising' and developing the ability to distinguish texts and to write or respond to them properly, which is crucial to participating successfully in second language spoken and written interactions. The teaching of key genre can help learners gain access to ways of communicating that accrues cultural capital in particular professional, academic, and occupational communities, enhance learners' career opportunities and provide access to greater life chances (Hyland, 2003).

2.2.4 Traditions of Genre analysis

As previously mentioned in Section 2.2.2, various approaches and perspectives can affect the scope of genre analysis and how one wishes to conduct their research. It is important for a study to situate their work properly choosing the approach and perspective which fit the nature of the study. As discussed above, there are three main traditions of genre analysis: Systemic Functional Linguistics, New Rhetoric, and English for Specific Purposes. This study will follow the ideas proposed in the ESP tradition. The details of all three traditions together with the reasons why the ESP tradition is selected for the study will be elaborated below.

2.2.4.1 Systemic Functional Linguistics

An approach to genre analysis influenced by Systematic Functional Linguistics originated from the ideas of the social anthropologist named Bronislaw Malinowski (1923, 1935 cited in Bruce, 2008) who attempted to classify texts in relation to social context. He proposed the idea of context of situation and emphasized the need to take into account the context of situation in order to develop a clear understanding of any single word. This idea was later developed by J. R. Firth (1957, 1957/1958 cited in Bruce, 2008) and shaped into a language theory by Halliday (1978) which could be used for analysis.

Halliday referred to the operation of language within a certain context of situation as register and proposed to analyzed register from different angles: 'field of discourse' (e.g. the nature of the activity that is going on), 'tenor of discourse' (e.g. participants' statuses and roles), and 'mode of discourse' (e.g. the function or purpose of the language in the context).

Genre defined by linguists using a systemic functional approach involves the context of culture where the text is used. For example, Martin defined genre as 'a staged, goal oriented, purposeful activity in which speakers engage as members of our culture' (1984, p. 25). Eggins and Martin proposed that 'different genres are different ways of using language to achieve different culturally established tasks, and texts of different genres are texts which are achieving different purposes in the culture' (1997, p. 236).

According to Bruce (2008), the systemic functional approach identifies genre in terms of schematic structure (commonly occurring functional stages) and lexico-grammatical features related to the functional elements of the schematic structure. The focus of systemic functional linguistics is on primary and secondary school genres and nonprofessional workplaces such as a sales encounter.

2.2.4.2 New Rhetoric

The New Rhetoric Studies was developed based on the ideas introduced by Carolyn Miller (1984) in her article tilted 'Genre as Social Action'. She defines genre as "typified rhetorical actions based in recurrent situations" (p. 159), and said that "a rhetorically sound definition of genre must be centered not on the substance or the form of discourse but on the action it is used to accomplish" (p. 151). The description of genre provided by Miller shows that the linguists or researchers using this approach to genre place more emphasis on what discourse does. They concentrate more on action and analyze genre based more on the situation and the social context in which that situation occurs than the forms.

The New Rhetoric is also interested in non-literary work which is mostly workplace and academic like ESP. It is more concerned with teaching rhetoric, composition and professional writing in order to make leaners at a university level and novice professionals understand the contexts and actions surrounding a genre. As said above, genre studies in the new rhetoric focus less on the text features and more on relations between text and context. Therefore, ethnographic research or case study methods are often employed for research working within the perspective of this tradition

2.2.4.3 English for Specific Purposes (ESP)

According to Hutchinson and Waters (1987), ESP is 'an approach to language learning which is based on learner need' (p. 19). Richards and Schmidt (2010) defined this term in *Longman Dictionary of Language Teaching and Applied Linguistics* as "the role of English in a language course or programme of instruction in which the content and aims of the course are fixed by the specific needs

of a particular group of learners" (p. 198). The central idea is that language is tailored, taught and learned in accordance with the needs of a specific group of learners. The ESP approach to genre is primarily a social genre construct (Bruce, 2008), which means a social genre construct is often used in ESP genre analysis to provide a framework for analyzing and teaching language used in certain types of texts or situations.

Actually, there are several views proposed for the interpretation and scope of ESP, and these views affect how genre is defined. Among the researcher and theorists working in the ESP tradition, it is the work of Swales (1981, 1990, 2004) that provided the most detailed proposal for genre definition, and the idea was later developed by Bhatia (1993). For Swales and Bhatia, communicative purpose is the main criterion used for identifying genre. Following this idea, genre analysis involves identifying the type of linguistic features commonly found in texts from certain fields of activity and identifying a genre by examining how a text operates within a context by looking at the characteristics of the language used within certain functionally related sections of texts.

Conducting analysis of genre in the ESP tradition, analysts or researchers look at various academic and professional texts, sometimes focusing on one or more sections of the texts. They may either identify the staging of content of a genre in terms of moves and steps, or examine the linguistic features which are commonly employed for the realization of these moves and steps. Examples of the genres that have been studied for ESP purposes are research articles, research presentations, master theses and doctoral dissertations, grant proposals, job application and sales promotion letters, legislative documents, the graduate seminar, academic lectures, poster session discussions, and conference abstracts.

The focus of ESP is on studying and teaching specialized varieties of English and on helping mostly non-native speakers of English, who are linguistically disadvantaged, in advanced academic and professional settings (Bawarshi and Jo Reiff, 2010). The application of genre-based study can help the target leaners to become familiar with the organization and linguistics features used in texts in a particular discipline or professional setting.

So far, we can see that genre analysis can be situated in many traditions using various approaches, and each tradition will lead genre analysis to different directions. Although Systemic Functional Linguistics seems to look at similar aspects of language as English for Specific Purposes, their emphasis is on different text types i.e. Systemic Functional Linguistics is more interested in primary and secondary school and nonprofessional workplace genres while ESP is more likely to focus on academic and professional domains. Although New Rhetoric and ESP both seem to be interested in texts in workplace and academic settings, they have different ways to analyze genres. Ethnographic methods are employed in New Rhetoric to understand the contexts in which a text occurs, focusing more on the social aspects of the language, but ESP is more linguistic oriented. With these differences and orientations, it is important for one to situate their work of genre analysis in an appropriate tradition.

The tradition which is most suitable and is adopted as a framework for this study is the ESP school as proposed by Swales and Bhatia.   This approach to genre analysis is appropriate because its aims and orientation fit the nature of the study. As said above, the ESP school of genre studies emphasizes work in academic and professional settings in order to help non-native speakers of English and it largely contributes to English for Specific Purposes and English for Academic Purposes. The current study also has the same aims as this approach. It looks at a particular section (the discussion section) in research articles which belong to an academic domain in an attempt to understand and describe the organizational structure of the texts in order to help less experienced writers, especially those who are non-native speakers to become familiar with the genre and be able to both read and write in the genre successfully. Following the ESP school can thus provide the right direction for the study.

It can be seen that academic discourse will be the focus of this study. Since there seem to be many categories, sub-categories and divisions in academic context e.g. subjects, fields of study, departments, and faculties, to some extent these varieties affect the use of language in each discourse community. One important issue emerging when doing genre analysis with academic discourse is concerned with variation in the language used in different disciplines. The section

below will thus give more information about genre analysis and disciplinary differences.

2.2.5 Genre analysis and disciplinary differences

Studies on academic discourse used to mainly attempt to identify broad features of an academic texts in order to teach patterns that would be applicable with all contexts and purposes (Hyland, 2006). Scientific writing was used as a prototype of academic texts and there were considerable studies on it in order to reveal its features and characteristics. Early on, investigation included the study of different angles of language such as lexical density, nominalised style and impersonality in order to find out how meanings were presented in an objective and formal ways, and the rhetorical patterns of discourse units such as problem-solution.

Genre concept introduced by Swales in 1990 has provided a useful tool to study academic discourse. However, the early work seemed to focus on the similarities of the texts and thus overlook the discrepancy caused by discipline. According to Hyland (ibid), one possible explanation for attention paid to similarities more than differences in texts may be because of the way the genre analysis is conducted. Generalization is the key to studying and analyzing genre. When analyzing genre, we attempt to group texts with important similar features such as rhetorical patterns, form and audience together, and then we examine and try to distinguish them from other texts. This process has made us overemphasize the similarities and resemblances between texts and thus become less aware of the differences that may occur in texts from different disciplines.

Later, comparative studies gradually showed that "scholarly discourse is not a single uniform and monolithic entity, differentiated merely by specialist topics and vocabularies" (Hyland & Bondi, 2006, p. 7). Texts are created in different contexts and influenced by many factors such as the writers' perception and experience, the institution they are working for, the target readers, the expectation and practice in a particular field of study. All of these dimensions result in variation even in texts from the same text type. With more evidence revealing that texts can vary across disciplines, researchers thus have begun to pay more attention to this issue.

A number of studies have been conducted to examine various dimensions of texts, such as citation, readability, significance claims, moves, hedges, boosters, evaluation and self-mention (see Hyland, 2006) and the results reveal disciplinary differences. For example, Hyland (1999) investigated academic citation practices in eight disciplines by analyzing 80 research articles and interviewing experienced research writers. He found that citations were employed more frequently in humanities and social sciences research articles than scientists and engineers, and the citations were more likely to be integral structures.

Investigation into rhetorical structure or move structure also yields differences across disciplines. Evidence providing strong confirmation for disciplinary variability can be found in the work of Hyland (2000). His study of the generic patterns in 800 abstracts from journals in eight disciplines reveals differences among disciplines. In this study, he divided the abstract into five moves: 'Introduction', 'Purpose', 'Method', 'Product' and 'Conclusion.' He found that physicists and engineers preferred to a Purpose-Method-Product pattern whereas writers in humanities and social science preferred Introduction-Purpose-Product pattern. The differences in findings among these fields of study or disciplines is due to the fact that writers from different disciplines place importance on different aspects of abstracts. Writers in science value the Method part while writers in humanities and soft science give importance to the Introduction move which helps to situate their research.

The above example illustrated how scholars or writers in completely different disciplines situated on the two ends of a continuum—one from natural science and the other from social science—prefer to arrange information in their academic writing differently. The evidence of disciplinary variation in the structure actually occurs even in related fields. Samraj (2002) investigated research article introductions from Wildlife Behavior and Conservation Biology which both belong to natural science using Swales' model of analysis. It was found that centrality claims were not used frequently in research article introductions from Wildlife Behavior and the current research was justified in terms of gaps in previous research. While in Conservation Biology, research article introductions were found to contain more persuasion and promotion and centrality claims were frequent and well-developed and often concern the real world. According to Samraj, the differences in many features of these two fields

contribute to the variation in organizational structure. One feature contributing to the differences is the group of fields that these two disciplines belong to. Conservation Biology is an applied filed. In contrast, Wildlife Behavior is a theoretical field. The second feature is that Conservation Biology is interdisciplinary while Wildlife Behavior is disciplinary. The last feature which contributes to the differences in the organizational structure of the two fields is the age of the field. Conservation Biology is a younger field whereas Wildlife Behavior has been established longer and has more historical depth.

The study on research article abstracts of linguistics and applied linguistics by Suntara and Usaha (2013) also found marked differences in the move occurrence of these two disciplines which actually are closely related to each other. While the abstracts in linguistics are found to have three conventional moves, there are four conventional moves in the abstracts of applied linguistics.

Differences in textual organization exist even between the subdisciplines belonging to the same discipline. Evidence of differences in the level of subdisciplines can be seen in the work by Ozturk (2007), Kanoksilapatham (2015), Li & Pramoolsook (2015), and Atai and Habibie (2012). Ozturk (2007) studied the degree of variability in the structure of research article introductions between two subdisciplines of applied linguistics, second language acquisition and second language writing. He found that one type of move structure was predominantly used in the second language acquisition corpus. This type of move structure was M1-M2-M3 (establishing the territory, establishing the niche and ending by occupying the niche). On the other hand, two different types of move structure were almost equally frequent in the second language writing corpus. These two types of move structure were M1-M2-M1-M3 and M1-M3.

Kanoksilapatham (2015) studied the textual organization of the research article in three engineering subdisciplines. It was found that the introduction section was the most textually diverse across the subdisciplines. The second and third most diverse were the discussion section and the methods section respectively.

Li & Pramoolsook (2015) studied move structures in the research article abstracts from two subdisciplines of business. It was found that Marketing

abstracts tend to include much more Introduction and Method moves than Management, but Management texts seemed to include more Conclusion element than marketing.

Atai and Habibie (2012) examined subdisciplinary variations in the research article introduction in applied linguistics using Swales' CARS model. Marked difference across the three subdiscipline of English for Specific Purposes, Psycholinguistics, and Sociolinguistics was found in Move 2, Step 1B.

We can see that disciplines are different in many dimensions. For example, they have different knowledge making practice, different groups of people with different perceptions and experience working in the field, and different aims and scopes. All of these dimensions result in variations among the texts produced in these disciplines. As discussed above, the differences in terms of organizational structure or move structure is one piece of evidence of disciplinary variations. The current research is also interested in exploring the structure or the organization of a section in research article in a particular field of study in order to find out how the information is arranged in the field, and whether there are any similarities and differences when comparing to other fields. To do this, move analysis will be used as an analysis tool in the study. The next section will thus provide information regarding move analysis under the ESP tradition of genre analysis proposed by Swales.

2.3 Move analysis

2.3.1 Background of move analysis model

ESP genre analyses are largely based on Swales' (1981, 1990) work. It is Swales' model of move analysis that has been influential in the field of ESP and provided implications for teaching and learning of language in academic and professional domains. According to Swales (2004, p. 228), a *move* is "a discoursal or rhetorical unit that performs a coherent communicative function in a written or spoken discourse". It is a segment of text which is shaped by a communicative function. Each *move* is comprised of a number of elements which constitute information in the move (Nwogu, 1997). These elements are referred to as 'steps' by Swales (1990) or 'strategies' by Bhatia (1993). In order to identify moves and their constituent elements

(steps), both the grammatical features and the context in the discourse should be taken into account (Swales, 2004; Nwogu, 1990; Yang and Allison 2003).

This model of move analysis is originally derived from Swales' (1981, 1985, 1990 cited in Bhatia, 1993) work on research article introduction. He investigated 48 research article introductions. The texts were taken from a wide range of disciplines, 16 from the "hard" sciences, 16 from the social sciences, and 16 from life and health sciences. It was found that the majority of research article introductions followed a four-move pattern: Move One - Establishing the Research Field (by Showing centrality of the topic, or Stating current knowledge of the topic, or Ascribing key characteristics), Move Two -Summarizing Previous Research, (by Strong author-orientation, or Weak author- orientation, or Subject Orientation) Move Three - Preparing for Present Research (by Indicating a gap, or Question-raising, or Extending a finding), and Move Four- Introducing Present Research (by Giving the purpose of the research, or Describing briefly present research).

2.3.2 Swales' model of move analysis of introduction section

Swales' model of analysis was later revised. The first attempt was made to revise the four-move model when he received comments from several analysts regarding the difficulties of separating Move 1 and Move 2, and investigating longer introductions. He merged the first two moves and proposed a three-move structure for research article introductions, known as Create a Research Space (CARS) model, which is presented in Figure 2.1.

Swales' CARS model for article introductions (1990: 141)

Move 1 Establishing a territory

    Step 1   Claiming centrality and/or

    Step 2   Making topic generalization(s) and/or

    Step 3   Reviewing items of previous research

Move 2 Establishing a niche

    Step 1A   Counter-claiming or

    Step 1B   Indicating a gap or

    Step 1C   Question-raising or

    Step 1D   Continuing a tradition

Move 3 Occupying the niche

    Step 1A   Outlining purposes or

    Step 1B   Announcing present research

    Step 2   Announcing principal findings

    Step 3   Indicating RA structure

Figure 2.1 Swales' CARS model for article introductions

        The Create a Research Space (CARS) model is made up of 3 moves: Move 1 - Establishing a territory, Move 2 - Establishing a niche, and Move 3 - Occupying the niche. Move 1 can be realized by 3 steps. Authors of research articles can start their introduction by Step 1 - Making a centrality claim, and/or Step 2 - Making topic generalization(s) and/or Step 3 - Reviewing items of previous research. When making a centrality claim, authors can claim interest or importance; they can refer to the classic, favourite or central character of the area or issue being studied, or they can claim that there are many other researchers investigating the issue. Centrality claims are typically at the beginning of introductions. Some examples of the linguistic exponents and signals illustrated by Swales (1990) are given below.

> *Recently, there has been a spate of interest in how to…*
> *The study of … has become an important aspect of …*
> *The relationship between … has been studied by many authors.*
>
> (p. 144)

In Step 2, Making topic generalization(s), authors can generally make statements about knowledge or practice, or statement about phenomena. When making statements regarding about knowledge or practice, authors of research articles express the current state of knowledge, of technique, or current requirements for further progress. When making statements regarding phenomena, authors can establish a territory by emphasizing the frequency and complexity of the data. Some examples of this step are:

> *There is now much evidence to support the hypothesis that …*
> *Education core courses are often criticized for …*
> *English is rich in related words exhibiting 'stress shifts'.*
> *There are many situations where …*   (p. 146)

In Move 1 Step 3, Reviewing items of previous research, authors can establish a territory by referring to previous work. They need to provide a specification of previous findings, an attribution to the researchers who has published these findings, and their stance towards the findings. Some examples of this step are:

> *Chomsky and his co-workers (e.g. Napoli, 1988) have recently…*
> *X was found by Sang et al. (1972) to be impaired.*   (p. 150)

Move 2 of the CARS model establishes a niche for about-to-be-presented research. A niche can be established in four ways: counter-claiming (Step 1A), or indicating a gap (Step 1B), or question-raising (Step 1C), or continuing a tradition (Step 1D). This move is regarded as a key move in introductions because it connects Move 1 and Move 3. The linguistic exponents frequently employed in this move are, for instance, negative or quasi-negative quantifiers (e.g. no, little, none of,

very few), lexical negation (e.g. fail, lack, overlook, inconclusive, misleading, limited, failure), and negation in the verb phrase (e.g. *not* as in 'We do not yet know…'). Examples of this move are:

> *However, the previously mentioned methods suffer from some*
> *limitation…*
> *The second group … is time consuming and therefore expensive,*
> *and its … is not sufficiently accurate.*
> *The … method (upon which the present study is based)*
> *eliminates many of these limitations by …, but it can treat only…*
> (p. 154)

In Move 3, Occupying the niche, authors of research articles create the research space that justifies the present article from the niche established in Move 2. Move 3 can occur in 3 steps: Step 1- Outlining purposes (1A) or Announcing present research (1B), Step 2 – Announcing principal findings, and Step 3 – Indicating RA structure. Step 1 is obligatory. It can take two forms: Step 1A – the author indicates the purposes of his/her research and Step 1B – the author describes the main features of his/her research. Research article introductions often end with Move 3 Step 1. However, after Step 1, authors can also announce briefly the principal findings (Step 2), or describe the structure or the content of the remainder of the research articles (Step 3). Some examples of this move are:

> *The aim of the present research is to give…*
> *This study was designed to evaluate…*
> *The present work extends the use of the last model…*
> *We have organized the rest of this paper in the following way …*
>
> (p. 160 - 161)

After reviewing many studies conducted based on the model described above, Swales felt the need to make some changes to the model. He reduced four

realizations of Move 2 to two and add more steps or realizations to Move 3. The new model is presented in Figure 2.2. See Swales (2004) for more details.

Swales' revised CARS model for article introductions (2004: 230, 232)

Move 1 Establishing a territory

via

Topic generalizations of increasing specificity

Move 2 Establishing a niche

via

Step 1A   Indicating a gap or

Step 1B   Adding to what is known

Step 2   (optional) Presenting positive justification

Move 3 Occupying the niche

Step 1   (obligatory) Announcing present research descriptively and/or

purposively

Step 2   (optional) Presenting RQs or hypotheses

Step 3   (optional) Definitional clarifications

Step 4   (optional) Summarizing methods

Step 5   (PISF) Announcing principal outcomes

Step 6   (PISF) Stating the value of the present research

Step 7   (PISF) Outlining the structure of the paper

Figure 2.2 Swales' revised CARS model for Moves 1, 2 and 3

2.3.3 Move analysis and the research article

Swales' CARS model of move analysis has been used to analyse a variety of texts in both academic and professional genres such as university lectures (Thompson, 1994; Shamsudina and Ebrahimib, 2013) and business letters (Pinto dos Stantos, 2002). The research article is one of the genres that have been examined extensively with the CARS model. Due to the increasing importance and popularity of

research articles as a main channel to circulate knowledge among scholars, and the difficulties in producing such a genre, especially for non-native speakers, substantial research has been conducted to analyse the move structure of research articles in various disciplines both in hard sciences and soft sciences. It has been used to study both the whole body of research articles (e.g. Kanoksilapatham, 2005), and a particular section in research articles such as the method section (Wood, 1982; Nwogu, 1997; Lim, 2006), the results section (Brett, 1994; Thompson, 1993), and the discussion section, which is the focus of this research. The studies conducted so far, either on a particular section or the combination of all four sections, demonstrate the influence of disciplines on the variation of move structure, e.g. the number and sequence of moves and their constituent steps. Recently, attention has been paid to sub-disciplines associated with a single discipline. Reza Atai and Habibie (2012), for example, studied the introduction from three sub-disciplines in applied linguistics and Kanoksilapatham (2015) studied the whole body of research articles from three sub-disciplines of engineering. These studies have shown that variation also exists in the sub-discipline level. There has already been substantial work in the discipline level. However, the influence of sub-disciplines remains underexplored. Investigation into English used in writing research articles in sub-disciplines is needed to fill the literature. In order to illustrate how move structure varies to disciplines and sub-disciplines, a review of related studies focusing on discussion sections is presented in the next section. The summary of studies on move analysis of the discussion section is shown in Table 2.1.

Table 2.1 Summary of previous studies on move analysis of discussion sections

Authors	Texts	Disciplines	Important characteristics and findings
Belanger (1982)	Discussion sections in RAs	Neuroscience	• The structure of Discussion sections is correlated to research questions • A cyclical order: statements summarizing results, comparing them to the mainstream research, and interpreting and extending the result into speculations • 9 moves

Continued

Authors	Texts	Disciplines	Important characteristics and findings
Peng (1987)	Discussion sections in Ras	Chemical engineering	• 2 types of cyclical patterns: 1. A cycle involving a research question and 2. A cycle involving the author's comment on findings • 11 moves
Hopkins and Dudley-Evans (1988)	Discussion sections in dissertations & RAs	Irrigation and drainage (Biology)	• Moves not linear as Introduction sections • Clear cyclical of move patterns • No regularity of move sequence • Obligatory move = Statement of result • 11 moves
Swales (1990)	Discussion sections	Previous studies	• 8 moves • Quasi-obligatory move: Statement of result
Holmes (1997)	Discussion sections in Ras	Social sciences: history, political science & sociology	• Using the model proposed by Hopkins and Dudley-Evans (1988) • 8 moves (modified version) • No obligatory move • Most common moves: Generalization & Statements of result • Predictable move sequence like results reported in natural science studies • Typical pattern: Statement of result or Background information preceding Generalization or Reference to previous research
Nwogu (1997)	Whole body of RAs	Medical RAs	• Based on Swales' (1981, 1990) genre analysis of introduction • Moves and Sub-moves • 3 moves in Discussion sections: Highlighting overall research outcome, Explaining specific research outcomes, Stating research conclusions

Continued

Authors	Texts	Disciplines	Important characteristics and findings
Posteguillo (1999)	Whole body of Ras	Computer science	• Using Swales' (1990) move analysis model of discussion sections • Most frequent moves: Statement of results and Recommendation for further research • Cyclical pattern: Statement of result followed by Deduction and Hypothesis or followed by Recommendation
Yang and Allison (2003)	Results and subsequent sections in Ras	Applied linguistics	• Proposed two-level framework of analysis (Moves and Steps) • 7 moves • Most frequent & obligatory move: Commenting on results • Quasi-obligatory: Reporting results
Basturkmen (2009)	Discussion of result sections in RAs and dissertation	Language teaching	• Using Yang and Allison's model • Focusing on Commenting on results move • Argument is constructed through a series of Result-Comment sequence • 3 ways to comment on results: Explaining (most preferred), Comparing the result with a result in literature, Evaluating a result

Continued

Authors	Texts	Disciplines	Important characteristics and findings
Amnuai and Wannaruk (2013)	Discussion sections in Thai and international RAs	Applied linguistics (English)	• Using Yang and Allison's model • Most frequent move: Commenting on results • Deduction from the research found in Thai RAs more than in international RAs • Starting move for Thai RAs: Reporting results • Starting move for international RAs: Background info • Closing move for Thai RAs: Deduction from the research and Commenting on results • Closing move for international RAs: Commenting on results

2.4 Previous studies on discussion sections

2.4.1 Research article discussion sections

The discussion section, as observed by Berkenkotter and Huckin (1995), is likely to be a mirror-image reversal of move-order in the introduction section. The introduction starts broadly from the real world issues or the work of others, such as theories, findings and methodologies, and then narrows down to the present study while the discussion section proceeds in the opposite direction. The discussion section moves from the findings of the present study towards the work of others.

The discussion section is recognized to have a crucial role in research articles (Basturkmen, 2012; Yang & Allison, 2003), and has received much attention from genre analysts. The research findings are interpreted, the research is contextualized, and the value and importance of the research are discussed in this section (Kanoksilapatham, 2003). Research article authors need to explain how the research results integrate with disciplinary knowledge and how they contribute to the field (Basturkmen, 2012). Critical readers such as referees and examiners also pay most

attention to this section, so it needs to be written with meticulousness and thoroughness (Shaw, 1991 cited in Kanoksilapatham, 2003).

However, while the discussion sections have been identified as one of the most important section in an article (the other part is the introduction), especially from the point of view of getting published, it is these sections that are also most difficult to write (Flowerdew, 1999b). There are several causes contributing to the difficulty of writing this section. The difficulty may be derived from language proficiency, genre knowledge of discussion, and content of discussion (Bitchener and Basturkmen, 2006). Writing this section also involves complex casual, conditional and purposive argument (Parkinson, 2011). It requires higher order thinking. Writers need to evaluate the research methods and research results. They need to analyze and provide reasons for any interesting issues that arise. Also, they need to generate suggestions or express their opinions on the present research or research that should be further conducted in the future. All the claims they make have to be supported with evidence and literature. Writers need to possess skills for writing persuasively and argumentatively to convince the readers of the points they are making (Pojanapunya & Watson Todd, 2011; Flowerdew, 1999b).

2.4.2 Move analysis of discussion sections

Given the above-mentioned difficulties and challenges they pose to writers, especially the novice writers, many genre analysts have attempted to study this part and see how it is constructed. An early attempt to study the rhetorical structure of the discussion section was made by Belanger (1982 as cited in Swales, 1990; Dubois, 1997). Belenger analyzed 10 discussion sections from articles in the discipline of neuroscience and identified nine moves: 1) Introduction, 2) Summarizing results, 3) Conclusion, 4) What results suggest, 5) Further questions, 6) Possible answers to further questions, 7) Reference to previous research, 8) Reference to present research, and 9) Summary/Conclusion. From the analysis of the data, he found that 'the structure of the discussion section is closely correlated to both the number and kind of research questions posed in the introduction sections of the paper (1982, p. 1), and he proposed that each research question was passed through 'a cycle'. He also found that sometimes the discussion of a particular research question was repeated through the cycle many

times. A typical cyclical order found in the corpus was statements summarizing results, comparing them to mainstream research, and interpreting and extending the results into speculations.

The cyclical patterns found in discussion sections have been confirmed by Peng (1987) and Hopkins and Dudley-Evans (1988). Peng conducted a move-based analysis of 10 chemical engineering discussion sections. Two types of cyclical patternings have been observed. One cycle involves a research question. The other cycle involves the author's comments on the findings. Peng identified eleven moves in the discussion section: 1) Background information, 2) Statement of result, 3) Observation, 4) Comparison, 5) (Un)expected outcome, 6) Explanation, 7) Deduction, 8) Hypothesis, 9) Justification, 10) Validation, and 11) Recommendation.

The study conducted by Hopkins and Dudley-Evans also revealed clear cyclical patterns of moves. They studied Msc dissertations from the Department of Biology at the University of Birmingham and articles on irrigation and drainage appearing in international conference proceedings to establish the discourse structure that would fit both sets of data. They identified a list of 11 moves which is useful to describe the structure of discussion sections of articles and dissertations. These moves are: 1) Background Information, 2) Statement of Result, 3) (Un)expected Outcome, 4) Reference to Previous research (Comparison), 5) Explanation of Unsatisfactory Result, 6) Exemplification, 7) Deduction, 8) Hypothesis, 9) Reference to Previous Research (Support), 10) Recommendation, 11) Justification. Aside from the cyclical pattern, which was consistent with the previous studies, an additional feature of the discussion section found by Hopkins and Dudley-Evans is an obligatory move. They found that Move 2, Statement of Result, appeared in both dissertations and articles, and it was identified as an obligatory move. This move appeared many times, almost always at the beginning of a cycle, it was thus considered the "head" move in a cycle. All other moves were optional.

The cyclical patterns of moves appeared in subsequent studies into the discussion section; however, the issue of an obligatory move, whether it exists or not, seemed to be inconclusive. The study conducted by Holmes (1997) has underlined the issue. Holmes has extended genre analysis to the research article in the social science. He studied the structure of the discussion section, or equivalent, of articles

from 3 disciplines: history, political science and sociology. The study aimed to examine the differences between the discussion section of social science research articles and the natural science research articles and the variation within the social sciences. Ten research articles were collected for each discipline. The research articles were selected from three comparable journals which were the American Historical Review (AHR), the American Journal of Political Science (AJPS), and the Sociological Quarterly (SQ). The analysis model by Hopkins and Dudley-Evans (1988, p. 188) was modified and used in this study. These modifications were done by conflating moves or extending their scope. One new move, Outlining Parallel or Subsequent Developments, was added to the model. This move appeared only in the concluding paragraphs of history articles where the writer provides a summary of the data additional to the data given in the main body of the article. It was added so that the model can be applied to history research articles. This modified version of the model consists of 8 moves (Holmes, pp. 324-325).

1. Background Information

2. Statement of Result (This move is extended from the original one. Not only result of research is stated in this move, but the significance of the present study is also included.)

3. (Un)expected Outcome (The function of this move remains the same as the original version.)

4. Reference to Previous research (According to the model by Hopkins and Dudleys-Evans, only reported results in the present study are compared with those in the literature. However, the modified version includes the comparisons regarding research procedures, objectives or assumptions between the present studies and literature. Also, the writer can refer to literature to support his or her generalization or refer to a deduction or hypothesis generated from previous work.)

5. Explanation of Unsatisfactory Result (Move 5, Explanation, and Move 6, Exemplification, from the model of Hopkins and Dudleys-Evans were conflated into this move. In this move, the writer gives reasons for an unexpected result or one that is different from the

results reported in the literature or gives an example to support an explanation.)

6. Generalization (Generalization is a new move label. It is actually derived from Move 7 (Deduction) in the model by Hopkins and Dudleys-Evans. In this move, the writer makes a claim about the generalizability of the particular results. The scope of this move was extended to include the case in which the writer limits claims to generalizability or discusses and/or turns down questions indirectly related to the research results.)

7. Recommendation (The scope of this move is broader. The function of this move which is to make suggestions for future research is still the same. However, the writer cam also make suggestions regarding public policy or justify the need for such suggestions.)

8. Outlining Parallel or Subsequent Development (In this move, the writer provides a summary of data from a period subsequent to the one discussed in the main body of the article or data on topics which are closely related.)

Analyzing the move structure of the discussion section using the model outlined above, cyclical patterns were also found in the social science texts. A typical pattern was Statement of Result or Background Information preceding Generalization or Reference to Previous Research. These cyclical patterns occurred because after stating the research results, the author added a comment in the form of either a hypothesis or a suggestion for further research. The result regarding an obligatory move seemed to conflict with the result reported by Hopkins and Dudley-Evans who conducted the study on natural science texts. Even though Move 2, Statement of Result, remained unchanged in the modified model of analysis, Move 2 was not reported as an obligatory move. It was found that no move was completely obligatory in social science texts. The most common moves were Move 6, Generalization, and Move 2, Statement of Result. These different and conflicting results may be due to the differences in disciplines.

Swales (1990) also proposes a model of analysis of the discussion section. He has seen that Peng (1987) and Hopkins and Dudley-Evans (1988) both offered 11-move schemes which are slightly different from each other. He has combined some moves and highlighted 8 moves which occurred more frequently. His proposed model is different from Hopkins and Dudley-Evans in that he has made Move 2, Statement of Result, quasi-obligatory. His model is shown below (Swales, 1990, p. 172).

1. Background Information (The function of this move is to repeat the main points, to emphasize theoretical information or to remind the readers of any technical information. This move can appear at any point in the cycle.)

2. Statement of Result (According to Hopkins and Dudley-Evans, Statement of Result is obligatory move. However, according to Swales, it could be best described as a quasi-obligatory move. This move tends to occur at the starting point of a cycle. The only move that is likely to precede Statement of Result is Move 1.)

3. (Un)expected Outcome (In this move, the writer comments on the results whether they are expected or unexpected.)

4. Reference to Previous research (Swales combined Move 4 and Move 9 from the list of 11 moves. Therefore, Move 4 here consists of 2 main subtypes which are to refer to previous research to compare with present research and to refer to previous research to support present research.)

5. Explanation (The writer provides reasons for a surprising result, or any result that is different from those reported in the literature.)

6. Exemplification (In this move, the writer provides examples to support an explanation)

7. Deduction and Hypothesis (Swales combined Move 7 and Move 8 from the list of 11 moves. In this move, the writer makes a claim about the generalizability of some or all of the result.)

8. Recommendation (In this move, the writer makes suggestions or gives directions for further research.)

The structure of discussion sections proposed by Swales was employed by Posteguillo (1999) to examine 40 research articles from 3 different academic journals in computer science and describe the rhetorical organization of academic research articles in the discipline. The quasi-obligatory status of Move 2, Statement of Result, was confirmed in this study as Move 2 was found to be the most frequent move. The cyclical patterns were also observed in the corpus. The cycle started with Move 2 followed by Move 7 or Move 2 followed by Move 8.

The differences of the frequency and sequence of the move occurrence reported in the studies into research article discussion sections imply variation of the discussion section structure among different disciplines. Another possible explanation of these different findings could be because the model developed from one discipline cannot properly be used to describe the structure of the discussion section in another discipline. Many analysts, therefore, have attempted to develop move analysis models which best describes the discussion section written in their target discipline. They also tried to refine the categories of moves and sub-moves, or improve the methodology in order to increase the reliability and the generalizability of the developed models and the research results.

For example, Nwogu (1997) tried to select journals based on certain guidelines (representativity, reputation and accessibility), and included more journals together with increasing the number of texts to be analysed. Nwogu examined the structure of information in the medical research articles based on Swales' (1981, 1990) genre analysis model of introduction. Thirty texts selected from five refereed medical journals were analyzed preliminarily and fifteen texts were later randomly chosen for detailed analysis. The analysis of the corpus showed that the discussion sections in medical research articles consisted of 3 moves: Highlighting Overall Research Outcome, Explaining Specific Research Outcomes, Stating Research Conclusions. Because this study examined the whole body of the research article, the discussion section starts from Move 9. Nwogu described the rhetorical structure of medical research papers in terms of Moves and Sub-moves (Nwogu, 1997, p. 135).

Move 9:   Highlighting Overall Research Outcome

Move 10: Explaining Specific Research Outcomes

    by   (1) Stating a specific outcome

           (2) Interpreting the outcome

           (3) Indicating significance of the outcome

           (4) Contrasting present and previous outcomes

           (5) Indicating limitations of outcomes

Move 11: Stating Research Conclusions

    by   (1) Indicating research implications

           (2) Promoting further research

Kanoksilapatham (2005) tried to ensure the representativity of the data collected and the generalizability of the research results. Instead of relying on the suggestions from the experts regarding the popular journals in the field, the journals in her study were selected based on the impact factor reported in Journal Citation Reports (1999). She randomly selected 60 research articles from five journals in the field of biochemistry. She also made sure that the results were not influenced by any particular journal by collecting the same number of texts from each journal, twelve articles from each journal. Based on the analysis of the corpus, she proposed a two-level rhetorical structure (moves and steps) to describe how the information in biochemistry research articles is organized. The move structure for the discussion section in biochemistry research article proposed in Kanoksilapatham (2005, p. 291) is illustrated below. Because this study examined the whole body of the research article, the discussion section starts from Move 12.

Move 12 Contextualizing the study

 Step 1 Describing established knowledge

 Step 2 Presenting generalizations, claims, deductions, or
  research gaps

Move 13 Consolidating results

 Step 1 Restating methodology (purposes, research questions,
  hypotheses restated, and procedures)

 Step 2 Stating selected findings

 Step 3 Referring to previous literature

 Step 4 Explaining differences in findings

 Step 5 Making overt claims or generalizations

 Step 6 Exemplifying

Move 14 Stating limitations of the study

 Step 1 Limitations about findings

 Step 2 Limitations about methodology

 Step 3 Limitations about claims made

Move 15 Suggesting further research (optional)

Her study revealed three conventional moves: Contextualizing the study, Consolidating results and Stating limitations of the study, and one optional move: Suggesting further research. Consolidating results and Contextualizing the study were the moves that occurred most frequently. A cyclical organization was also observed. The cycles usually involve Moves 12 and 13.

Yang and Allison (2003) also tried to examine which part of the research article can be regarded as a true discussion section. Researchers tend to define a discussion section differently, and the texts taken from different parts of the research article may affect the structure of the moves. For instance, the discussion sections in Holmes (1997) and Posteguillo (1999) were actually taken from Conclusion, which means that Discussion and Conclusion were considered equivalent. Yang and Allison tried to provide evidence of how these two sections resemble or differ systematically in function. They studied how research articles proceeded from reporting results to offering final conclusions or some other form of closure. They examined 20 research

articles in applied linguistics from Result sections to the final sections of research articles which include Results, Results and Discussion, Discussion, Conclusion, and Pedagogical Implications sections. They identified the rhetorical structures of each section, and examined the frequency and sequence of move occurrence. The framework of analysis of the discussion and conclusion sections developed by Yang and Allison is presented in Table 2.2 and 2.3.

Table 2.2 Framework of analysis of discussion sections (Yang and Allison, 2003, p. 376)

Moves	Steps
Move 1 Background information	
Move 2 Reporting results	
Move 3 Summarizing results	
Move 4 Commenting on results	Interpreting results Comparing results with literature Accounting for results Evaluating results
Move 5 Summarizing the study	
Move 6 Evaluating the study	Indicating limitations Indicating significance/ advantage Evaluating methodology
Move 7 Deductions from the research	Making suggestions Recommending further research Drawing pedagogic implication

Table 2.3 Framework of analysis of conclusion sections (Yang and Allison, 2003, p. 379)

Moves	Steps
Move 1 Background information	
Move 2 Reporting results	Indicating significance/ advantage
	Indicating limitations
	Evaluating methodology
Move 3 Summarizing results	Recommending further research
	Drawing pedagogic implication

From the research results, it was concluded that Discussion and Conclusion sections differ in terms of the existence of Moves 1-4 (Background information, Reporting results, Summarizing results and Commenting on results) which appear in the discussion section but not in the conclusion section. Move 4 (Commenting on results) was found to be the most frequent and obligatory move in the discussion section. The result reflects that the discussion section focuses on commenting on specific results while the conclusion section pays more attention to highlighting overall results and evaluating the study. The new model of analysis developed by Yang and Allison also indicated that Move 2 (Reporting results) was considered quasi-obligatory as it occurred in all Discussion sections except one research article. This supports the view of Swales (1990) which defines Move 2, Statement of results, (equivalent to Reporting results) as a quasi-obligatory move and this result is also in line with Posteguillo (1999).

Yang and Allison's framework of analysis of the discussion section is derived from analyzing 20 texts. When it was used to deal with a larger amount of data in Amnuai and Wannaruk (2013), it still yielded similar results. Amnuai and Wannaruk conducted a comparative study of the move structure of English Applied Linguistics research article discussion sections published in international and Thai journals. The investigation of 30 discussion sections collected from ten international journals revealed that Move 4 (Commenting on results) was obligatory and Move 2 (Reporting results) was conventional and other moves were optional. Other studies that used this framework include the work of Wuttisrisiriporn (2015) which compares the

move structure of master's thesis Discussion chapters in ELT (English Language Teaching) composed by native and non-native English speaking students, and that of Nodoushan (2012) which compares the move structure of the discussion section in MA graduates' thesis written by Iranian and non-Iranian students and the discussion section in scholarly journal papers in applied linguistics. Although the results of the last two studies may not totally conform to previous studies as they focus on different texts and population, Yang and Allison's framework proves to be a comprehensive model of analysis, and it captures quite a good picture of the discussion section of both research articles and thesis writing, especially those that are related to applied linguistics.

Yang and Allison's two levels of analysis (moves and steps) seems to able to properly describe the rhetorical structure of the discussion section. However, there is also a report of the difficulty in using such model. Basturkmen (2009) investigated the Commenting on research move in published research articles and master's dissertations in Language Teaching to see how student writers and expert writers make a knowledge claim in the discussion of results. The study focuses on Commenting on results move, so only Moves 1 – 4 were analysed to search for Commenting on results move and the rest was not reported in the study. Basturkmen encountered some difficulty in distinguishing two steps under Move 4. It was found to be problematic to distinguish 'interpret result' and 'account for result', so she conflated these two steps and proposed 'explaining a result' instead. She also proposed 4 sub steps as possible ways to 'explain the result'. Basturkmen's model of analysis of the discussion section (p. 244) is shown below.

(Move 1) Background information

(Move 2) Reporting results

Move 3 Summarizing results

Move 4 Commenting on results

    Step 1 Explaining results

    Sub steps:

       i) providing alternative explanations for the same result

      ii) referring to an explanation provided in the literature

      iii) evaluating an explanation

Step 2 Comparing with results in literature

Step 3 Evaluating the results

Move 3

Move 4

Move 3

Move 4

The Result-Comment Sequence (move 3&4) is repeated any number of times

Brackets ( ) denote optional moves

2.4.3 Remaining issues

The studies into the textual organization of research article discussion sections in different academic disciplines so far have provided better understanding of the function and characteristics of the section. This section seems to have higher complexity than other sections. However, compared with other sections of the research articles, this section still receives less attention. Given the importance of specificity of learners' needs and expertise in ESP and the complexity of the section, the discussion sections should be explored more.

From the study into the textual organization of research article introduction sections (Ozturk, 2007) as already mentioned in Section 2.2.5, the findings indicate that the move structure of the introductions in second language writing seems to be structured differently from the move structure proposed by the CARS model. These results show that this discipline contains some distinctions, and this makes it interesting to explore further other sections such as the discussion section. Besides, the research article discussion section of this discipline is still underresearched. Exploring the textual organization of the research article discussion sections in this discipline should fill the literature.

Hence, the present study aims to investigate the textual organization of research article discussion sections in second language writing in order to find out how expert writers in this discipline prefer to organize their discussion. The nature and scope of the discipline investigated in this study will be discussed in the next section.

2.5 Second language writing as an academic discipline

As discussed above, research article discussion sections in second language writing will be investigated in this study. Second language writing is appropriate for this study for two reasons. The first reason is already mentioned. The study of the textual organization of the research article discussion sections in this discipline is still underexplored. To work on the discussion sections of research articles in this discipline should therefore contribute to genre analysis and add more literature to the field.

The second reason is the researcher's background knowledge and familiarity with this field of study. Because move identification mostly relies on the analyst's judgement, it is necessary for one to be able to read and understand the texts being investigated clearly in order to identify functions and sort them into the right moves and steps. Poor understanding and knowledge in the target texts will result in wrong identification of moves and steps and affect the reliability of the results. One of the researcher's research interests is teaching and learning writing. The researcher has read books and articles related to second language writing and is quite familiar with the field. This background knowledge and familiarity should be useful when reading and analyzing the data and help to enhance the research reliability.

Second language writing is an academic discipline in social science. It is sometimes referred as a branch or subdiscipline of applied linguistics (Kaplan, 2002). As this discipline could overlap other related fields of study such as second language acquisition, it is necessary to discuss the definition of second language writing and define its scope and orientation to create a boundary for this study.

The definition of 'second language' provided in *Longman Dictionary of Language Teaching and Applied Linguistics*, is "in a broad sense, any language learned after one has learnt one's native language. However, when contrasted with foreign language, the term refers more narrowly to a language that plays a major role in a particular country or region though it may not be the first language of many people who use it" (p. 514). Following this definition, second language in this study refers to a foreign language which means that the language is not native to a large number of people in a particular country and it is not used as an official language or the main medium of communication in the education, politics, media, etc. Moreover, it refers to

an actual second language which is learned after the mother tongue but is necessary for survival. The second language in the latter case includes those who live in their own country such as India, Singapore and the Philippines but need to master a second language in order to communicate in formal settings and immigrants to another country who need to learn the new language for survival such as 1.5 generation immigrants in the US.

According to Carson (2001), "second language writing focuses on models of teaching and learning and is based on learner's performance" (p. 191). Based on the definition of a second language discussed above and the focus of the field provided by Carson, second language writing in this study includes research articles which are concerned with the teaching and learning of writing a foreign and second language. Given the issue of background knowledge and familiarity of the analyst which could affect the reliability of the results, this study will look at only research on English as a second and foreign language. The research on other languages which the research does not understand is excluded from the study.

So far, this chapter has discussed the theory and principle behind the study, reviewed previous work and provided information regarding important concepts and justification for the study. The next chapter will talk about the research methodology. It will describe the corpora used in the analysis, how they were collected, and how they were analyzed.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Overview

This chapter presents the research methodology of the present study. First, the corpus of the study will be discussed. This includes the selection of journals and the selection of the research articles and discussion sections. Then, how the coding scheme was developed will be described. The step-by-step research procedures for analyzing the data will also be discussed. Finally, the validity of the results of the data analysis will be presented.

3.2 Corpus

The data comprise 103 research article discussion sections from 5 journals: *Journal of Second Language Writing, Assessing Writing, Journal of English for Academic Purposes, English for Specific Purposes* and *System.* The following describes how the corpus was complied, how the journals were selected, and how the discussion sections were collected.

3.2.1 Selection of the journals

There are a number of journals available all around the world, and there are many kinds of them such as web-based journals, paper based journals, open access journals and closed access journals. There are also new journals emerging every year. It is impossible to be able to identify all the journals contributing to English language writing and get samples from every journal. To be practical, what we can do is to find the journals that are the best representatives. In order to find the representative journals, we first need to find the list of journals related to English language teaching and applied linguistics. As mentioned earlier, there are a number of journals nowadays, it is hard to search for all the journals related to English language teaching and applied linguistics and make sure to include all of them. What we can do is to rely on a list of

journals provided by experts or institutions. In this study, the list of journals related to applied linguistics was obtained from the LINGUIST list which is a forum where academic linguists discuss linguistic issues and exchange linguistic information. The list was founded in 1990 by Anthony Rodrigues Aristar at the University of Western Australia and is now operated at Indiana University, Department of Linguistics. There are 290 journals in the list.

The journals were then checked against a reliable academic database. This is done to ensure the journals' prestige and acceptability to the scholars and thus confirm their quality and representiveness. The database used in this study is SCImago Journal Rank (SJR). SJR is an open-access resource developed by the SCImago Journal and Country Rank, which is "a portal that includes the journals and country scientific indicators developed from the information contained in the Scopus® database (Elsevier B.V.)" (SCImago, 2007). The 290 journals were checked against SJR. Those which do not appear in the database were removed from the list. There were 70 journals left.

To make sure that the researcher would not miss any potential journals so that the data collected will reveal the text organization or move structure of research article discussion sections preferred in the target discipline, the researcher checked the aims and scope of all the remaining 70 journals and looked through the articles inside the journals. The journals which are irrelevant to English language writing or do not contain articles regarding English language writing were discarded.

Aside from considering the journals' prestige and scope, the number of years that the journals have been founded is also taken into account. This is to confirm that the articles used in the analysis come from established journals. In this study, the journals need to have been published for at least 10 years. The journals which have been published less than 10 years were therefore excluded.

After checking the journals in the database, checking the journals' aims and scope and checking their years of establishment, there were 27 journals left. They are:

- 3L: Language, Linguistics, Literature,
- Applied Linguistics,
- Assessing Writing,
- Computer Assisted Language Learning,

- Computers and Composition,

- ELT Journal,

- English for Specific Purposes,

- Innovation in Language Learning and Teaching,

- International Journal of Applied Linguistics,

- International Journal of Pedagogies and Learning,

- Journal of Asia TEFL,

- Journal of English for Academic Purposes,

- Journal of Second Language Writing,

- Language and Education,

- Language Awareness,

- Language Learning and Technology,

- Language Teaching Research,

- Language Testing,

- Linguistics and Education,

- Modern Language Journal,

- Porta Linguarum,

- Reading and Writing,

- RELC Journal,

- Studies in Second Language Acquisition,

- System,

- TESOL Quarterly and

- The Canadian Modern Language Review.

The remaining twenty-seven journals which seem to be relevant to English language writing were checked in detail.

Good representative journals should contain a high number of research articles on English writing especially the ones with discussion sections and should regularly publish articles on English writing over a long period. In this case, the researcher checked every article in every journal in a ten-year period (2006 - 1015) in

order to select the best representative journals. The articles that matched all the following criteria were counted and recorded.

- The article is a report of primary empirical research.
- The article reports or focuses on only one study.
- The article follows the traditional research article sections (Introduction, Methods, Results, Discussion or IMRD).
- The article must be about English writing research. The research articles which fall into the scope of English writing in this study are the articles that contribute to the teaching and learning of writing in English, focusing on English as a second language, English as a foreign language and English as an additional language. English writing research conducted for the sake of research methodology but not for the sake of language development was excluded.

In order to identify which articles are about English writing, the researcher looked at the titles and the abstracts of the research articles. By doing this, it should be noted that some articles which do not state clearly in the titles or abstracts that they are about English writing or their results contribute to teaching and learning of English writing are likely to be missed. However, it is believed that the authors should carefully construct the titles and the abstracts of their research articles since these two components can help prevent a paper from being discarded and attract the right audience. As Swales (2003) states, "title and abstract in published papers are at the same time both front matter and summary matter" (p.179). They should summarize and reflect the content inside the paper and because they are indicative of the content in the paper, they may also influence readers' decision whether they should continue reading or they should ignore and look for other papers which are more related to their interest. Research titles and abstracts thus seem to be the best tool to distinguish the area of study or the discipline that each research article belongs to.

Every article in the journals were manually sorted. The researcher read the title and judged whether the article was likely to be about English writing from the keywords in the title. The keywords were *academic writing, argument, articles, author, blogging, citation, composition, edit, error, essay, feedback, genre, literacy,*

mistakes, move analysis, narration, narrative, note taking, revision, texts, writers, writing, and *written*. Then, the abstract would be read to confirm whether the article was really about English writing. Sometimes the researcher needed to check the content inside the article to exclude research articles which are done on other languages and does not contribute to English writing teaching and learning and also to discard the article which is about English writing but not empirical research. Table 3.1 shows the number of research articles found with discussion sections in all 27 journals.

Table 3.1 The number of research articles found with discussion sections

No.	Journals	Number of articles with discussion sections
1	Journal of Second Language Writing	71
2	Assessing Writing	48
3	Reading and Writing	45
4	Journal of English for Academic Purposes	39
5	English for Specific Purposes	37
6	System	32
7	Language Learning and Technology	23
8	Computers and Composition	22
9	Journal of Asia TEFL	19
10	Language Testing	13
11	TESOL Quarterly	7
12	Language Awareness	7
13	ELT Journal	7
14	Porta Linguarum	6
15	Computer Assisted Language Learning	6
16	3L: Language, Linguistics, Literature	5
17	Applied Linguistics	5
18	Studies in Second Language Acquisition	5
19	RELC Journal	5

Continued

No.	Journals	Number of articles with discussion sections
20	Language Teaching Research	5
21	The Canadian Modern Language Review	4
22	Innovation in Language Learning and Teaching	4
23	Linguistics and Education	4
24	International Journal of Applied Linguistics	3
25	Language and Education	3
26	Modern Language Journal	2
27	International Journal of Pedagogies and Learning	1

From the record in Table 3.1, the journals which seem to regularly contribute to publishing English writing research all through 10 years are *Journal of Second Language Writing, Assessing Writing, Reading and Writing, Journal of English for Academic Purposes, English for Specific Purposes* and *System.* They should thus deserve to be good representative journals. However, even though *Reading and Writing* publishes articles about English writing, the majority of the articles are regarding the acquisition of English as a native language, and the acquisition of English by gifted learners and learners with problems such as dyslexia and language impairment which does not match the criteria set in this study. There are therefore only 5 journals chosen as representative journals in this research. See Appendix A for the aims and scope of the journal.

3.2.2 Selection of research article discussion sections

The research articles discussion sections were collected following the criteria described below. The number of the discussion sections collected from the 5 representative journals is shown in Table 3.2.

1. Since this research aims to examine the current move structure or text organization employed in research article discussion sections in English language writing, the data should be collected from the articles in most recent years. In this study, the discussion sections were taken from the research articles restricted to a period of 5 years (2011-2015).

2. Because the aim of this study is to explore the move structures used in the research article discussion sections in one discipline, not on the varieties of the language used by writers from different countries, the discussion sections can be taken from any articles regardless the nationality of the writers.

3. The discussion sections can be taken from any research articles regardless their approach to research which means that the research can employ a quantitative method, a qualitative method or a mixed method.

4. Each discussion section was about 500 - 2000 words in length. This range of words was derived from the inspection of the number of words in all discussions sections without subheadings. It allowed the study to cover the majority of the data.

Table 3.2 The number of discussion sections collected for the analysis

Journals	Number of discussion sections
Journal of Second Language Writing	37
Assessing Writing	13
Journal of English for Academic Purposes	19
English for Specific Purposes	14
System	20
Total	103

The list of all research article discussion sections used in the corpus is shown in Appendix B. All the discussion sections shown in the list were coded with letters and numbers such as JSLW9, ST11, and AW2. The abbreviations of the journal titles were used to identify which journal the data were from and the numbers were used to identify which research article the discussion section belongs to. JSLW is used for *Journal of Second Language Writing*, AW for *Assessing Writing*, JEAP for *Journal of English for Academic Purposes*, ESP for *English for Specific Purposes* and ST for *System*.

3.3 Method of Analysis

3.3.1 Coding Scheme

In order to analyse the data to reveal the textual organization of the research article discussion sections, a coding scheme was developed. A coding scheme will provide criteria for analyzing moves and steps in the texts, limit the variations of coding, and make the analysis suitable for assessing reliability.

A coding scheme was developed based on previous rhetorical studies on the research article discussion sections (Belanger, 1982; Peng, 1987; Hopkins and Dudley-Evans, 1988; Swales, 1990, 2004; Holmes, 1997; Nwogu, 1997; Posteguillo, 1999; Yang and Allison, 2003). To develop the coding scheme, the data were analysed based on the lists of moves and steps proposed by the previous studies. They were analysed and reanalysed, and the operational criteria of each move and step were adjusted along the process of analysis until they were settled. See Section 3.3.2 for the data analysis procedure. The list of moves and steps in the coding scheme developed from the analysis is shown below. Refer to Appendix C for the detailed coding scheme.

Move 1: Providing background information

Move 2: Managing the section

Move 3: Summarizing results

Move 4: Reporting results

Move 5: Commenting on results

    Step 1: Interpreting results

    Step 2: Comparing results with literature

    Step 3: Accounting for results

    Step 4: Judging results

Move 6: Summarizing the study

Move 7: Evaluating the study

    Step 1: Indicating limitations

    Step 2: Indicating significance/ advantage

    Step 3: Evaluating methodology

Move 8: Making deductions

    Step 1: Making suggestions

    Step 2: Recommending further research

    Step 3: Drawing pedagogical implications

Regarding the unit of coding, the decision on how to identify the unit of moves and steps was made based on Swales (2004). Swales suggested that a move should be viewed as a functional unit, not a formal unit. Although a move can often be aligned with a grammatical unit such as a sentence, utterance, or paragraph, it should be seen flexible in terms of linguistic realization.

However, for the consistency and practicality of the analysis, certain criteria and measures must be created. With this, Swales' view and suggestion may not be completely followed. An attempt was initially made to explore occurrences of all the moves and steps in the texts using sentential, clausal and phrasal units or even a split in the middle of a sentence between the subject and the rest of the sentence to identify the moves and steps. This was done to observe and to find the best and most practical way to capture the nature of the texts.

A decision was made after observing and analyzing the randomly selected data. It was found that a clause and phrase seemed to be able to detect moves and steps in detail. Besides, they were straightforward and practical to use, which would provide consistency for the analysis. They were therefore used as a unit of coding in this study.

3.3.2 Data analysis procedure

All 103 pieces of research were read and analyzed following the procedure below. Examples of moves and steps analysis of the research article discussion sections in this study are shown in Table 3.3.

1. To analyse each piece of discussion section, the research article abstract was first read to gain an overall understanding of the study.

2. Then, the research aims or research questions which are usually present at the end of the introduction part or in the method part were identified.

3. After that, the researcher read the method section and read the result section to see how the results were reported to answer the research questions.

4. Next, bearing in mind the research questions and what has been described in the result section, the researcher read the discussion section. The researcher might refer to the introduction section, method section, or result section when necessary.

6. The researcher identified the moves and steps in the discussion section.

7. The researcher recorded the occurrences of moves and steps to identify the move frequencies and classify whether the moves were optional, conventional or obligatory. The classification of the moves followed Kanoksilapatham (2005) . A move was considered optional when it occurred less than 60% of the cases, conventional when it occurred 60-99% of the cases, and obligatory when it occurred in every research article discussion in the corpus (100%).

8. The researcher analysed the occurrences of moves and steps to identify the frequencies of move patterns.

Table 3.3 Examples of move and step analysis from the corpus

Text	Moves & Steps
***Research article title: Convincing peers of the value of one's research: A genre analysis of rhetorical promotion in academic texts** (ESP9)*	
The inclusion of Step 1 (Announcing present research) in the majority of the Introductions analysed, mainly through explicit statements that describe research or the purpose of the study, shows that, because of its highly informative function, it constitutes an obligatory step in the disciplines and languages under study.	Move 5 – Step 1
By employing this strategy, scholars show that they are acquainted with the obligatory structural elements of the (sub)genre, thus demonstrating that they are qualified members of the discourse community.	Move 5 – Step 3
The obligatory nature of this step, as proposed by Swales (1990, 2004) for RA Introductions in English, has also been reported in many other studies across a wide variety of languages (see, for example, Adnan, 2008; Ahmad, 1997; Burgess, 2002; Fakhri, 2004; Hirano, 2009; Loi, 2010), indicating that it is a universal step which is bound to occur in most RA Introductions across languages and disciplines.	Move 5 – Step 2
The fact that instances of Step 5 (Outlining the structure of the paper) were only found in the Humanities/Social Sciences texts shows that the Introductions in the particular disciplines analysed here provide more reader orientation than those in the Health Sciences ones.	Move 5 – Step 1
Absence of this step in medical RAs, as reported by Nwogu (1997), seems to confirm this.	Move 5 – Step 2
By choosing to describe the content or the structure of the article at the end of the Humanities/Social Sciences introductions, writers facilitate text comprehension, showing a reader-friendly attitude, which fulfils disciplinary readers' expectations. Furthermore, by showing that they are familiar with the rhetorical conventions which characterise the discipline, writers show that they are competent members of their	Move 5 – Step 3

Continued

Text	Moves & Steps
disciplinary community and, consequently, this enhances the credibility of their research.	
By choosing to describe the content or the structure of the article at the end of the Humanities/Social Sciences introductions, writers facilitate text comprehension, showing a reader-friendly attitude, which fulfils disciplinary readers' expectations. Furthermore, by showing that they are familiar with the rhetorical conventions which characterise the discipline, writers show that they are competent members of their disciplinary community and, consequently, this enhances the credibility of their research.	Move 5 – Step 3
We may thus claim that writers in the Humanities/Social Sciences, in which there is more variation of textual organisation, more strongly feel the need to guide their readers by using this step than in the Experimental or Health Sciences in which a well-established IMRAD pattern has been conventionalised.	Move 5 – Step 1
The same argument has been put forward by Posteguillo (1999) in relation to Computer Science articles. He found that authors in this discipline resorted quite frequently to describing the content or structure of the rest of the article at the end of the Introductions, a strategy that he considers only natural in this discipline in which, as he contends, there is no well-defined convention for the macrostructure of RAs. Although this tendency seems to be applicable to languages other than English, as is the case of Spanish Introductions, the findings of previous studies on other languages point to the possibility of cross-disciplinary divergences as a result of sociocultural factors. A case in point is Fakhri's (2004) study, in which he found that the enunciation of the structure of the articles and its various sections is not prevalent at all in Arabic Humanities discourse which he attributes to cross-cultural	Move 5 – Step 2

Continued

Text	Moves & Steps
variation in communicative styles in terms of directness. In his more recent work, however, Fakhri (2009) reports a high frequency of occurrence of this step in Arabic Law Introductions, mainly as a result it would seem of formal training in law faculties, drawing heavily on the French rhetorical tradition which tends to feature enunciation of the structure of the articles. This supports Swales' (2004: 232) view that occurrence of this step is probable in some fields, but unlikely in others.	
Considering the experimental nature of Health Sciences disciplines, it was not surprising to find, in both languages, a higher frequency of occurrence of Step 2 (Presenting hypotheses) in the Clinical and Health Psychology and in the Dermatology texts than in their Political Philosophy and Political Science counterparts,	Move 4
since the papers in these latter disciplines are of a non-experimental type.	Move 5 – Step 3
This is consistent with Samraj's (2002) study in which she found a number of predictions coalescing with Step 1 in Wildlife Behaviour, a discipline that, as the author argues, is concerned with hypothesis testing and modification of previous hypotheses. The paucity or total absence of this step in some disciplines of the Humanities/Social Sciences has been reported, for example, by Yang and Allison (2004) in Applied Linguistics, and Afros and Schryer (2009) in Language and Literary Studies. However, no instances of this step have been reported in other experimental disciplines, such as Biochemistry (see Kanoksilapatham, 2005) or Medicine (see Nwogu, 1997), whereas in Educational Psychology, Loi (2010) found that in 75% of the English texts analysed the writers introduced a long list of research hypotheses which were later considered in the discussion section. The results obtained in these studies indicate that the experimental/non-	Move 5 – Step 2

Continued

Text	Moves & Steps
-experimental dichotomy is not a sufficient predictor of occurrence or non-occurrence of this step and,	
therefore, disciplinary variation must be studied in more precisely defined terms.	Move 8 – Step 1
The fact that we found fewer instances of this step in the Spanish subcorpus analysed here also points to the existence of cross-cultural variation.	Move 5 – Step 1
Mur Duenas (2010) arrived at the same results in her analysis of English and Spanish Business Management RA Introductions: Whereas all the Introductions in English tended to conclude with statements of hypotheses or expectations, only half of the papers in Spanish included instances of this step. Loi (2010) has also reported a higher frequency of this step in the English texts analysed as opposed to the Chinese Introductions in which no instances of hypotheses were found.	Move 5 – Step 2
Turning to the results obtained from the analysis of the two promotional strategies associated with Move 3, the frequent number of occurrences of statements of principal outcomes (Step 3) found in the Clinical and Health Psychology and in the Dermatology Introductions (mainly in the English subcorpus) contrasts with the fewer instances of this step in the Political Philosophy and Political Science texts.	Move 4
This seems to confirm that the persuasive practice of highlighting principal findings is more prevalent in the Experimental and Health Science texts than in the Humanities/Social Sciences, as reported in previous studies. Swales and Feak (2004), for example, have observed that physicists include these statements in half of the Introductions in their corpus. Berkenkotter and Huckin (1995) have pointed out an increasing number of authors' main findings at the end of the last century in Biology article Introductions. Anthony (1999) has also	Move 5 – Step 2

Continued

Text	Moves & Steps
reported a widespread use of this step in Software Engineering papers, as do Posteguillo (1999) and Shehzad (2010) in Computer Science. Shehzad further suggests that Step 3 should be seen as obligatory in such disciplines. In contrast to these findings, Swales and Feak (2004) and Yang and Allison (2004) found that researchers hardly ever include such statements in RAs in the discipline of Education. The same results have been reported in other Humanities disciplines (see, for example, Afros & Schryer, 2009).	
Similarly, the higher incidence of occurrence of Step 4 (Stating the value of the research) in the Health Science Introductions, and more markedly in the English texts, indicates disciplinary and cross-cultural variation in terms of rhetorical promotion.	Move 5 – Step 1
Although statements about the value of the research are not predominant in some disciplines such as Business Management (see Mur Dueₔas, 2010), in other disciplines such as Software Engineering the step has become obligatory. Anthony (1999), for example, found instances of this step, which he called 'evaluation of research', in his corpus. This was mainly realised in his study by stressing the applicability and novelty of the research. In the closely related field of Computer Science, Shehzad (2010) also found a high occurrence of statements used to enhance the significance of the work presented, many of them embedded within Step 3 (Principal findings). Despite the high degree of rhetorical promotion that such statements involve, the inclusion of Step 4 has not been reported in most of the studies carried out so far across disciplines and languages. It thus remains unclear whether the paucity of this step detected by earlier studies is due to the evolution of the genre itself or to the fact that most previous genre-	Move 5 – Step 2

Continued

Text	Moves & Steps
analytic research has been based on Swales' (1990) model, in which he did not include this step as part of Move 3.	
Whatever the case, the similarities and differences across disciplines that the above studies reveal point to the fact that further attention needs to be paid to the rhetoric of individual subdisciplines in particular languages at the level of step analysis.	Move 8 – Step 1
Research article title: Student preferences vis-à-vis teacher feedback in university EFL writing classes in Japan *(ST7)*	
The results of the analyses indicated that although students had some experience with the tasks queried, they perceived a relative dearth of competence in those tasks. For the longer and more complex tasks such as writing a 5-page report, the respondents indicated lower levels of proficiency and experience that corresponded with higher levels of anxiety.	Move 4
The modest proficiency and experience levels highlight one shortcoming of secondary education in Japan, in which participants seldom (if ever) write lengthy compositions. This also might reflect a somewhat limited level of competence with word-processing software, a not uncommon reality with Japanese university students (Lockley, 2011; Murray & Blyth, 2011). In the courses taught, considerable time was necessary to enhance the participants' basic ability to manipulate Microsoft Word, and few students were proficient typists.	Move 5 – Step 3
Second, participants indicated a strong preference for direct, detailed feedback,	Move 4
a finding which corresponds with earlier findings that students prefer to have all surface-level errors corrected to the largest extent possible (e.g., Radecki & Swales, 1988). Furthermore, Timson et al. (1999) found that 1228 EFL learners at nine Japanese universities strongly	Move 5 – Step 2

Continued

Text	Moves & Steps
endorsed the notion that error correction is "necessary and desirable" for increasing L2 proficiency.	
Indeed, such results contravene that veteran teacher's anti-feedback sentiment and likely reflect the propensity in primary and secondary education in Japan to provide detailed feedback to students.	Move 5 – Step 4
Participants were, however, considerably less enthusiastic about indirect feedback,	Move 4
a finding which suggests its use might be counterproductive in spite of the benefits of negotiating meaning found in previous research (Ellis, Tanaka, & Yamazaki, 1994; Gass & Mackey, 2006; Long, 1996). Moreover, the time invested in addressing indirect feedback could be perceived as an extravagant use of a limited commodity (recall that the participants in this study received a scant 75 minutes of writing instruction per week). *Responses regarding affective reactions to feedback indicated that many students exhibited a well-grounded, mature manner when dealing with feedback. The level of maturity of students has been implicated in success in learning outcomes (Young, 2000), and the even-keeled responses here indicate that corrective feedback is neither problematic for these particular students nor a source of potential concern for the instructor.*	Move 5 – Step 1
The color of the feedback was viewed somewhat ambiguously, with only a slight preference for red over blue among males. The primary concern was apparently an eminently practical one far removed from any worries about affect: as noted by one student, "Any color for feedback is OK as long as it's easy to see."	Move 4

Continued

Text	Moves & Steps
Concerns expressed regarding the color of corrective feedback (e.g., Elliot et al., 2007) thus appear to warrant less attention in this context than in such venues as North America.	Move 5 – Step 2
Regarding the mode of feedback, students indicated a strong preference for handwritten feedback over e-feedback,	Move 4
which is likely a relic of the handwritten correction provided throughout primary and secondary education in Japan.	Move 5 – Step 3
Furthermore, feedback written directly on their manuscript was much preferred to feedback provided on a separate paper.	Move 4
Actions taken with feedback were informative yet somewhat disappointing.	Move 5 – Step 4
The participants did relatively little with feedback beyond sometimes reading it and making notes on their corrected papers; revisions and asking questions about the feedback occurred less frequently. Even though one group was required to revise and the other was not, the two groups were statistically indistinguishable regarding actions taken with feedback.	Move 4
This was a somewhat surprising finding	Move 5 – Step 4
because it suggests that there is an underlying level – indeed, a somewhat moderate level – at which students exerted themselves upon receiving feedback. Thus, although feedback was strongly desired, rather minimal action was taken with it regardless of whether revision was required or not.	Move 5 – Step 1
One possible explanation is that students had limited experience using feedback,	Move 5 – Step 3
which suggests that training and practice using feedback would be prudent (Min, 2005, 2006; Ross, 2006).	Move 8 – Step 1

3.3.3 The validation of data analysis findings

As previously mentioned, conducting move analysis involves subjective judgement. To enhance the coding reliability, multiple coders need to be employed. An inter-coder reliability assessment must also be conducted to ensure that the coding scheme developed is reliable and different coders can produce the same textual boundary demarcation using such coding scheme. The next section will thus discuss the coder selection and the calculation of inter-rater reliability.

3.3.3.1 Coder selection

Since there are many factors that can affect the interpretation of the moves and steps and the agreement of the coding, such as the coder's background and the coding scheme, another coder should be carefully selected.

In this study, the coder (apart from the researcher) who was selected for the task is a university lecturer, an assistant professor, teaching in a graduate school. She holds a doctoral degree in Applied Linguistics. She specializes in discourse analysis and has done many pieces of research regarding move analysis. The selected coder is qualified for the task as she is an expert member in applied linguistics and she also possesses extensive experience knowledge in writing and reading English research articles. Besides, she has done research on move analysis herself and she has been helping other researchers assessing a coding scheme and move analysis findings.

3.3.3.2 Inter-rater reliability

Owing to the length of the discussion section, only 15 pieces of the research articles (around 15 percent of the corpus) were randomly selected for measuring inter-rater reliability.

Agreement rate or percentage agreement was used in this study to report interrater reliability. It was selected because it is simple and it is widely used among research on move analysis (e.g. Pasavoravate, 2011 and Kanoksilapatham, 2005) to test the interrater reliability. It is computed by multiplying the total number of coding in which the researcher and the coder agreed by 100 divided by the total number of units coded. The calculation revealed that the agreement rate of this data analysis is 94.68 per cent. This means that the two coders are in good agreement with each other.

Because of the limitation of percentage agreement which is the inability to account for chance agreement, the kappa statistic was also used in this study to confirm the interrater reliability. The kappa was introduced by Jacob Cohen in 1960. It was developed to take into account the possibility that coders actually guess on at least some variables due to uncertainty. The kappa value can range from 0 to +1. The higher the value of kappa, the stronger the agreement and this means that perfect agreement exists when Kappa equals 1. Following Altman (1991), the kappa value can be used to interpret the strength of agreement as follows: $k < 0.20$ = poor, $0.21 - 0.40$ = fair, $0.41 - 0.60$ = moderate, $0.61 - 0.80$ = good, and $0.81 - 1.00$ = very good. The Kappa coefficient of this data analysis is 0.94. The value shows that the agreement between the two coders is very strong. To sum up, the agreement rate and the kappa have shown that the demarcation of move boundaries between the two coders is reliable.

This chapter has described how the data were collected, how the coding scheme was developed and how the reliability of the research results was managed. The next chapter will present the findings from the analysis of the corpus.

CHAPTER 4
RESULTS

4.1 Overview

This chapter presents the findings obtained from the analysis of the corpus. It describes the structure or organization of the research article discussion sections in second language writing. The moves and steps used in the data are discussed in detail with examples extracted from the corpus. It also reports the frequency of each move and step and identifies obligatory moves, conventional moves, and optional moves. Besides this, this chapter presents the arrangement of moves in discussion sections and reveals the preferable patterns or sequences of moves used in research article discussion sections.

4.2 The structure of research article discussion sections in second language writing

The first research question aims to find out how the characteristics of the textual organization of research article discussion sections in second language writing can be described. The corpus of 103 research article discussion sections were analyzed to identify moves and steps to answer this question.

The analysis of the corpus reveals that research article discussion sections in second language writing can be described with 8 moves. These moves are Move 1 (Providing background information), Move 2 (Managing the section), Move 3 (Summarizing results), Move 4 (Reporting results), Move 5 (Commenting on results), Move 6 (Summarizing the study), Move 7 (Evaluating the study) and Move 8 (Making deductions). There are 3 moves which contains steps. These moves are Move 5, Move 7 and Move 8. The following section describes the characteristics of each move and step in details to give answer to the first research question.

4.2.1 Move 1: Providing Background Information

Move 1 (Providing background information) was used to remind readers of important information in the study which could facilitate comprehending and following the discussion and provide background information or knowledge which was relevant to specific results being presented and discussed. The important information restated in this move included research questions, research aims and scope, research gaps, methodological information such as research settings, procedures, instruments and hypotheses, and theories or previous studies (with an intention to give background knowledge and lead to reporting results but not to compare and contrast findings).

Move 1 often appeared as the first move at the beginning of the discussion section, but it could also occur in other parts of the section. It was a frequent move, but it did not exist in all research article discussion sections. It could appear only once or many times in a section. Mostly, this move preceded Move 4 (Reporting results). However, it could also be found followed by Move 5 (Commenting on results), Move 3 (Summarizing results), Move 7 (Evaluating the study), Move 8 (Making deductions), and Move 2 (Managing the Section). The following excerpts are the instances of Providing background information move.

The first excerpt shows all Providing background information moves in one discussion section. They restated research questions and the number of the moves equaled the number of the research questions. However, this was not always the case. When Move 1 was employed to repeat research questions, the move did not necessarily appear as many times as the number of research questions. The second excerpt illustrates how research aims were repeated in Move 1.

1) - *To summarize the study findings in light of the four research questions posed, **the first research question asked** if L2 learners notice problems in their IL while writing and, if they do, what they find problematic.*

   *- Given the occurrence of these two types of problems, **our second research question asked** whether there is any difference in the learners' noticing and uptake of solutions to overt and covert problems.*

- What kind of input should be provided to learners after their output attempt? This is the issue addressed in our third research question, which asked the utility of two feedback tools: a native-speaker model written on the same writing prompt as is given to the learners, and reformulations of learners' original writing in which IL uses of language in the learners' writing are rendered more targetlike.

- Our fourth research question asked whether there is any difference in the learners' noticing and uptake of solutions from the model and the reformulation when they are provided to them after their output attempt. (JSLW13)

2) *The main goal of this study was to establish* the extent to which a focus on achieving clarity results in AP journal articles which can be clearly distinguished from those in CP, particularly in terms of such features as self- mention, vocabulary variation, average sentence length, and use of directives, particularly imperative forms. Based on the consistence with which AP philosophers view their work as being similar to scientific inquiry, *a secondary aim was to compare* the use of these features in AP texts not only with that in similar philosophy corpora but also in scientific texts, as reported in the literature. (JEAP13)

Excerpt 3 is an instance of Move 1 (Providing background information) which was used to briefly review previous studies and indicate research gaps before discussing results. Excerpt 4 is an instance of Move 1 which contained a research aim, short review of literature to create research space and methodological information regarding data collection.

3) *There are often high expectations for student writing at postgraduate level and these commonly include the expectation that writing is coherent. This expectation is often reflected in the criteria with which student writing is assessed. The association between coherence and subjective measures of writing quality has been suggested in previous statistical research (McNamara et al. 2010). However, **empirical study of the means by which coherence can be achieved in student writing has been limited**. Based on observations of student writing in an argumentative writing task, **the present study illustrates** ways student writers' use of two discourse features in their responses to an argumentative writing task helped guide the reader (or not) to re-create coherence. (JEAP14)*

4) ***This study examines how*** *the texts of different genres lead to different summarization performances. Genre is one of the characteristics of test methods that are used to assess test performance. The usefulness of examining specific facets of a single test method has been highlighted because test performance is affected by the characteristics of the methods (Bachman & Palmer, 1996). **To seek answers to the three research questions formulated in this study, data were collected from three sources**: participants' summary scores, their written summaries, and their perceptions of task difficulty and completion. (AW10)*

4.2.2 Move 2: Managing the section

Move 2 (Managing the Section) was employed by the writers to announce how the whole of the discussion section or some part of the section would be constructed. It was used to inform the readers explicitly how the writers arranged the order of the content, and how the content or argument in the section was developed. It

was also used by the writers to inform the readers the scope or the focus of the content in the discussion section. This move was not reported before in the literature. However, it was not a frequent move. Because of the low rate of occurrence, it cannot be concluded where exactly this move appeared. However, from the observation of the existing data, this move was usually found in the opening paragraph of the section. It could appear as the first move or in other positions of the paragraph. When it was the first move, it was usually followed by Move 4 (Reporting results) or Move 5 (Commenting on results). When it occurred in other position, it was found following Move 1 (Providing background information) and Move 3 (Summarizing results), but still preceding Move 4 or Move 5.

The following excerpts from the data illustrate instances of Managing the section move. The first excerpt shows how the writer utilized the move to announce how s/he arranged the order of the content, and how it followed Move 1 (Providing background information) and preceded Move 4 (Reporting results). The second except exemplifies how the writer employed this move to tell the readers directly how s/he developed the argument. In this case, the writer stated explicitly that the explanation for the findings could be found in the following content and that his/her argument was developed based on two theories. The third excerpt illustrates how this move was used to announce the scope or the focus of the content in the discussion section.

1) *The purpose of the current study was to provide empirical evidence concerning differences in the writing ability of IL2 and G1.5 learners. Research questions concerned whether the two groups exhibited different strengths and weaknesses in five components of writing ability, and the specific nature of any observable differences. //Move 1//* **After interpreting the findings** *from the initial whole-group analysis,* **the discussion will focus on** *the findings from the separate-group analyses for each of the five writing components individually. //Move 2//*

An initial whole-group MFRM analysis indicated that the IL2 learners, as a group, performed better than the G1.5 learners, as

the IL2 group's mean score placed them higher than the G1.5
group on an equal-interval logit scale representing ability levels.
//Move 4// (AW4)

2) *Differences in the three groups' performance **will be explained***
   ***below from the perspective of** cognitive and skill-based theories*
   of language acquisition. (AW12)

3) *In this section, **we will focus on** the pedagogical implications*
   from this research. (JSLW31)

4.2.3 Move 3: Summarizing results

Move 3 (Summarizing results) was utilized to summarize the main findings. The summary of the results referred to both when the writers reported many results in one time or presented integrated results based on many specific results. This move occurred only once in the section. It was likely to appear at the beginning of the section. It was found as an opening move of the section. In addition, it was found following Move 1 (Providing background information) and Move 7 (Evaluating the study), but preceding Move 4 (Reporting results). Summarizing results move could also appear in other part of the section, such as towards the end or at the end as a closing move; however, this case was rare. Despite the presence of Summarizing results move, each specific result was still restated and then commented. The following examples exemplify the use of Move 3 found in the corpus.

1) ***The overall findings indicate** that Thai articles are of lower*
   quality than international articles, especially in the literature
   review and discussion sections (in line with Flowerdew, 2001;
   Pérez-Llantada et al., 2011; Pupipat, 1998), and in terms of
   justification, awareness and coherence. For all categories, the
   Thai articles are overall rated more poorly than the international

articles and this disparity is particularly noticeable in the seven categories shown in Table 5. (JEAP4)

2) ***Overall, findings reveal that*** *in its use of these features, AP differentiates itself from CP and aligns with scientific inquiry by means of accomplishing its notion of clarity in similar ways. (JEAP13)*

3) ***In summary, the results demonstrate that*** *L2 writers use less sophisticated lexical features (i.e. more generalizable words that are less ambiguous) and less sophisticated morphological features (i.e., less stem overlap) than L1 writers. In contrast, the trend reported for our lexical diversity index patterns counter to expectations and may indicate differences in general rhetorical strategies (i.e. stylistic and structural choices) between L1 and L2 writers. (JSLW8)*

4.2.4 Move 4: Reporting results

The function of Move 4 (Reporting results) was to state the findings that were previously reported in the Results or Findings section of the research articles. It could appear in any part of or throughout the discussion section. It typically followed Move 1 (Providing background information) where research questions, aims and methodology related to the results to be reported were restated, and it also preceded Move 5 (Commenting on results) creating a reporting-commenting on results pattern where results were reported and then commented.

This move was frequent. It appeared in almost all of the research articles. The findings were usually presented in order of research questions or the degree of their interest and importance. Emerging interesting findings which were beyond the focus of the study were also reported but often presented towards the end of the section, after all major findings were discussed. The following are some examples of Move 4 from the corpus.

1) ***The results of the study showed that*** *analytic and overall DELA writing scores did not change significantly after one year of degree study. (AW7)*

2) ***The investigation of time indicated that*** *the control group did not demonstrate any improvements across the three writing tests. (ST19)*

3) ***FL writers were found to display*** *lower levels of clausal complexity as indicated by the variables of clause length, but in terms of the mean number of words before main verbs and sub-ordination complexity no differences between L1 and FL narratives was observed. (JSLW4)*

4) *Further, although linguistic features were not the focus of the present study,* ***it seems pertinent to point out that*** *only two reviews in BP use the first person singular conjugation (and one of these was the American author). (JEAP8)*

4.2.5 Move 5: Commenting on results

The writers used Move 5 (Commenting on results) to provide their comments on the findings. This move occurred in all of the 103 research articles. It appeared many times in a section. It usually followed Move 4 (Reporting results). This move was characterized by 4 steps: Interpreting results, Comparing results with literature, Accounting for results and Judging results.

4.2.5.1 Move 5 Step 1 Interpreting results

In this step, the writers attempted to grasp the meaning of the findings and make claims or generalizations based on particular findings. It was mostly found right after Move 4 (Reporting results). It appeared alone or coincided with the other steps or strategies, located both before and after the other steps. However, the position in which Step 1 was most likely to occur when it was accompanied with the

other steps was before Step 2 (Comparing results with literature) and Step 3 (Accounting for results). The following are some examples of Move 5 Step 1.

1) ***It would appear*** *then that the learners did not tend to use the specific structures that they received WCF on in the new contexts, but rather generalized the WCF to new contexts using different weak verb structures. (ST19)*

2) ***This means that***, *although raters were explicitly trained to evaluate essays on the range of lexis used, they did not follow the rating scale in this respect. (AW5)*

3) ***This finding suggests that*** *all students, independently of their self‑reported preferences for collaborative or individual work, may benefit from collaborating with their peers. (JEAP12)*

4) ***The roughly equal reference to both the research and real world entities indicates that*** *in such an applied discipline as AL, both research and practitioner interests are taken into due account. (JEAP19)*

4.2.5.2 Move 5 Step 2 Comparing results with literature

The purpose of this step was to relate the findings of the current study to the existing knowledge in the field. To comment on results using Move 5 Step 2, the writers compared and contrasted the current research findings with views, theories and/ or findings from previous work. The writers indicated consistency or inconsistency of findings with literature and discussed their similarities and differences. This move tended to come right after Move 4 (Reporting results). It was also often found after Move 5 Step 1 (Interpreting results), occasionally after Move 5 Step 3 (Accounting for results). Below are the instances of Move 5 Step 2 from the corpus. Excerpts 1 and 2 illustrate how the results of the current studies were compared with views in the literature and Excerpts 3-5 illustrate how the writers indicated whether the

results of the current studies were in line with or against the results from previous studies.

1) *That the professionals were concerned with all four dimensions of genre knowledge **lends support to Tardy's (2009) argument** for genre expertise as an integration of all the formal, process, rhetorical, and subject-matter dimensions of genre knowledge. (ESP8)*

2) *This finding, therefore, **may offer support to Kellogg's (1996) prediction** that verbal reporting may interfere with the quality of translating. (JSLW24)*

3) ***These findings are inconsistent with findings reported by others** who reported improvements on band scores even after one semester of study (e.g. Storch, 2009; Storch & Hill, 2008). (JSLW32)*

4) ***This equilibrium follows analogous findings reported in studies** conducted in such disciplines as Economics (Shaw, 2003; Lindeberg, 2004) and Enviromental Sciences (Samraj, 2002, 2005). (JEAP19)*

5) ***Our results support those of Sullivan and Hall (1997)**, who, like us, found that self-assessors tended to overrate themselves. However, our results contradict those of Chen (2008), Matsuno (2009), Brown (2005) and Leach (2000) who indicated that the self-assessors in their studies tended to underrate themselves. (AW2)*

4.2.5.3 Move 5 Step 3 Accounting for results

This step was employed to provide reasons for the reported findings. The writers indicated what could possibly cause the findings of the study to turn out a certain way. They usually gave 1 - 3 reasons for particular results. Their explanations could derive from their own views or their analysis of the situations or from literature. Evidence and examples were also provided to support and strengthen their explanations. This step mostly appeared right after Move 4 (Reporting results). It could also often be found following Move 5 Step 2 (Comparing results with literature) and Move 5 Step 1 (Interpreting results). It occasionally followed Move 5 Step 4 (Judging results). The following excerpts are some examples of Move 5 Step 3. Excerpt 1 illustrates how explanation was drawn from literature. Excerpts 2 and 3 are examples of how the writers drew their explanation from their view and analysis of the conditions. Excerpts 4 and 5 are examples of how the writers provided many possible explanations for the results obtained.

1) ***Justification for this link lies in*** *AP's seeming reluctance to use more threatening (and arguably more audience engaging) modal directives (such as must) when compared with CP. Silk (2013: 2) elaborates, noting that for the AP philosopher, must is appropriate only in rare cases where one can 'commit to settling on the truth of [the] assertion for the remainder of the conversation'. Imperatives are therefore used less to engage with the audience and more to accomplish precision regarding certainty of thought, in a way similar to the hard sciences. (JEAP13)*

2) ***Why did this happen for hypothetical conditional but not for the indefinite article? The explanation may lie in*** *the nature of the task. This required them to revise both structures in the same text. Given that the indefinite article contributes little to the meaning of the text it is likely that the learners paid little attention to it (i. e. , they just mechanically copied in the*

corrections). The hypothetical conditional sentences, however, were central to the meaning of the text and this structure was morphologically complex, leading the learners to pay close attention to the corrections. (ST16)

3) **The increase in fluency in the current study could be attributed to** *the fact that over the three years, participants had writing opportunities inside and outside the academic context (e.g. using social media) and thus had not only a greater word knowledge to draw on when writing but also increased efficiency in retrieving this vocabulary. (JSLW32)*

4) **The adjustment of writing behavior engendered herein could be actualized possibly because** *the contention for WM resources was presumably less keen in post-executing monitoring.* **It may also be attributed to** *the peripheral status of dysfluencies as a measure of fluency, which, externalized as the extent of neatness and legibility in handwriting, is very marginally, if not rarely, included in a scoring scheme. L2 learners would make as many cross-outs and reformulations as they thought necessary and sacrifice this aspect of performance for what they thought were central concerns, for example, meaning conveyance and formal accuracy. (JSLW24)*

5) **This is because** *AL is primarily concerned with solving "problems in language in social use" (Brumfit, 1987, p. 3), and derives many of its research topics directly from real world needs, such as problems in learning a language, newly emerging language phenomena in everyday life, difficulties and challenges in language teaching and learning, etc. This need to solve real world issues entails an emphasis on the utility of research to the real world.* **In addition,** *not to mention that most authors are themselves both practitioners and researchers, readers of*

journal articles in applied disciplines may be researchers, teachers, translators, educators, policymakers, and many other practitioners. Academic writers in AL seem to know this well and are correspondingly able to strategically promote their research by catering for the interests of such a wide readership. (JEAP19)

4.2.5.4 Move 5 Step 4 Judging results

In this move, the writers judged a specific finding by expressing their opinions regarding the quality, value or trend of the finding obtained. The writer, for example, evaluated a particular finding in terms of its strengths and weaknesses resulted from the instruments or measures used, discussed and expressed their concerns about the extent to which a particular finding can be interpreted and generalized, highlighted the values of a particular finding in the field, and identified the trend of a particular finding whether it was positive or negative and whether it was expected or unexpected and surprising based on general expectations in the field or the writer's own expectations. Move 5 Step 4 tended to appear right after Move 4 (Reporting results). Also, it could often be found after Move 5 Step 2 (Comparing results with literature) and Move 5 Step Step 1 (Interpreting results). The excerpts below are instances of Move 5 Step 4. Excerpt 1 illustrates how the strengths and weaknesses of particular findings were discussed. Excerpt 2 illustrates how writers talked about their concerns about the extent to which a particular finding can be generalized. Excerpt 3 shows how a writer judged the value of a specific finding. The examples of how writers identified the trend of a particular finding are shown in Excerpts 4 and 5.

1) *When interpreting the verb errors that Generation 1.5 students produced in the current study, **it is worth bearing in mind** that **the writing prompt** encouraged students to use **a rather complicated past unreal conditional** (e.g., would have studied). The verb error patterns that emerged were **undoubtedly influenced by** the prompt and may not have been as pronounced with a different prompt. Differences in writing prompts, then, **may highlight or minimize some of the verb error patterns** that*

*can appear in Generation 1.5 writing. Still, because this prompt was chosen by instructors to elicit students' final exam assignment, differences found that are related to **this prompt can be considered valid**. (JSLW9)*

2) **We acknowledge that our claim regarding lack of grammatical complexity is limited to** *the three measures (W/T, C/T and W/C) employed in the current study, and a different picture may emerge, if one employs a different measure of grammatical complexity (e.g.see Lu, 2010). (AW7)*

3) **This insight may be crucial** *as it applies to teaching novice writers who have little experience with writing in different genres in a foreign language. (JSLW3)*

4) **This particular finding is not surprising in light of research** *which has found evidence of increased complexity of output when learners make use of the additional online planning time afforded by text- chat for monitoring and elaboration (Sauro and Smith, 2010). (ST2)*

5) **This can be seen as a positive result** *since this variable was not mentioned in the rating scale and low frequency words are not intended to result in higher lexis scores. (AW5)*

4.2.6 Move 6: Summarizing the study

This move refers to when writers summarized the main points of the whole study. It occurred towards the end of the discussion section, before Move 7 (Evaluating the study). The excerpt below is the only one case that was found in the corpus. The writer briefly described the research scope and reviewed the main findings together with some important methodological information.

1) *The current study identifies meaningful error pattern differences between developmental Generation 1.5 and L1 writers at the tertiary level; however, while nine error types were analyzed, only four point to patterns of significant difference in this writing sample: verb errors, prepositional phrase errors, word form errors, and total identified errors. To move beyond this more general analysis, verb error patterns were further delineated, and qualitative analysis suggested functional differences between Generation 1.5 texts and both L1 and L2 texts. (JSLW9)*

4.2.7 Move 7: Evaluating the study

This move was used to evaluate the strengths and weaknesses of the overall study. It can be realized by 3 steps: Indicating limitations, Indicating significance/ advantage and Evaluating methodology.

4.2.7.1 Step 1: Indicating limitations

Limitations of the overall current research were discussed and acknowledged in this step. The writers usually identified one or more caveats of the study. Issues often mentioned included the limit of the aspects that the current study could explore, the limit of the generalizability and the questions that the current research was unable to answer.

Typically, Move 7 Step 1 appeared only once in the section. However, we could also find a few cases in the corpus where Move 7 Step 1 was used more than once. This step was more likely to appear towards the end of the discussion section. It was also often found in the first paragraph of the section, sometimes as an opening move. This step tended to precede Move 7 Step 2 (Indicating significance/ advantage), Move 8 Step 1 (Making deductions by Making suggestions) and Move 8 Step 2 (Making deductions by Recommending further research). Below are the instances of this step.

Excerpts 1 and 2 illustrate how the writers used this step to acknowledge the limitation of generalizability due to the sample size and the design of the study.

1) **A limitation of this study was the small sample size** of university students in Southern Taiwan, and thus, **these findings may not be generalizable** to other educational settings or to populations with different backgrounds. (ST8)

2) At the outset, **some limitations must be acknowledged**. First, because of the design of this study essentially, an intervention with no control group **we cannot be certain that** changes that students experienced resulted from the writing program itself, or from other, external factors. However (and unfortunately), a design including **a control group was not possible** here, as all students in a given program in a given year were required to follow a uniform program of study. Second, ... (JEAP5)

Excerpt 3 exemplifies how the writers used this step to indicate the limitation of generalizability and discuss the reasons for such weaknesses, and at the end they declared the limit to the aspects that the current study could explore.

3) **The findings of this study should be interpreted with caution**, not only **because of the relatively small size** of the study but also **because of the nature of the writing tasks** used. Had we used more discipline-specific topics in the writing tasks, we may have found some improvements in lexical complexity. After three years of degree study we can assume that the students' discipline-specific vocabulary grew via the extensive reading the students had to do in their degree courses. However, the use of generic tasks did not provide our participants with opportunities to

display their newly acquired discipline- specific vocabulary. Students might have also developed their writing skills in areas not captured by the tasks. Engineering students, for example, might have gained skills in technical writing or report writing and generic writing tasks such as the ones employed by DELA are not able to capture these skills. This is also the point made by Norris and Mancho´n (2012) in their review of studies on L2 writing development. The authors note that research on writing development needs to take into consideration the extent to which the tasks used enable learners to display their knowledge and in turn what it is that researchers can observe about writing development. **Other aspects of academic writing** *(e. g. incorporating sources, development of an authorial voice)* **were also not examined in the current study nor could they be captured by the measures used.** *(JSLW32)*

Excerpt 4 is an example of when the writers employed this step to frankly inform the readers what questions remained unanswered.

4) *From a pedagogical perspective,* **this study leaves unresolved the question of how** *classroom instruction can contribute to genre learning. Students were gaining a measure of explicit genre knowledge (Riley & Reedy, 2000), especially in relation to paraphrasing for their science reports, and may have also been drawing from implicit exposure to written genres (Tardy, 2006). Students' and teachers' responses suggest that significant differences in their genre knowledge remain, however, and it is unknown the extent to which explicit instruction in content area writing might have helped these students write in the genres expected by their teachers. Although some L2 writers may expect such guidance (Tardy, 2006), the adolescents interviewed for this*

study did not express such a desire as they spoke about their writing. (JSLW6)

4.2.7.2 Step 2: Indicating significance/ advantage

The writers employed this step to promote the value of the current study. They achieved this by indicating significance, advantages and contributions of the overall research. The writers, for example, highlighted the strength and quality of the overall findings obtained, benefits and contributions of the research to the field, values of the research, the uniqueness or superiority of the current research comparing with other studies.

This step could appear one or more times in the section, but typically it appeared only once. It was likely to be found both in the first paragraph of the section, sometimes as an opening move, and towards the end of the section or at the end of the section as a closing move. This step seemed to be able to appear after many moves and steps, but it followed Move 7 Step 1 (Evaluating the study by Indicating limitations) most frequently. The following are the examples of Move 7 Step 2 found in the corpus.

1) *However, the heterogenous nature of the sample in this current study **may have better reflected** the variability found in many adult ESL classrooms, in which learners bring with them a wide variety of educational backgrounds and experience with the target language. (ST2)*

2) *. . , **the present inquiry provided considerable detail** about whether, how, and when participants made adjustments to their writing beliefs and practices as a result of reacting to fellow classmates' metaphors. (JSLW22)*

3) *...; **our study contributes to this literature** by demonstrating some of the diverse decisions tutors make about Turnitin reports, such as viewing them as normal or cause for concern. These*

decisions are likely to impact on novice L2 writers who might rely on formulaic phrases. (JSLW31)

4) ***The study also provides insights into*** *the factors that influence students' switching between L1 and L2 in L2 learning.* ***While previous research mainly examined*** *the influences of students' L2 proficiency and task type on the L1 use in pair or small group work (Storch & Aldosari, 2010; Swain & Lapkin, 2000; Storch & Wigglesworth, 2003; Thoms, Liao, & Szustak, 2005),* ***our study shows that a number of factors*** *can exert influence on the use of L1 in peer written feedback. Factors such as student beliefs and goals ... (ST12)*

4.2.7.3 Step 3: Evaluating methodology

In this step, the writers evaluated the methodology used in the whole study and discussed its strengths and weaknesses. It occurred one time or more in the discussion section, but usually it occurred only once. The position of this step is inconclusive; however, the analysis from the data available revealed that it tended to co-occur Move 7 Steps 1 and 2 either before or after. The instances below illustrate how the strengths and weaknesses of research methodology were raised and elaborated.

1) *While the study results are based on the researcher's interpretation of the professionals' comments on the students' writing,* ***the issue of subjectivity is minimised*** *through the adoption of two main strategies. First, the coding scheme was developed* ***with reference to relevant literature*** *(see Section 2). Second, the categorisation of the comments was* ***based on the professionals' own explanations which helped validate the interpretation*** *adopted. For example, the professionals' attitudes towards BELF were derived from their use of the derogative term ''Chinglish'' and explicit comments on instances of Chinglish in the students' writing. (ESP8)*

2) ***There are some potential confounding variables that could affect*** *the students' improvement, such as the inconvenience of using computer and internet connection problems, might exist. (ST8)*

3) *The use of stimulated recall **was especially well suited to** capturing the way in which strategies were thus combined. (ST18)*

4) *From a research point of view, **the choice of a three-term design was justified**, as it took months for the group as a whole to understand what metaphors were, to create/find them, to engage critically with them and to change their own writing practices. (JSLW22)*

4.2.8 Move 8: Making deductions

In Move 8, the writers extended their discussion beyond the research results. Deductions could be made based on specific results/issues or overall research. It can be realized by 3 steps: Making suggestions, Recommending further research and Drawing pedagogical implications.

4.2.8.1 Step 1: Making suggestions

The writers in the corpus used this step to suggest possible alternatives, actions or solutions that could be used to deal with the problems or concerns raised in the research. It occurred one time or more in the discussion section. It was unlikely to appear at the beginning of the section. This step was often found from the middle to the end of the section, and it was likely to be towards the end of the section or at the end of the section as a closing move. As deductions could be made by considering specific results, it was often found after specific findings were presented and commented. According to the corpus, it often preceded Move 4 (Reporting results) and followed Move 5 (Commenting on results), especially Move 5 Step 2 (Commenting on results by Comparing results with literature and Move 5 Step 3 (Commenting on

results by Accounting for results). Surprisingly, it rarely co-occurred with the other steps in the same move. Below are the instances of Move 8 Step 1 illustrating how the writers in the corpus made deductions by making suggestions.

1) **There is a way of resolving this conflict**, however. While authors in peripheral countries such as Thailand may still conduct research related to their local interests, ... (JEAP4)

2) Authors who seek help from an English **teacher should be aware** that the teacher may hope and need to engage them in the editing process. (JEAP6)

3) An independent measure of language proficiency **would be needed** to determine the direction of any relationship between scores and borrowing, particularly excessive or inappropriate borrowing. (JSLW11)

4) The analysis of group differences **may provide support** for this claim as the use of ANCOVA can account for initial pre-test differences. (ST19)

5) ... . **The point is to minimize the biases by preventing** teachers from making direct judgements on peer feedback prior to tapping comparative perceptions. Drawing on student perspectives that are less prejudiced, researchers should be able to identify merits and shortcomings of peer feedback more genuinely voiced by learners. (ST20)

4.2.8.2 Step 2: Recommending further research

This step was utilized to propose topics or issues that could be explored and investigated in the future. The analysis of the corpus revealed that this step could occur more than one time in the section. Typically, this step appeared towards the end or at the end of the section. It was often found in middle of the section

but never at the beginning. Similar to Move 8 Step 1, this step tended to occur after Move 5 (Commenting on results). However, recommendations could be made based on both specific results/ issues and the overall research. Another position in which this step was likely to appear was after Move 7 Step 1 (Evaluating the study by Indicating limitations). The writers suggested possible ways to deal with the shortcomings identified in their research. The examples of Move 8 Step 2 taken from the corpus are shown below.

1) *Although it was beyond the scope of the current study, **it would be interesting to explore in future studies** how collaboratively- and individually- oriented students interact when asked to work with peers who have either a similar or different orientation. (JEAP12)*

2) *With regard to students from other legal systems (and therefore most likely from a different L1 background), **it would be very interesting to have empirical evidence** for whether there is indeed a convergence of writing norms between native and non- native speakers attending the same Master's degree program. **Additional studies could also be done** for the more professionally- oriented legal exams so that a full spectrum of writing development would then be available. Finally, instances where 'that' was a high frequency semi- technical term in other disciplines **would also merit study**, in order to gain an insight into attribution and averral practices in additional fields. (ESP14)*

4.2.8.3 Step 3: Drawing pedagogical implications

    The analysis of the corpus revealed that the writers employed this step to provide pedagogical implications or discuss how the research could be useful to teaching and learning. This step was used one to two times in the section. It never appeared at the beginning of the section. It usually occurred from the middle of the section till the end, more often towards the end or at the end of the section. Similar to Move 8 Step 2, this step was frequently found after Move 5 (Commenting on results). The implications could be provided based on both specific results and the overall research. The following are the instances of Move 8 Step 3.

1) ***The findings bear implications for teaching*** *NNES students in English-medium higher education. First, to assess learning, in addition to essay questions, content teachers…(JSLW16)*

2) *Despite the limitations,* ***this study's findings provided significant implications for FL writing pedagogy****. Of particular note is that language learning can be pushed in the process of (JSLW30)*

3) *We now turn to a brief* ***discussion of the implications of our study for the teaching and testing of writing****, particularly to multilingual speakers. The results of the study suggest that… (JEAP17)*

4) ***A possible implication of this both for second language acquisition research in general and for the study of writing*** *in particular might be that in addition to the traditional three aspects of task-based performance that are juxtaposed with task based research – fluency, accuracy, and complexity – the competition of attentional resources in writing tasks should also be considered with regard to cohesion, writing fluency, accuracy, and complexity. (JSLW4)*

4.3 Frequency of occurrence

The second research question concerns the frequency of occurrence of each of move and step. The analysis done to answer this research question will reveal the function of the research article discussion sections in second language writing and indicate which move is optional, conventional and optional. These findings will suggest what kind of content was emphasized by the expert writers in this discipline and what kind of content was less important. The answer to this research question is given below.

Table 4.1 Overall frequency of the moves and steps

Moves & Steps		Frequency of occurrence		Percentage	
Move 1: Providing background information		66		64.08	
Move 2: Managing the section		17		16.50	
Move 3: Summarizing results		29		28.16	
Move 4: Reporting results		98		95.15	
Move 5: Commenting on results	Step 1: Interpreting results	87	103	84.47	100
	Step 2: Comparing results with literature	89		86.41	
	Step 3: Accounting for results	89		86.41	
	Step 4: Judging results	46		44.66	
Move 6: Summarizing the study		1		0.97	
Move 7: Evaluating the study	Step 1: Indicating limitations	37	54	35.92	52.43
	Step 2: Indicating significance/ advantage	39		37.86	
	Step 3: Evaluating methodology	9		8.74	
Move 8: Making deductions	Step 1: Making suggestions	41	73	39.81	70.87
	Step 2: Recommending further research	33		32.04	
	Step 3: Drawing pedagogical implications	41		39.81	

In the corpus of 103 research article discussion sections, the move that occurred most frequently with 100 percent of occurrence was Move 5 (Commenting on results). Following the classification of move by Kanoksilpatham (2005) as mentioned in Chapter 3, it was considered an obligatory move. This move was realized by four steps which were Interpreting results, Comparing results with literature, Accounting for results and Judging the results. Step 2 and Step 3 were equally used to comment on the results. The percentage of occurrence were both 86.41%. Step 1 (Interpreting results) appeared less frequently. It was found in 87 discussion sections (84.47%). Judging

results was used least frequently. It was found in only 46 discussion section, which was 44.66%.

The second most frequent move was Move 4 (Reporting results). It appeared in 98 research article discussion sections (95.15%). Even though Move 4 did not appear in all the discussion sections in the corpus, it appeared more than 60%. It was thus classified as a conventional move for writing research article discussion section in second language writing.

The next most frequent moves in the corpus were Move 8 (Making deductions) and Move 1 (Providing background information). The former appeared in 73 discussion sections which was 70.87% of the cases. The latter appeared in 66 discussion sections which was 64.08%. Since the percentages of occurrence of the two moves exceeded 60%, they became conventional moves for writing research article discussion sections in second language writing.

The moves that were least used were Move 2 (Managing the section) and Move 6 (Summarizing the study). The frequency of occurrences of Managing the section was only 16.50% or this move was found in only 17 discussion sections. Summarizing the study was the least frequent move. It was found in only 1 research article discussion section, which was 0.97% of the corpus.

4.4 Arrangement of the moves

The last research question concerns the arrangement of moves. The arrangement of moves was investigated in order to find out how the expert writers prefer to arrange the content or information in the research article discussion section in second language writing. The analysis of the corpus revealed that there was no uniformity in the sequence of moves used in the corpus. The moves seemed to be able to appear in any parts of the discussion sections and in any sequence and form different patterns in all 103 pieces of data. Some moves were used only once in the section. These moves were Moves 2, 3 and 6. There were 5 moves that were used many times. These moves were Moves 1, 4, 5, 7 and 8.

The analysis of the frequency of move occurrence could only tell where a certain move was likely to appear, whether it tended to appear at the beginning as an opening move or at the end as a closing move, and which move followed or preceded it. The following section discusses which moves were likely used to open and close the research article discussion sections and the sequence of moves which most likely occurred throughout the section.

4.4.1 Opening and closing moves

As seen in Table 4.2, all moves could be used to open the research article discussion sections in second language writing, except Move 6 (Summarizing the study) and Move 8 (Making deductions). However, Move 1 (Providing background information) was most frequently used to start the sections.

Table 4.2 The occurrences of moves in the opening and closing positions

Moves	Opening move	Closing move
1	48	0
2	7	0
3	9	3
4	25	6
5	6	27
6	0	0
7	8	15
8	0	52
Total	103	103

When Move 1 was used as an opening move to provide background information to the readers, it was then followed by results of the study which were Move 3 (Summarizing results) or Move 4 (Reporting results). Move 1 appearing in this position was usually to provide background information of overall research such as aims and methodological information and restate all research questions, not mentioning only a particular research question like Move 1 which appeared in the body of the discussion. Apart from Move 3 and Move 4, Move 7 (Evaluating the study), could

sometimes be found after Move 1. The excerpts below illustrate how Move 1 works as an opening move. Table 4.3 is an example of Move 1 which is followed by Move 4 and Table 4.4 is an example of Move 1 which is followed by Move 7.

Table 4.3 Example of Move 1 → Move 4 (AW10)

Text	Moves
This study examines how the texts of different genres lead to different summarization performances. Genre is one of the characteristics of test methods that are used to assess test performance. The usefulness of examining specific facets of a single test method has been highlighted because test performance is affected by the characteristics of the methods (Bachman &Palmer,1996). To seek answers to the three research questions formulated in this study, data were collected from three sources: participants' summary scores, their written summaries, and their perceptions of task difficulty and completion.	Move 1
MFRM analysis shows that the participants' performance across the two tasks, one using a narrative text as input material and the other using an expository text, varied, albeit to different degrees. The difficulty estimates of all rubric components also varied across tasks and revealed the participants' different performances in these respects.	Move 4

Table 4.4 Example of Move 1 → Move 7 (JSLW26)

Text	Moves
The objective of the analyses reported above was to establish whether it was possible to use the CollGram technique to track the development of phraseological competence in L2 writing.	Move 1
The results are encouraging, but the study highlights marked differences in the effects revealed by the longitudinal and pseudolongitudinal analyses.	Move 7

Although providing background information of the study to remind the readers of the purposes of the research, some methodological information and research questions before discussing anything was preferable, it is not necessary to follow this convention. The writers could start the section with results of the study, as seen in the table that Move 3 (Summarizing results) was found in 9 cases and Move 4 (Reporting results) was found in 25 cases.

As for the closing move, the move which was most likely used to end the discussion sections was Move 8 (Making deductions). It was found in 52 cases in the corpus. Another move which was also often employed to close the sections was Move 5. It was found in 27 research article discussion sections. Other moves which were sometimes used as a closing move were Move 7 (Evaluating the study) and Move 4 (Reporting results). The moves that never worked as a closing move according to the corpus were Move 1 (Providing background information), Move 2 (Managing the section), and Move 6 (Summarizing the study).

4.4.2 Move sequences

As reported above, Moves 1, 4, 5, 7 and 8 were used repeatedly in a section. They were arranged in various ways, and they tended to form a cycle. Although the moves were combined in different ways, it was found that there were some move sequences that were more common and used more frequently than others. These sequences were Move 4 → Move 5, Move 4 → Move 5 → Move 8, Move 1 → Move 4 →Move 5, and Move 7 → Move 8.

Move 4 followed by Move 5 was the sequence that occurred most frequently. This sequence was used repeatedly in a section and form a cycle. The writers reported the results of the study in Move 4, usually one specific result at a time, and commented on the results in Move 5. Each specific result could be followed by one or several comments. The table below illustrates how this sequence was used many times in the section.

Table 4.5 Example of Move 4 → Move 5 sequence (JSLW4)

Text	Moves
As regards the effect of task demands on narrative performance, we can conclude that the need to conceptualize the story-line did not seem to result in major linguistic and cohesive changes.	Move 4
It can be argued that the lack of substantial difference between the two types of tasks is due to the fact that both tasks required learners to write in the same genre. Genre is one of the important factors that affects the use of cohesive devices in writing (Smith & Frawley, 1983), and it also influences the lexical and syntactic range of expression as well the use of connectives (for a review see Biber & Conrad, 2009).	Move 5
The results concerning accuracy and syntactic complexity indices reveal that at the upper-intermediate level, writers in this study did not avoid the use of complex syntactic structures and constructions that they had not yet fully mastered when given the opportunity to tailor a narrative text to match their own linguistic resources.	Move 4
Therefore, it might be assumed that both types of tasks provide similar opportunities for learners to display their linguistic competence in writing.	Move 5
The task in which students had to narrate predetermined content, however, seems to have promoted the use of more abstract vocabulary and triggered the use of more explicit signaling of temporal relations.	Move 4
These findings are particularly interesting because in the absence of significant interaction between task and native speaker status, it can be inferred that the differences in language use were caused by the task demands. Consequently, the results can be taken to suggest that the fact that students had to encode given content might have promoted the use of more abstract vocabulary in the cartoon description task irrespective of whether students wrote in their L1 or in a FL.	Move 5

Another arrangement of moves which appeared frequently was Move 4 followed by Move 5 and Move 8. The writers reported specific results, commented on them and then make deductions. As described in Section 4.2.8, deductions could be made based on specific results/ issues or overall research. When deduction was made in this sequence, it was usually suggestions, recommendations for further study or pedagogical implications made based on specific results or issues. The example of how this sequence is formed can be seen in Table 4.6.

Table 4.6 Example of Move 4 → Move 5 → Move 8 sequence (AW5)

Text	Moves
That raters are attuned to the accuracy of words used in an essay is not surprising.	Move 4
Correcting an essay for errors is perhaps the cliched image when one thinks of an English teacher. It may be that raters, pressed for time and tasked with evaluating many variables at once, naturally evaluate the most obvious and easiest to spot of the lexical qualities, lexical errors.	Move 5
One issue to consider is whether a rating scale, either for the classroom or for a large-scale writing test, should include separate categories for grammar and lexis. Having separate rating scales for lexis and grammar, where both entail the evaluation of accuracy, may be seen to complicate the rating of lexical accuracy. Therefore, it is advisable to clearly distinguish lexical from grammatical accuracy during the rater training process if there are two separate rating scales for lexis and grammar.	Move 8
Apart from lexical accuracy, lexical range is also explicitly mentioned in the rating scale. The results show, however, that the range of words used did not significantly affect the lexis scores.	Move 4

Continued

Text	Moves
This means that, although raters were explicitly trained to evaluate essays on the range of lexis used, they did not follow the rating scale in this respect. Students, therefore, were given scores on their essays that did not inform them of characteristics which were supposed to be assessed by this writing task.	Move 5
This finding suggests possible implications for rater training, where spending more time attuning raters to particular aspects of the rating scale may increase the construct validity of the test.	Move 8

Move 1 followed by Move 4 and then Move 5 is the sequence which was used almost as frequently as the previous sequence (Moves 4 – 5 – 8). The writers provided background information of the research, report results and then commented on the results. If this sequence was at the beginning of the section, Move 1 was usually to provide background information of overall research such as aims, related literature, methodological information and all research questions. If this sequence appeared in other part of the section, Move 1 was likely to restate a particular research question, literature and methodological information related to specific questions or results. Table 4.7 exemplifies how Moves 1 – 4 - 5 sequence repeatedly occurred in a section.

Table 4.7 Example of Move 1 → Move 4 → Move 5 sequence (JSLW19)

Text	Moves
This study has examined whether language and gender influence the expression of interactional meanings in the pen friend letters of young Swedish writers. It has also examined the textual resources that the young writers used to express interactional meanings in the letters written in the foreign language.	Move 1

Continued

Text	Moves
The findings indicated that there were more commonalities than differences in the semantic expression of interactional meanings in the L1 and FL texts, and that gender appeared to have slightly more effect on this expression than did writing in a foreign language. The findings also indicated that the writers were able to express a range of meanings–sometimes sophisticated ones–in FL, using resources in their communicative repertoire creatively, albeit, as the examples showed, by no means always accurately.	Move 4
Similarly to other studies on young FL writers (e. g. , Stevenson, Schoonen, & de Glopper, 2006; Silva, 1993) , it was found that participants wrote significantly shorter texts in FL. At age 11, although these young writers can be said to be developing literacy in two languages, not surprisingly, there still appear to be considerable differences in their proficiency in L1 and FL writing. They are more fluent writers in Swedish than in English, and have a better command of the Swedish language system.	Move 5
However, controlling for text length, as has also been done in other textual analyses (e. g. , Hinkel, 2002) , has allowed us to uncover commonalities in the children's L1 and FL writing that may otherwise have been masked.	Move 1
The results showed that children's overall rates of expression of interactional meanings were similar in Swedish (L1) and English (FL). At main category level, there were no significant differences either at macro- or micro-level between the rates of expression of interactional meanings in Swedish and English, and even when sub-categories were considered, the only significant difference that was found to have a large effect size and statistical power was that the students asked more questions at the end of their texts in Swedish than English.	Move 4

Continued

Text	Moves
Structural problems with forming questions in English could have led writers to avoid the expression of interrogative meanings, instead expressing other interactional meanings. However, it could also be that the writers simply ran out of time to formulate questions at the end of their letters.	Move 5

One more sequence of moves which was often found in the corpus was Move 7 followed by Move 8. The writers evaluated the study and provided deductions. Moves 7 and 8 occurring in this sequence were usually employed at the end of the section. There could be 1 − 3 cycles of these moves in a section. Unlike the deductions in the sequence of Moves 4 − 5 − 8 which were made based on specific results, suggestions, recommendations for further study or pedagogical implications made in the sequence of Moves 7 - 8 were based on overall research results or the points made in Move 7 (Evaluating the study). Table 4.8 provides an example of the sequence of Moves 7 - 8. The deductions were made based on the points raised in Move 7 (Evaluating the study) in this example.

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Table 4.8 Example of Move 7 → Move 8 sequence (JSLW30)

Text	Moves
Although this study did not focus on the causal relationship between the use of these meaning-making resources and overall summary quality, the findings imply the importance of teaching these linguistic features to inexperienced EFL writers who might be unfamiliar with the rhetorical demands of the genre summary (Liardet, 2013). Although the present study has yielded a number of significant implications concerning a link between writing- to- learn and learning- to- write, there are several limitations and new questions that can be derived from the findings. First, since this study focused only on the changes in the students' meaning-making choices within a semester-long course that incorporated summary	Move 7

Continued

Text	Moves
writing into content-oriented reading, it is unclear whether the students maintained their genre knowledge and transferred it to their subsequent practices in real-life writing situations, which is of utmost importance in educational contexts. Unfortunately, delayed post-tests could not be administered due to institutional constraints.	
Hence, it would be informative if additional studies could focus on EFL writers for a longer period to explore if or how they transfer genre knowledge learned through instruction into actual practice.	Move 8
Second, this study did not focus on how the students used language in a grammatically correct fashion, since none of the textual measures considered accuracy. SFL approaches generally do not focus on the infelicitous characteristics of students' language use. Instead, the focus of SFL is to identify the writers' strengths that they bring to the writing task and additional lexicogrammatical resources that they could develop to write more effectively (Mohan & Beckett, 2001; Schleppegrell, 2006). Following the SFL approaches, this study examined how the students' meaning-making resources changed and expanded over time, and not whether their choices included grammatical errors. However, from the perspective of second language acquisition (SLA), if students are to achieve advanced literacy skills, then they must acquire the correct forms in the target language.	Move 7
Future studies should thus focus on the issue of accuracy and its relationship to genre learning, which can improve an understanding of how language development and writing development reciprocally influence one another (Manchoń, 2011a).	Move 8

To summarize, this chapter has reported the findings to answers 3 research questions: a) How can the characteristics of the moves and steps used in research article discussion sections in second language writing be described?; b) What are the frequency of occurrence of the moves and steps used in research article discussion sections in second language writing?; and c) How are the moves and steps typically arranged in research article discussion sections in second language writing?

It was found that the textual organization of the research article discussion sections in second language writing could be described with 8 moves with Move 5, Move 7 and Move 8 containing steps. The move that appeared in most data were Move 1 (Providing background information), Move 4 (Reporting results), Move 5 (Commenting on results), Move 7 (Evaluating the study) and Move 8 (Making deductions). The patterns of moves used for the entire section could not be identified as the moves were combined and arranged in various ways. However, some typical sequences of moves could be identified. These sequences were Move 4 → Move 5, Move 4 → Move 5 → Move 8, Move 1 → Move 4 →Move 5, and Move 7 → Move 8.

The next chapter will discuss the results of the study and provide implications.

CHAPTER 5
DISCUSSION AND IMPLICATIONS

This study attempts to find out about the textual organization or rhetorical structure of research article discussion sections in second language writing. Move analysis was conducted to the corpus built from 103 research article discussion sections from 5 journals contributing to second language writing: *Journal of Second Language Writing, Assessing Writing, Journal of English for Academic Purposes*, *English for Specific Purposes* and *System.*

The previous chapter has presented the research findings which answer the three research questions. It describes the characteristics of moves and steps used in the corpus, the frequency of occurrence of each move and step, and the sequences of the moves used in the corpus. This chapter discusses the research results and provides the pedagogical implications of the study.

The first section will discuss the findings obtained from analyzing the frequency of move and step occurrence. The next section will deal with the findings regarding the sequence of moves. After that the newly found move will be discussed. Then, pedagogical implications of the study will be provided. The final section will identify areas for future studies.

5.1 Frequency of occurrence

The analysis of the frequency of the move occurrence reveals that Move 5 (Commenting on results) was the most frequent move in the corpus. It was found in all 103 research article discussion sections. The number of the move occurrence indicates that the main function of the discussion section is to discuss or comment on the results. Because the percentage of occurrence is 100%, it is considered an obligatory move. This means that Commenting on results move is indispensable to writing research article discussion sections in second language writing. The result confirms the importance of this move as reported in previous studies (e.g. Yang and Allison, 2003; Amnuai and Wannaruk, 2013).

However, the existence of the obligatory move in this corpus contrasts with Holmes (1997) who found no completely obligatory move and Peacock (2002) who found no obligatory move in his study. The inconsistency of these findings may come from the way the data were analyzed. Specified in Peacock, the unit of analysis used in his study was a sentence while in this current study, the analysis was done at a phrase and clause level. The sentence level analysis may limit the identification of the moves. One sentence can be sorted into only one move. Following this criterion, the move which shares a sentence with other more salient move cannot be detected. For the phrase and clause level of analysis, one sentence can contain more than one move. As a result, there are more chances to detect more types and more instances of moves and steps. This unit of analysis results in higher chances of occurrence of all the moves and thus can reveal an obligatory move.

Move 5 (Commenting on results) can be realized by four steps which are Step 1 Interpreting results, Step 2 Comparing results with literature, Step 3 Accounting for results and Step 4 Judging results. The number of occurrence of Step 2 and Step 3 was equal. They were both found in 89 research article discussion sections, which was 86.41% of the corpus. The number of occurrence of Step 1 was slightly different from Step 2 and Step 3. Step 1 was found in 87 research article discussion sections, which was 84.47% of the corpus. We can see that these three steps occurred almost equally in the corpus. It can be said that these three steps are all preferable ways for commenting on results. The frequent use of these three steps suggests that the writers' views and interpretation are valued in this discipline.

This finding is consistent with Miin-Hwa Lim (2010) who conducted a comparative genre-based investigation regarding comments on the Results sections of research papers in applied linguistics and education and found that writers in applied linguistics are more inclined than writers in education to express their opinions as comment. Besides, it is also in line with Pasavoravate (2011) who examined thesis and dissertation abstracts written by students in Thailand and students in England. Her research results reveal English students' preference to report the findings subjectively. This finding also confirms the results reported in Hopkins and Dudley-Evans (1988) which found the emphasis of the discussion sections was put on the interpretation of

results and the discussion sections of articles and dissertations tend to be judged on the way the writer relates them to previous work in the field rather than on the actual results.

Although Step 4 (Judging results) is also a step which involves the researchers' opinions, it was found to be the least frequent step in this corpus. It appeared only in 46 research article discussion sections or 44.66%. This finding seems to conflict with Miin-Hwa Lim (2010). In Miin-Hwa Lim's study, the frequency of occurrence of Evaluating the findings or Move 2 (21 instances) was quite close to the other steps which are Explaining the findings (31 instances) and Comparing with literature (27 instances). The description provided for the steps from the 2 studies may be the cause of this difference. In Miin-Hwa Lim's study, Evaluating the findings included evaluative comments based on the writers' personal judgement of their findings and this part of definition is similar to that of Judging results in the current study, but this step also included the writers' personal interpretation of the findings and this part of definition equals Step 1 (Interpreting results) in the current study. Evaluating the findings in Miin-Hwa Lim, therefore, equals two steps in the current research. As a result, Evaluating the findings in Miin-Hwa Lim seems to occur more frequently than Judging results in the current research.

In contrast, the low frequency of occurrence of Move 5 Step 4 (Judging results) seems to be consistent with Basturkmen (2009) and Amnuai and Wannaruk (2013). In Basturkmen, comments of results in published research articles and masters dissertations in Language teaching were studied. It was found that Evaluating the result step was used least frequently while Explaining the result step and Comparing with result in literature appeared more frequently in both corpora. In Amnuai and Wannaruk, it was found in their research that Steps 1-3 which are Interpreting results, Comparing results with literature and Accounting for results were used more frequently than Step 4 (Evaluating results). However, the difference is that the use of Step 4 is 0% in their study of the research article discussion sections in applied linguistics. The difference in the frequency of occurrence may be derived from the number of data used to build the two corpora. The corpus used in their study consisted of 30 pieces of data while the corpus used in the current study consisted of 103 pieces of data. The larger corpus may provide greater possibility to detect more instances of moves and steps.

Furthermore, the finding regarding the low frequency of occurrence of Move 5 Step 4 (Judging results) is consistent with Dobakhti's (2011) which found that Evaluating step has been used least frequently while Explaining step and Interpreting step were more preferable in his/her study. The definition of Evaluating step given in the research is to indicate whether the findings are expected or unexpected and surprising based on the researcher's own expectations or general expectations in the field. The definition of Move 5 Step 4 (Judging results) used in the current research is that the writers judge a specific finding by expressing their opinions regarding the quality, value or trend of the finding obtained. Although the ways to describe these two steps in the two studies are not exactly the same, to some extent the definitions of these two steps overlap and it can be said that they are roughly equal each other. These similar research results confirm that judging or evaluating a particular finding is optional for writing research article discussion sections in second language writing. This is probably because there is another way the writers can use to provide their evaluative comments which is to use Move 7 (Evaluating the study). This move evaluates the strengths and weaknesses of overall research. Since the writers can choose between these two choices, Judging results step and Evaluating the study move share chances of occurrence. This results in Judging results step occurring less frequently than the other three steps.

Reporting results or Move 4 is the second most frequent move in the corpus. It appeared in 98 research articles discussions or 95.15% of the corpus. The high frequency of occurrence which is close to that of Move 5 (Commenting on results) reflects how important this move is to the discussion sections, which is almost as important as Move 5. Besides, it also shows that writers in second language writing discipline prefer to restate the findings although all the findings may have already been described in the Results section.

Because the frequency of occurrence of Move 4 (Reporting results) did not reach 100%, but occurred more than 60%, this move is regarded as a conventional move. This finding contrasts with Hopkins and Dudley's study (1988) which reported Statement of results as an obligatory move. This is probably due to the fact that these two studies looked at different fields of study. The previous study looked at the

discussion sections in MSc dissertations which is in the science field (Biology) while this current study looked at second language writing.

From the analysis, there were only 5 discussion sections in the corpus that did not contain Move 4. When looking at these 5 pieces of data closely, it was found that in two pieces of data, the research results were reported in Move 3 (Summarizing results). The results were summarized at the beginning of the section and then they were followed by comments without repeating specific results. In other two pieces of data, Move 4 (Reporting results) was actually embedded in other move. It was in the same sentence as Move 5 (Commenting on results) and the unit of analysis used in this study which looked at the phrase and clause level was unable to separate the two moves from each other. The sentence was thus sorted into the more salient move which is Move 5. The extract below illustrates how Move 4 is embedded in Move 5.

> 1) *"The significant increase in students' comfort levels talking with both peers and instructors about their writing suggests that this kind of exposure to and practice using this kind of language and metalanguage may be an effective means of socializing students in this area--in other words, of teaching them relevant (linguistic and practical) skills." (JEAP5)*

From the extract, we can see that the result of the study appears at the beginning of the sentence as a subject which is Move 4 (Reporting results) while the rest of the sentence belongs to Move 5 Step 1 which is to provide comments by interpreting the results. Because Move 5 is more obvious, the whole sentence is sorted into Move 5 in this case.

There was only one discussion section that neither had Move 3 (Summarizing results) nor Move 4 (Reporting results). Comments and pedagogical implications were provided without repeating the results. The investigation of these five pieces of data confirms that the writers in second language writing prefer to restate results in the discussion sections since we can see that although Move 4 (Reporting results) was not detected in the discussion section, restatement of results could actually

exist but maybe in other forms such as Move 3 (Summarizing results) or integrated in Move 5 (Commenting on results).

Another move whose function is also to restate the findings is Move 3 (Summarizing results). It appeared in 29 pieces of data or 28.16% of the corpus. The summary of the results defined in this study refers to both when the writers report many results at one time or present integrated results based on many specific results. It shares the same goal as Move 4 (Reporting results) which is to restate the research results to facilitate the readers' understanding and to raise the points that the writers want to comment on. The higher number of occurrence of Move 4 over Move 3 suggests that writers in second language writing prefer to restate findings and deal with one finding or one point at a time than to summarize the overall research results. Since the low frequency of occurrence of Move 3 is in line with Yang and Allison (2003) and Amnuai and Wannaruk (2013) who studied the research article discussion sections in applied linguistics, this means that the way writers in second language writing prefer Move 4 to Move 3 when restating the results in the discussion sections is similar to that in applied linguistics. As second language writing is sometimes referred to as a subdiscipline of applied linguistics (Kaplan, 2002), the results are similar probably because these two disciplines are closely related.

The next move to be discussed in this section is Move 6 (Summarizing the study). It was found in only 1 research article discussion section or 0.97% of the corpus, which is considered very rare. This implies that this move is not an important part of the discussion section in research article in second language writing. The result is consistent with Yang and Allison (2003), Amnuai and Wanaruk (2013), and Dobakhti (2011) who found very small occurrence of the move in their studies. The cause of such low frequency of occurrence may lie in the corpus used in the study. As stated in Chapter 3 regarding the specification of the data, the corpus used in this study is built from the discussion sections. Because the main purpose of the discussion section is to comment on results by interpreting, accounting for, comparing with previous work and evaluating (Yang and Allison, 2003), Summarizing the study move is less likely to occur in this section. Instead, it is more likely to be found in the conclusion section

where Summarizing the study has to be stated in order to highlight findings and suggest areas for future research and implications for teaching and learning.

Two more moves which will be discussed in this section are Move 7 and Move 8. Since Move 8 occurred more frequently, it will be discussed first. Move 8 (Making deductions) is the third most frequent move in the corpus. It was found in 73 discussion sections or 70.87% of the corpus. Because the percentage of occurrence of the move is more than 60%, it is regarded as a conventional move. This finding suggests that Move 8 is quite a prominent move in writing research article discussion sections in second language writing, and this means that in the research article discussion sections in second language writing, the writers not only comment on results but also prefer to make deductions from the research results.

Move 8 (Making deductions) is realized by 3 steps: Making suggestions, Recommending further research and Drawing pedagogical implications. The frequency of occurrence of Step 1 and Step 3 was equal. Both of them were found in 41 research article discussion sections, which was 39.81%. Step 2 was the least frequent. It appeared in only 33 research article discussion sections, which was 32.04%. It should be noted that the number of occurrence of Move 8 in the discussion sections is affected by the use of Move 8 in the conclusion sections. Therefore, the interpretation of this finding is limited to only the discussion sections. In other words, the finding from the analysis of this corpus can only tell what the writers prefer to do in the discussion sections.

The use of Step 1 and Step 3 more frequently than Step 2 suggests that the writers in second language writing place more emphasis on the benefits and knowledge obtained from the research findings when they write the research article discussion sections. They seem to prefer to mention the practical applications of the studies to the research world and real world than to propose topics or areas for future studies.

The finding on Move 8 Step 2 with the lowest frequency, however, is not in line with Yang and Allison (2003) and Amnuai and Wannaruk (2013). In their studies, it was Step 2 which was most frequently employed. The academic discipline of the corpora used in these studies may account for the inconsistency of the findings. These studies looked at different academic disciplines. The studies of Yang and Allison and Amnuai and Wannaruk have both looked at the research article discussion sections

in applied linguistics. In contrast, the current study looked at the research article discussion sections in second language writing. Although these two disciplines are closely related, the emphasis on certain moves and steps may vary. This finding confirms previous studies (e.g. Kanoksilapatham, 2015; Ozturk, 2007; Maswana, Kanamaru & Jajino, 2015; Suntara & Usaha, 2012) which also found some differences when studying research articles from the disciplines that are closely related. However, this is just a possible explanation. More research and evidence are needed to confirm the preference of the writers in second language writing for using Step 1 and Step 3 to make deductions and to confirm whether such trend can be used to distinguish the move and steps used in the research article discussion sections of second language writing from other disciplines.

Move 7 (Evaluating the study) occurred less frequently than Moves 1, 4, 5 and 8. It was seen in only 54 pieces of data or 52.43% of the corpus. Because the frequency of occurrence does not reach 60%, it becomes an optional move for writing research article discussion sections in second language writing. Since the percentage of occurrence is higher than 50%, this probably implies that the writers still prefer to point out the strengths and weaknesses of the overall research in the discussion sections of research articles in second language writing. However, it is also acceptable for the writers to omit this move or not to evaluate the study in the discussion sections. This is because the writers can possibly use this move in another part of the research article. As found in Yang and Allison (2003), Evaluating the study move also appeared in the conclusion section. The writers may provide their evaluation of the study in this section instead.

Move 7 is realized by 3 steps which are Step 1 Indicating limitations, Step 2 Indicating significance/advantage and Step 3 Evaluating methodology. Among these three steps, Step 2 (Indicating significance/advantage) is the most frequent step. Step 1 (Indicating limitations) is the second frequent and Step 3 (Evaluating methodology) is the least frequent. The findings of these steps also need to be interpreted with caution since the number of occurrence of these steps are also affected by the use of these steps in the conclusion section. The interpretation is only based on the findings from the

discussion section and thus should not be extended beyond the discussion section boundary.

As reported above, the step which was used most frequently for Move 7 is Step 2 (Indicating significance/advantage). It was used in 39 research article discussion sections or regarded as 37.86% of the corpus. This finding suggests that stating the importance or benefits of the research to the field is most preferable for writers in second language writing when they want to provide the evaluation of the study in research article discussion sections. The competition for publications may account for this finding.

Academics and graduate students are required to publish their work. For academics, their publications are important for their career and for graduate students, their publications are the course requirement and they must complete it in order to get a degree. As a result, there is a lot of pressure for the academics and graduate students and there is high level of competition for publications in many fields of study, including second language writing. Highlighting the value and contribution of the study is like a promotional act. Because the discussion section is an important part of research articles, some writers, thus, may choose to present how valuable their study to the field in this section to promote their work in order to get attention from readers and get published.

Move 7 Step 1 (Indicating limitations) is the second most frequent step for Move 7. It was found in only 37 research article discussion sections (35.92%). According to Kanoksilapatham (2005) researchers show their carefulness and honesty through acknowledging the limitations of the study. Because the discussion section is an important part of research articles and receives much attention from readers, some writers may choose to discuss the limitations of research to show their careful thoughts and honesty in this section instead of the conclusion section.

We can see that the frequency of occurrence of Move 7 Step 1 (Indicating limitations) is only slightly less than that of Move 7 Step 2 (Indicating significance/advantage). These two steps in the corpus actually often co-occurred. The frequent co-occurrence of these two steps suggests one of the strategies the writers use to deal with research limitations or the weak points of their research when writing the research article discussion sections. This can also be regarded as a promotional act.

Because Move 7 Step 1 is the research weak points, they were carefully handled to maintain the competitiveness of the research articles. As found in the corpus, Move 7 Step 1 often preceded Move 7 Step 2. By mentioning strengths of the research right after the limitations, it seems that the writers can manage to tone down the weak points of the research and make the readers pay attention to the positive sides of the research instead. The extracts below illustrate how Move 7 Step 2 appears right after Move 7 Step 1 to tone down the limitations. The conjunction 'however' is used to make a shift and highlight the research significance.

1) *This study has investigated the interaction of texts in the e-mails of two professional communities, and hence largely focused on referential intertextuality (Devitt, 1991). It has accounted for the types and directionality of intertextuality in the e-mail discourse flows, and so touched on only a restricted aspect of functional intertextuality (Devitt, 1991)*. *//Move 7 Step 1// The findings, however, are very informative in the development of our understanding of ''how essential texts are to the constitution and accomplishment'' (p. 353) of professional communities. //Move7 Step 2// (ESP4)*

2) *A limitation of this study was the small sample size of university students in Southern Taiwan, and thus, these findings may not be generalizable to other educational settings or to populations with different backgrounds. //Move 7 Step 1// However, these results provide insight on the potential of wikis to promote foreign language acquisition through collaborative learning tasks. //Move 7 Step 2// (ST 8)*

> 3) *This study was small in scope, involving only four participants at four Japanese universities, and focused on four interview sessions; generalizations thus cannot be made about how English teachers working at Japanese universities, in general, can move towards mastery of the craft of scientific editing.//Move 7 Step 1// However, drawing from the thematic findings described in Section 4, we believe that four issues were significant to these English- teaching editors' learning of and attitudes towards scientific editing //Move 7 Step 2//. (JEAP6)*

Move 7 Step 3 (Evaluating methodology) is the least frequent appearing only 8.74% of the corpus (9 research articles). When analyzing the data, there was a tendency that Evaluating methodology overlapped Indicating limitations because the weaknesses of the study are often related to research methodology. Since Indicating limitations step seems to be more obvious, directing to the research weak points, they can easily be noticed. More instances of this step were thus found. This results in Evaluating methodology appearing less frequently.

So far, we have discussed the findings in terms of the frequency of occurrence which characterize the research article discussion sections in second language writing. The next section will talk about the findings on the move arrangement.

5.2 The arrangement of moves

This section is divided into two parts. First, the findings about the opening moves and closing moves will be presented and discussed. Then, the second part of this section deals with the sequence of moves and steps.

5.2.1 Opening moves and closing moves

Regarding the opening moves, the finding obtained from the analysis is consistent with Holmes (1997, 2001) and Dobakhti (2011). The finding indicates that two moves which most frequently appeared at the beginning of the section are Move 1 (Providing background information) and Move 4 (Reporting results). Despite the similarity of the finding, the preference for the two opening moves between the current study and previous ones is different. In Holmes (1997), Statement of result move was found to be more preferable than Background information move while in the current study, Providing background information move was used more frequently than Reporting results move. This finding reveals how the writers in second language writing prefer to open the discussion sections in research articles. They prefer to restate the research aims, research questions, methodology and some important literature than to immediately jump to reporting results. However, it is also common for the writers to start their discussion with research results. This preference reflects their awareness of the readers as reviewing all main points of research will facilitate the readers' understanding of the discussion and argument. It is also helpful for busy readers who do not have time to read the whole article but want to focus on only important parts of the article.

The finding about the closing moves is also in line with Holmes (1997). The move that appeared most often at the end of the section in the current study is Move 8 (Making deductions) which is comparable to Move 7 (Recommendation) in Holmes' research. The move that never made any appearance as a closing move is also the same. It is Move 1 for both studies, which is to provide background information of the study.

5.2.2 The patterns of moves

The consistency of the results of the current study with previous ones include the move patterns. In line with previous studies (e.g. Holmes, 1997, 2001; Yang & Allison, 2003; Kanoksilapatham, 2005; Dobokhti, 2011), the analysis of the corpus in the present study reveals that the organization of research article discussion sections was not linear but cyclical, which means that the discussion sections consist of many

cycles of moves. This is because of the reoccurrence of the certain moves. As reported in previous section, the moves that tend to appear many times in the sections are Moves 1, 4, 5, 7 and 8. This finding suggests that the information writers prefer to include when they write research article discussion sections in second language writing is background information of the research, results, comments, the evaluation of the study and deductions from the research results.

Identifying the patterns of the moves used in the entire section was also hard since there was no regularity in the move appearance. Despite the low degree of predictability of the move occurrence in the discussion sections, some typical patterns could still be identified. These patterns are Move 4 → Move 5, Move 4 → Move 5 → Move 8, Move 1 → Move 4 →Move 5 and Move 7 → Move 8.

Move 4 → Move 5 was the most common sequence in the corpus. These two moves also occurred most frequently in the corpus. This finding confirms previous studies (e.g. Kanoksilapatham, 2005) that research article discussion sections are built on 2 moves which are reporting results and commenting. The finding regarding the sequences of Move 4 followed by Move 5 and Move 1 followed by Move 4 and then Move 5 are also consistent with Holmes (1997: 331) who found that "the appearance of Statement of result or Background information followed by Generalization or Reference to previous research" was typical in his study.

Move 4 → Move 5 → Move 8 was the second most frequent pattern. This pattern is similar to the pattern found in Dobokhti (2011) who also found Making deductions following Commenting on findings. This pattern could be found at the beginning, in the middle and at the end of the section. This finding suggests that the writers prefer both making deductions based on specific results by providing suggestions, recommending further research and providing pedagogical implications right after the issues raised from a particular finding and making deductions based on overall research.

One more move pattern that shows regularity of occurrence is Move 7 → Move 8. This is when the writers evaluate the study and then make deductions. An investigation into this pattern of moves reveals an interesting arrangement of steps. It was found that in the Move 7 → Move 8 pattern, Move 7 Step 1 which is to indicate

the limitations of the study was employed most frequently**,** and this step was usually followed by Move 8 Step 2 which is to recommend further research. This arrangement of steps shows how the writers in second language writing make use of the limitations of their research. They use the limitations in their research to identify areas or topics for further research. The extracts below exemplify the occurrence of Move 8 Step 2 after Move 7 Step 1. In Extract 1, after the writer describes how one writing sample is unable to reveal the learners' knowledge in a variety of genre, she suggests what could be in the future studies based on the stated limitation. In Extract 2, the writer describes the limitation of the research due to the time constraint, she proposes that future studies could be conducted for a longer period of time to check whether students maintain their genre knowledge and use it in their real-life writing situations.

1) *Interpretations of the results brought to light a few limitations of the current study. For one, participants were evaluated by only one writing sample, limiting their ability to reveal strengths and weaknesses that might exist through a variety of genres. //Move 7 Step 1// Given learners' different educational backgrounds, it is possible that the two groups would perform differently across genres and tasks requiring different degrees of control in the five writing components examined. Future research could include learners' responses to multiple writing tasks. Also related to learners' backgrounds is the possibility that socioeconomic variables other than learners' high school backgrounds and duration of US residency contributed to the differences found across the two groups. Future research could address this question by examining additional personal attributes of the learners in each group. //Move 8 Step 2// (AW4)*

2) *...,there are several limitations and new questions that can be derived from the findings. First, since this study focused only on the changes in the students' meaning-making choices within a*

semester-long course that incorporated summary writing into content-oriented reading, it is unclear whether the students maintained their genre knowledge and transferred it to their subsequent practices in real-life writing situations, which is of utmost importance in educational contexts. Unfortunately, delayed post-tests could not be administered due to institutional constraints. //Move 7 Step 1// Hence, it would be informative if additional studies could focus on EFL writers for a longer period to explore if or how they transfer genre knowledge learned through instruction into actual practice. //Move 8 Step 2// (JSLW30)

This finding, thus, suggests one of the strategies that the writers in second language writing use to identify areas for future studies, which is to identify them based on the research limitations. This strategy is useful for less experienced writers, and it should not only benefit those in second language writing but it should also be applicable to all fields.

In this section we have discussed the arrangement of moves and steps which include the discussion on the opening moves, closing moves and the patterns which show regularity of occurrence in the corpus. The next section will deal with the new move emerging in this study.

5.3 The newly found move

Move 2 Managing the section is the move that has never been reported before in previous studies. However, even though the move was found in this corpus, it occurred only in 17 research article discussion sections (16.50%). The existence of this move in this corpus with low frequency implies the preferred writing style of writers in second language writing when dealing the research article discussion sections. As described by Hinds (1987: 143 cited in Johns, 1997), English is a "writer-responsible" language and this means that the writer is the person primarily responsible

for effective communication and in English academic writing, the writer needs to make the article easy to read and follow. Telling the readers directly how the writer arranges the information or giving preview is a way the writer makes their topics, arguments and organization clear to the readers. However, the low frequency of the move suggests that this is probably not a preferable style of writing research article discussion sections in second language writing.

This move is actually similar to Announcing present research descriptively and/or purposively (Move 3 Step 1) in the revised CARS model for introduction section (Swales, 2004). The location of the discussion section may contribute to the low occurrence of Move 2. Since the discussion section appears at the end of the research article, it is less necessary for the writers to provide the outline of the following information.

The low occurrence of Move 2 may also concern the length of texts. Giving previews, reviews and overviews to help the reader understand the structure and arguments is recommended in lengthy texts like a thesis (Patridge and Starfield, 2007). Therefore, this feature of writer responsible language seems to be more common in a thesis which is very long involving many sections and chapters. In contrast, discussion sections in research articles are usually around 1 paragraph to 3 pages. The writers may find that giving previews or telling what the section will be about and how it will be organized is less necessary.

Another possible explanation for the very low frequency of Move 2 is that this move may actually exist, but it is embedded in other move which is more obvious and salient. The example below illustrates how Move 2 is embedded in another move.

1) *"They suggested several reasons why the training seemed to have so little effect. In the paragraphs below, we discuss several of those reasons in the context of our study and then posit some additional ones." (AW2)*

We can see that the extract above contains two moves which are Move 5 Step 2 (Accounting for results) and Move 2 (Managing the section). However, Move 5 Step 2 is more salient in this case, so this extract is sorted into Move 5.

The discussion of the results so far has revealed how expert writers prefer to organize the research article discussion sections in second language writing. The next section will talk about the pedagogical implications of these results and also provide directions for further studies.

5.4 Implications of the study

This study has implications for research article writing in various ways. First, the findings obtained from this research add to the literature in discourse and genre analysis. Second, they benefit the teaching and learning of English for Academic Purposes and English for Specific Purposes. Besides these, this study is useful for the academics and graduate students who are writing for publication.

Firstly, the findings from this research contribute to the knowledge and literature in the field of discourse analysis and genre analysis. Although all sections of research articles have received a lot of attention from researchers, and they have been studied in various ways, the investigation into the discussion sections, especially in second language writing, is still limited. More exploration is needed to generate more knowledge and confirmation regarding the move structure and language used in the section. This study, therefore, has provided more answers regarding the variations of the moves and steps used in the research article discussion sections.

In addition, the findings of this study have some implications for the teaching in English for Academic Purposes and English for Specific Purposes. Teachers can probably use the findings as a guideline for them to design their academic writing course, write materials and design lessons. The findings could provide them with some directions of how and what to teach their students when it comes to writing research articles, especially the discussion sections.

Finally, the findings of the study could be of value to academics and graduate students who are writing for publication. Although it is the research topics, research methodology and the research quality that play an important role in making interesting research, an understanding of the nature and characteristics of research articles in the target discipline should be helpful to adding competitiveness to research

articles. The findings have clarified the convention and expectation regarding the content and organization of texts in the research article discussion sections in second language writing. Academics and graduate students can follow and write their research papers accordingly in order to fit in the discourse community and thus may successfully get their papers published.

5.5 Recommendations for further research

This study has been done to explore the textual organization of research article discussion sections in second language writing. It has provided valuable insights into move analysis, the implications and contributions to overall English language teaching and learning. In addition, the findings of this research have also given many directions for further research. Future studies could be done 1) to investigate the writing process of research article discussion sections; 2) to investigate Making deductions moves; 3) to explore promotionalism in research articles and 4) to examine the effects of competition for publications on scholars and educational institutions.

5.5.1 Investigating the writing process of research article discussion sections

This study analyzes the moves used in texts, and thus focuses only on the product of writing. It can only reveal how the information in the research article discussion sections has been arranged by expert writers in second language writing. It is also interesting to look at the process of writing. A study can be conducted to investigate how expert writers or even less experienced writers construct their discussion sections or examine their awareness regarding the disciplinary variations and their reasons for the high/low frequency of occurrence of the moves. A study can be done to explore the difficulties that the expert and less experienced writers have when writing research article discussion sections and what they do to cope with the problems.

5.5.2 Investigating Making deductions move

The finding of this research indicates that the writers in second language writing use Move 8 Step 1 which is to provide suggestions and Move 8 Step 3 which is provide pedagogical implications more often than Move 8 Step 2 which is to identify areas and topics for future research. These findings make the research article discussion sections in second language writing distinct from those in applied linguistics which is its closely related discipline. However, it is recommended that more research be conducted in order to confirm the results. It is interesting to know whether such distinction occurs just by chance, or whether it is due to the disciplinary differences.

5.5.3 Exploring promotionalism in research articles

As put by Hyland (2009), marketization involves writing research articles. Promotionalism permeates all parts of research articles—from abstracts to discussions. For this study, evidence of promotional act have also been found in the discussion sections where the writers attempt to add competitiveness to their work and gain readers' attention by underlining research significance and contribution and carefully managing research limitations. Due to the fierce competition for publications in the field, investigation into the promotional strategies and language used in research articles should be helpful to less experienced writers or researchers. Studies could be conducted on different parts of research articles, especially the discussion sections which are difficult to write. A comparison of the promotional elements between research articles written in different disciplines or by writers with different cultural background and first language could be made. The way experienced researchers and less experienced researchers use promotional acts could be explored and compared to find the similarities and differences between the two groups.

5.5.4 Examining the effects of competition for publications on scholars and educational institutions

As already said above, this move analysis study reveals promotionalism in research article in discussion sections. Evidence can be found in the language used and the arrangement of the moves and steps. Language reflects society and what happens in it. The marketization language used in research articles is the result of competition and pressure in education. It is interesting to look at what happens to people and institutions in education. Studies could be conducted to explore the effects of competition for publications on scholars and to examine how they overcome such pressure. An investigation could also be made to examine the effects of competition for publications on authorities and see how they manage their institutional policy accordingly. Although this area of research is beyond the scope of the current study which is on move analysis, in the end the results obtained from this research area should yield relevant information and evidence which can later be used to support move analysis and discourse analysis of research articles.

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APPENDICES

APPENDIX A
THE REPRESENTATIVE JOURNALS WITH THEIR AIMS AND SCOPE

1. **Journal of Second Language Writing**

    The Journal of Second Language Writing is devoted to publishing theoretically grounded reports of research and discussions that represent a contribution to current understandings of central issues in second and foreign language writing and writing instruction. Some areas of interest are personal characteristics and attitudes of L2 writers, L2 writers' composing processes, features of L2 writers' texts, readers' responses to L2 writing, assessment/evaluation of L2 writing, contexts (cultural, social, political, institutional) for L2 writing, and any other topic clearly relevant to L2 writing theory, research, or instruction.

2. **Assessing Writing**

    Assessing Writing is a refereed international journal providing a forum for ideas, research and practice on the assessment of written language. Assessing Writing publishes articles, book reviews, conference reports, and academic exchanges concerning writing assessments of all kinds, including traditional ('direct' and standardised forms of) testing of writing, alternative performance assessments (such as portfolios), workplace sampling and classroom assessment. The journal focuses on all stages of the writing assessment process, including needs evaluation, assessment creation, implementation, and validation, and test development; it aims to value all perspectives on writing assessment as process, product and politics (test takers and raters; test developers and agencies; educational administrations; and political motivations). The journal is interested in review essays of key issues in the theory and practice of writing assessment.

Assessing Writing embraces internationalism and will attempt to reflect the concerns of teachers, researchers and writing assessment specialists around the world, whatever their linguistic background. Articles are published in English and normally relate to the assessment of English language writing, but articles in English about the assessment of writing in languages other than English will be considered. While Assessing Writing frequently publishes articles about the assessment of writing in the fields of composition, writing across the curriculum, and TESOL (the teaching of English to speakers of other languages), it welcomes articles about the assessment of writing in professional and academic areas outside these fields.

The scope of the journal is wide, and embraces all work in the field at all age levels, in large-scale (international, national and state) as well as classroom, educational and non-educational institutional contexts, writing and programme evaluation, writing and critical literacy, and the role of technology in the assessment of writing. Through this scholarly exchange, Assessing Writing contributes to the development of excellence in the assessment of writing in all contexts, and, in so doing, to the teaching and appreciation of writing.

3. Journal of English for Academic Purposes

The Journal of English for Academic Purposes provides a forum for the dissemination of information and views which enables practitioners of and researchers in EAP to keep current with developments in their field and to contribute to its continued updating. JEAP publishes articles, book reviews, conference reports, and academic exchanges in the linguistic, sociolinguistic and psycholinguistic description of English as it occurs in the contexts of academic study and scholarly exchange itself. A wide range of linguistic, applied linguistic and educational topics may be treated from the perspective of English for academic purposes; these include: classroom language, teaching methodology, teacher education, assessment of language, needs analysis; materials development and evaluation, discourse analysis, acquisition studies

in EAP contexts, research writing and speaking at all academic levels, the sociopolitics of English in academic uses and language planning.

Also of interest are review essays and reviews of research on topics important to EAP researchers. No worthy topic relevant to EAP is beyond the scope of the journal. The journal also carries reviews of scholarly books on topics of general interest to the profession.

4. English for Specific Purposes

English For Specific Purposes is an international peer-reviewed journal that welcomes submissions from across the world. Authors are encouraged to submit articles and research/discussion notes on topics relevant to the teaching and learning of discourse for specific communities: academic, occupational, or otherwise specialized. Topics such as the following may be treated from the perspective of English for specific purposes: second language acquisition in specialized contexts, needs assessment, curriculum development and evaluation, materials preparation, discourse analysis, descriptions of specialized varieties of English, teaching and testing techniques, the effectiveness of various approaches to language learning and language teaching, and the training or retraining of teachers for the teaching of ESP. In addition, the journal welcomes articles and discussions that identify aspects of ESP needing development, areas into which the practice of ESP may be expanded, possible means of cooperation between ESP programs and learners' professional or vocational interests, and implications that findings from related disciplines can have for the profession of ESP. The journal also carries reviews of scholarly books on topics of interest to the profession.

5. System

This international journal is devoted to the applications of educational technology and applied linguistics to problems of foreign language teaching and learning. Attention is paid to all languages and to problems associated with the study and teaching of English as a second or foreign language. The journal

serves as a vehicle of expression for colleagues in developing countries. System prefers its contributors to provide articles which have a sound theoretical base with a visible practical application which can be generalized. The review section may take up works of a more theoretical nature to broaden the background.

APPENDIX B

THE CORPUS OF RESEACRH ARTICLE DISCUSSION SECTIONS

No.	Research article titles	Issues	Code
1	A close investigation into source use in integrated second language writing tasks	17, 2012	AW1
2	Severity differences among self-assessors, peer assessors, and teacher assessors rating EFL essays	18, 2013	AW2
3	Two portfolio systems: EFL students' perceptions of writing ability, text improvement, and feedback	18, 2013	AW3
4	How different are they? A comparison of Generation 1.5 and international L2 learners' writing ability	18, 2013	AW4
5	Rater sensitivity to lexical accuracy, sophistication and range when assessing writing	18, 2013	AW5
6	How much feedback is enough?: Instructor practices and student attitudes toward error treatment in second language writing	18, 2014	AW6
7	Does the writing of undergraduate ESL students develop after one year of study in an English-medium university?	21, 2014	AW7
8	Development and validation of a scale to measure perceived authenticity in writing	21, 2014	AW8
9	Assembling validity evidence for assessing academic writing: Rater reactions to integrated tasks	21, 2014	AW9
10	Examining genre effects on test takers' summary writing performance	22, 2014	AW10

Continued

No.	Research article titles	Issues	Code
11	Ideological and linguistic values in EFL examination scripts: The selection and execution of story genres	23,2015	AW11
12	Effectiveness of written corrective feedback: Does type of error and type of correction matter?	24, 2015	AW12
13	Examining instructors' conceptualizations and challenges in designing a data-driven rating scale for a reading-to-write task	26, 2015	AW13
14	Multi-draft composing: An iterative model for academic argument writing	10, 2011	JEAP1
15	Gauging the effectiveness of anti-plagiarism software: An empirical study of second language graduate writers	11, 2012	JEAP2
16	A genre-based investigation of discussion sections of research articles in Dentistry and disciplinary variation	11, 2012	JEAP3
17	Differences in quality between Thai and international research articles in ELT	11, 2012	JEAP4
18	Effects of an efficacy-focused approach to academic writing on students' perceptions of themselves as writers	11, 2012	JEAP5
19	"Convenience editors" as legitimate participants in the practice of scientific editing: An interview study	12, 2013	JEAP6
20	The development of source use by international postgraduate students	12, 2013	JEAP7
21	A genre-based investigation of applied linguistics book reviews in English and Brazilian Portuguese	12, 2013	JEAP8

Continued

No.	Research article titles	Issues	Code
22	Novice ESL writers: A longitudinal case-study of the situated academic writing processes of three undergraduates in a TESOL context	12, 2013	JEAP9
23	Do journal authors plagiarize? Using plagiarism detection software to uncover matching text across disciplines	12, 2013	JEAP10
24	Seeking entry to the North American market: Chinese management academics publishing internationally	13, 2014	JEAP11
25	Exploring the relationships among student preferences, prewriting tasks, and text quality in an EAP context	15, 2014	JEAP12
26	Accounting for the great divide: Features of clarity in analytic philosophy journal articles	15, 2014	JEAP13
27	Guiding the reader (or not) to re-create coherence: Observations on postgraduate student writing in an academic argumentative writing task	16, 2014	JEAP14
28	On the function of stance-neutral formulations: Apparent neutrality as a powerful stance constructing resource	16, 2014	JEAP15
29	Assessing the quality of arguments in students' persuasive writing: A case study analyzing the relationship between surface structure and substance	17, 2015	JEAP16
30	Linguistic dimensions of impromptu test essays compared with successful student disciplinary writing: Effects of language background, topic, and L2 proficiency	18, 2015	JEAP17

Continued

No.	Research article titles	Issues	Code
31	It is suggested that…or it is better to…? Forms and meanings of subject it-extraposition in academic and popular writing	20, 2015	JEAP18
32	Claiming centrality as promotion in applied linguistics research article introductions*	20, 2015	JEAP19
33	Changes to English as an Additional Language writers' research articles: From spoken to written register	30, 2011	ESP1
34	Legal Problem Question Answer Genre across jurisdictions and cultures	30, 2011	ESP2
35	''Convenience Editing'' in action: Comparing English teachers' and medical professionals' revisions of a medical abstract	31, 2012	ESP3
36	''Just spoke to . . .'': The types and directionality of intertextuality in professional discourse	32, 2013	ESP4
37	Graduate learners' approaches to genre-analysis tasks:Variations across and within four disciplines	32, 2013	ESP5
38	Engineering English and the high-tech industry: A case study of an English needs analysis of process integration engineers at a semiconductor manufacturing company in Taiwan	32, 2013	ESP6
39	The discursive construction of professional expertise: Appeals to authority in barrister's opinions	32, 2013	ESP7
40	Business English students learning to write for international business: What do international business practitioners have to say about their texts?	32, 2013	ESP8

Continued

No.	Research article titles	Issues	Code
41	Convincing peers of the value of one's research: A genre analysis of rhetorical promotion in academic texts	34, 2014	ESP9
42	"Let G ¼ (V, E) be a graph": Turning the abstract into the tangible in introductions in mathematics research articles	36, 2014	ESP10
43	Dissertation grant proposals as "writing games": An exploratory study of two L2 graduate students' experiences	36, 2014	ESP11
44	Adolescent English language learners' stances toward disciplinary writing	38, 2015	ESP12
45	Disciplinary and paradigmatic influences on interactional metadiscourse in research articles	39, 2015	ESP13
46	The role of 'that' in managing averrals and attributions in post-graduate academic legal texts	20, 2015	ESP14
47	College English writing affect: Self-efficacy and anxiety	39, 2011	ST1
48	L2 performance in text-chat and spoken discourse	40, 2012	ST2
49	Oral corrective feedback on L2 writing: Two approaches compared	41, 2013	ST3
50	Individual novices and collective experts: Collective scaffolding in wiki-based small group writing	41, 2013	ST4
51	A case study of an EFL writing teacher's belief and practice about written feedback	41, 2013	ST5

Continued

No.	Research article titles	Issues	Code
52	Teachers' practices in EAP writing instruction: Use of models and modeling	42, 2014	ST6
53	Student preferences vis-à-vis teacher feedback in university EFL writing classes in Japan	42, 2014	ST7
54	Using wikis to facilitate interaction and collaboration among EFL learners: A social constructivist approach to language teaching	42, 2014	ST8
55	Exploring L2 writers' collaborative revision interactions and their writing performance	44, 2014	ST9
56	Learning to write for publication in English through genre-based pedagogy: A case in Taiwan	45, 2014	ST10
57	Counterargumentation and the cultivation of critical thinking in argumentative writing: Investigating washback from a high-stakes test	45, 2014	ST11
58	An analysis of Chinese EFL students' use of first and second language in peer feedback of L2 writing	47, 2014	ST12
59	Application of online annotations to develop a web-based Error Correction Practice System for English writing instruction	47, 2014	ST13
60	Implementing assessment for learning in L2 writing: An activity theory perspective	47, 2014	ST14
61	The role of clausal embedding in the argumentative writing of adolescent learners of English	49, 2015	ST15
62	Does language analytical ability mediate the effect of written feedback on grammatical accuracy in second language writing?	49, 2015	ST16

Continued

No.	Research article titles	Issues	Code
63	Online collaborative note-taking strategies to foster EFL beginners' literacy development	52, 2015	ST17
64	The effects of strategy instruction on writing strategy use for students of different proficiency levels	53, 2015	ST18
65	The effect of focused and unfocused indirect written corrective feedback on EFL learners' accuracy in new pieces of writing	53, 2015	ST19
66	Peer feedback in second language writing: Investigating junior secondary students' perspectives on inter-feedback and intra-feedback	55, 2015	ST20
67	Language features as the pathways to genre: Students' attention to non-prototypical features and its implications	20, 2011	JSLW1
68	Fostering metacognitive genre awareness in L2 academic reading and writing: A case study of pre-service English teachers	20, 2011	JSLW2
69	Genre-based tasks in foreign language writing: Developing writers' genre awareness, linguistic knowledge, and writing competence	20, 2011	JSLW3
70	Task complexity and linguistic and discourse features of narrative writing performance	20, 2011	JSLW4
71	Newcomers developing English literacy through historical thinking and digitized primary sources	20, 2011	JSLW5
72	''I write it in a way that people can read it'': How teachers and adolescent L2 writers describe content area writing	20, 2011	JSLW6

Continued

No.	Research article titles	Issues	Code
73	Power perceptions and negotiations in a cross-national email writing activity	20, 2011	JSLW7
74	Shared features of L2 writing: Intergroup homogeneity and text classification	20, 2011	JSLW8
75	Generation 1.5 written error patterns: A comparative study	21, 2012	JSLW9
76	''I have no time to find out where the sentences came from; I just rebuild them'': A biochemistry professor eliminating novices' textual borrowing	21, 2012	JSLW10
77	Source text borrowing in an integrated reading/writing assessment	21, 2012	JSLW11
78	Two first-year students' strategies for writing from sources: Patchwriting or plagiarism?	21, 2012	JSLW12
79	Noticing and uptake: Addressing pre-articulated covert problems in L2 writing	21, 2012	JSLW13
80	Writing teachers' perceptions of the presence and needs of second language writers: An institutional case study	22, 2013	JSLW14
81	Using multiple texts in an integrated writing assessment: Source text use as a predictor of score	22, 2013	JSLW15
82	American content teachers' literacy brokerage in multilingual university classrooms	22, 2013	JSLW16
83	The comparative effect of direct written corrective feedback and metalinguistic explanation on learners' explicit and implicit knowledge of the English indefinite article	22, 2013	JSLW17

Continued

No.	Research article titles	Issues	Code
84	Resistance by L2 writers: The role of racial and language ideology in imagined community and identity investment	22, 2013	JSLW18
85	Interactional resources in the letters of young writers in Swedish and English	22, 2013	JSLW19
86	How do Planning Time and Task Conditions Affect Metacognitive Processes of L2 Writers?	23, 2014	JSLW20
87	Refugees in first-year college: Academic writing challenges and resources	23, 2014	JSLW21
88	Constructing and developing ESL students' beliefs about writing through metaphor: An exploratory study	23, 2014	JSLW22
89	Measuring written linguistic accuracy with weighted clause ratios: A question of validity	24, 2014	JSLW23
90	Reactivity of concurrent verbal reporting in second language writing	24, 2014	JSLW24
91	Copying, paraphrasing, and academic writing development: A re-examination of L1 and L2 summarization practices	25, 2014	JSLW25
92	Quantifying the development of phraseological competence in L2 English writing: An automated approach	26, 2014	JSLW26
93	Conceptualizing and measuring short-term changes in L2 writing complexity	26, 2014	JSLW27
94	Does writing development equal writing quality? A computational investigation of syntactic complexity in L2 learners	26, 2014	JSLW28

Continued

No.	Research article titles	Issues	Code
95	''We're drifting into strange territory here'': What think-aloud protocols reveal about convenience editing	27, 2015	JSLW29
96	Exploring changes in FL writers' meaning-making choices in summary writing: A systemic functional approach	27, 2015	JSLW30
97	Phrasal intertextuality: The responses of academics from different disciplines to students' re-use of phrases	28, 2015	JSLW31
98	What happens to ESL students' writing after three years of study at an English medium university?	28, 2015	JSLW32
99	Different topics, different discourse: Relationships among writing topic, measures of syntactic complexity, and judgments of writing quality	28, 2015	JSLW33
100	Syntactic complexity in college-level English writing: Differences among writers with diverse L1 backgrounds	29, 2015	JSLW34
101	Task complexity effects on the complexity and accuracy of writing via text chat	29, 2015	JSLW35
102	Exploring learner engagement with written corrective feedback in a Chinese tertiary EFL classroom	30, 2015	JSLW36
103	What our students tell us: Perceptions of three multilingual students on their academic writing in first year	30, 2015	JSLW37

APPENDIX C
DESCRIPTION AND EXAMPLES OF THE CODIND SCHEME

Move 1: Providing background information

Move 1 is used to remind readers of important information of the study which could facilitate comprehending and following the discussion and provide background information or knowledge which is relevant to specific results to be presented and discussed. The important information restated in this move includes research questions, research aims and scope, research gaps, methodological information such as research settings, procedures, instruments and hypotheses, and theories or previous studies (with an intention to give background knowledge and lead to reporting results but not to compare and contrast findings).

Examples:

The main goal of this study was to *establish the extent to which a focus on achieving clarity results in AP journal articles which can be clearly distinguished from those in CP, particularly in terms of such features as self- mention, vocabulary variation, average sentence length, and use of directives, particularly imperative forms. Based on the consistence with which AP philosophers view their work as being similar to scientific inquiry**, a secondary aim was to*** *compare the use of these features in AP texts not only with that in similar philosophy corpora but also in scientific texts, as reported in the literature.*

Our fourth research question asked *whether there is any difference in the learners' noticing and uptake of solutions from the model and the reformulation when they are provided to them after their output attempt.*

Move 2: Managing the section

Move 2 is employed by writers to announce how the whole section of the discussion section or some part of the section will be constructed. It is used to inform the readers explicitly how writers arrange the order of the content, and how the content or argument in the section is developed. It is also used by writers to inform readers the scope or the focus of the content in the discussion section.

Examples:

*After interpreting the findings from the initial whole-group analysis, **the discussion will focus on** the findings from the separate-group analyses for each of the five writing components individually.*

*In this discussion **we first** summarize the overall results, **then** discuss implications **and** suggest further avenues for research.*

Move 3: Reporting results

Writers state findings of research and provide evidence of such findings such as statistics and examples.

Examples:

*Results revealed no significant difference for lexical complexity ($n = 9$, $w = 17$, $p > .05$) or the ratio of clauses to AS-units ($n = 9$, $w = -5$, $p > .05$). However, **the test did reveal** a significant difference in the mean length of AS-units ($n = 9$, $w = -33$, $p < .05$) **showing that** the average length of AS-units in text-chat were significantly shorter than those generated in spoken discourse.*

***The investigation of time indicated that** the control group did not demonstrate any improvements across the three writing tests.*

The analysis of time demonstrated that learners in the WCF groups appeared to be able to generalize the feedback received in one context onto other new contexts.

What is immediately evident is that by and large the learners **exhibited** *only limited uptake of the corrected verbs in the immediate post-test and the delayed post-test.* **Of those verbs that did demonstrate** *uptake, they were of high frequency verbs (e.ı, wanted).*

Move 4: Summarizing results

Writers present a summary of the main findings which means that many results are reported in one time or present integrated results which are based on many specific results.

Examples:

The overall findings indicate that *Thai articles are of lower quality than international articles, especially in the literature review and discussion sections (in line with Flowerdew, 2001; Pérez-Llantada et al., 2011; Pupipat, 1998), and in terms of justification, awareness and coherence. For all categories, the Thai articles are overall rated more poorly than the international articles and this disparity is particularly noticeable in the seven categories shown in Table 5.*

Overall, findings reveal that *in its use of these features, AP differentiates itself from CP and aligns with scientific inquiry by means of accomplishing its notion of clarity in similar ways.*

In summary, the results demonstrate that *L2 writers use less sophisticated lexical features (i.e., more generalizable words that are less ambiguous) and less sophisticated morphological features (i.e., less stem overlap) than L1 writers. In contrast, the trend reported for our lexical diversity index patterns counter to expectations and may*

indicate differences in general rhetorical strategies (i.e., stylistic and structural choices) between L1 and L2 writers.

Move 5: Commenting on results

This move can be realized by 4 steps: Interpreting results, Comparing results with literature, Accounting for results and Judging results.

Step 1: Interpreting results

Writers attempt to grasp the meaning of the results, and make claims or generalizations based on particular results being discussed.

Examples:

***It would appear** then that the learners did not tend to use the specific structures that they received WCF on in the new contexts, but rather generalized the WCF to new contexts using different weak verb structures.*

***This means that**, although raters were explicitly trained to evaluate essays on the range of lexis used, they did not follow the rating scale in this respect.*

*Thus, **the findings suggest that**, as novice lawyers make the transition from the academy to the workplace, they must rethink the values that they have learned at law school.*

Step 2: Comparing results with literature

Writers compare and contrast the current research findings with literature. The consistency and inconsistency of the current research findings with views, theories and findings from previous work are discussed in this step.

Examples:

The finding *that moves based on a model in one discipline can generally be identified in another discipline* **support findings** *from previous genre-based investigations of discussion sections (Holmes, 1997; Peacock, 2002).*

Our results support *those of Sullivan and Hall (1997), who, like us, found that self-assessors tended to overrate themselves. However, our results contradict those of Chen (2008), Matsuno (2009), Brown (2005) and Leach (2000) who indicated that the self-assessors in their studies tended to underrate themselves.*

This is inconsistent with the findings *of Storch and Hill (2008), and Storch (2009) which documented significant improvement in both analytic and overall DELA scores after 12 weeks of degree study in the same institution.*

Findings *regarding lack of improvement in grammatical complexity* **are consistent with** *the findings of previous studies (e.g., Storch, 2007, 2009).*

That the professionals were concerned with all four dimensions of genre knowledge **lends support** *to Tardy's (2009) argument for genre expertise as an integration of all the formal, process, rhetorical, and subject-matter dimensions of genre knowledge.*

These findings are inconsistent with findings *reported by others who reported improvements on band scores even after one semester of study (e.g. Storch, 2009; Storch & Hill, 2008).*

Step 3: Accounting for results

Writers employ this step to provide reasons for the reported findings or give examples to support their points.

Examples:

*The smaller correlations in the current study **may be due to the fact that** the writing tasks required learners to attend to content and not exclusively to grammatical form.*

*Why did this happen for hypothetical conditional but not for the indefinite article? **The explanation may lie in** the nature of the task. This required ...*

*The fact that the intervention had a positive impact on the writing strategy use of students of both high and low attainment **can be explained by** the following.*

*A **second possible explanation of** the poor ratings of Thai academics' articles concerns national cultural values, which can influence how people think about knowledge and their writing (Canagarajah, 2002).*

*The adjustment of writing behavior engendered herein **could be actualized possibly because** the contention for WM resources was presumably less keen in post-executing monitoring. **It may also be attributed to** the peripheral status of dysfluencies as a measure of fluency, which, externalized as the extent of neatness and legibility in handwriting, is very marginally, if not rarely, included in a scoring scheme. L2 learners would make as many cross- outs and reformulations as they thought necessary and sacrifice this aspect of performance for what they thought were central concerns, for example, meaning conveyance and formal accuracy.*

Step 4: Judging results

In this step, writers judge specific results by expressing their opinions regarding the quality, value or trend of the results obtained. The writer, for example, evaluates a particular finding in terms of its strengths and weaknesses resulted from the instruments or measures used, discusses and expresses their concerns about the extent to which a particular finding can be interpreted and generalized, highlights the values of a particular finding in the field, and identifies the trend of a particular finding whether it is positive or negative and whether it is expected or unexpected and surprising based on general expectations in the field or the writer's own expectations.

Examples:

We acknowledge that our claim *regarding lack of grammatical complexity **is limited to the three measures** (W/T, C/T and W/C) employed in the current study, and a different picture may emerge, if one employs a different measure of grammatical complexity (e.g., see Lu, 2010).*

This insight may be crucial *as it applies to teaching novice writers who have little experience with writing in different genres in a foreign language. (JSLW2)*

This particular finding is not surprising *in light of research which has found evidence of increased complexity of output when learners make use of the additional online planning time afforded by text- chat for monitoring and elaboration (Sauro and Smith, 2010).*

This can be seen as a positive result *since this variable was not mentioned in the rating scale and low frequency words are not intended to result in higher lexis scores.*

Move 6: Summarizing the study

Writers summarize the main points of the whole study in this move.

Example:

The current study identifies meaningful error pattern differences between developmental Generation 1.5 and L1 writers at the tertiary level; however, while nine error types were analyzed, only four point to patterns of significant difference in this writing sample: verb errors, prepositional phrase errors, word form errors, and total identified errors. To move beyond this more general analysis, verb error patterns were further delineated, and qualitative analysis suggested functional differences between Generation 1.5 texts and both L1 and L2 texts.

Move 7: Evaluating the study

This move evaluates the overall study. It can be realized by 3 steps: Indicating limitations, Indicating significance/ advantage and Evaluating methodology

Step 1: Indicating limitations

The limitations of the overall current research are discussed and acknowledged in this step. The issues often mentioned include the limit of the aspects that the current study can explore, the limit of the generalizability and the questions that the current research is unable to answer.

Examples:

A limitation of this study *was the small sample size of university students in Southern Taiwan, and thus, these findings may not be generalizable to other educational settings or to populations with different backgrounds.*

The findings of this study should be interpreted with caution*, not only because of the relatively small size of the study but also because of the nature of the writing tasks used. Had we used more discipline-specific topics …*

*At the outset, **some limitations must be acknowledged**. First, because of the design of this study essentially, an intervention with no control group we cannot be certain that changes that students experienced resulted from the writing program itself, or from other, external factors. However (and unfortunately), a design including a control group was not possible here, as all students in a given program in a given year were required to follow a uniform program of study. Second, ...*

Step 2: Indicating significance/ advantage

       Writers indicate significance, advantages and contributions of the overall research.

Examples:

*However, **these results provide insight** on the potential of wikis to promote foreign language acquisition through collaborative learning tasks.*

*…, **the present inquiry provided considerable detail** about whether, how, and when participants made adjustments to their writing beliefs and practices as a result of reacting to fellow classmates' metaphors.*

*…; **our study contributes to this literature** by demonstrating some of the diverse decisions tutors make about Turnitin reports, such as viewing them as normal or cause for concern. These decisions are likely to impact on novice L2 writers who might rely on formulaic phrases.*

Step 3: Evaluating methodology

       Writers evaluate the methodology used in the whole study and discuss its strengths and weaknesses.

Examples:

*While the study results are based on the researcher's interpretation of the professionals' comments on the students' writing, **the issue of subjectivity is minimised** through the adoption of two main strategies. First, the coding scheme was developed **with reference to relevant literature (see Section 2)**. Second, the categorisation of the comments was **based on the professionals' own explanations which helped validate the interpretation** adopted. For example, the professionals' attitudes towards BELF were derived from their use of the derogative term ''Chinglish'' and explicit comments on instances of Chinglish in the students' writing.*

***There are some potential confounding variables that could affect** the students' improvement, such as the inconvenience of using computer and internet connection problems, might exist.*

*The use of stimulated recall **was especially well suited to** capturing the way in which strategies were thus combined.*

*From a research point of view, **the choice of a three-term design was justified**, as it took months for the group as a whole to understand what metaphors were, to create/find them, to engage critically with them and to change their own writing practices.*

Move 8: Making deductions

Writers extend their discussion beyond the research results. The deduction can be made based on specific results/ issues or overall research. It can be realized by 3 steps.

Step 1: Making suggestions

   Writers suggest possible alternatives, actions or solutions that could be used to deal with the problems or concerns identified in the research.

Examples:

There is a way of resolving this conflict*, however. While authors in peripheral countries such as Thailand may still conduct research related to their local interests, ...*

*Broader generalization of our claims **would require further study with larger corpora** covering more fields in mathematics.*

*Authors who seek help from an English teacher **should be aware that** the teacher may hope and need to engage them in the editing process.*

*An independent measure of language proficiency **would be needed** to determine the direction of any relationship between scores and borrowing, particularly excessive or inappropriate borrowing.*

*The analysis of group differences **may provide support** for this claim as the use of ANCOVA can account for initial pre-test differences.*

*... . **The point is to minimize the biases by** preventing teachers from making direct judgements on peer feedback prior to tapping comparative perceptions. Drawing on student perspectives that are less prejudiced, researchers should be able to identify merits and shortcomings of peer feedback more genuinely voiced by learners.*

Step 2: Recommending further research

This step is utilized to propose topics or issues that could be explored and investigated in the future.

Examples:

*Although it was beyond the scope of the current study, **it would be interesting to explore in future studies** how collaboratively- and individually- oriented students interact when asked to work with peers who have either a similar or different orientation.*

*With regard to students from other legal systems (and therefore most likely from a different L1 background), **it would be very interesting to have empirical evidence** for whether there is indeed a convergence of writing norms between native and non-native speakers attending the same Master's degree program. **Additional studies could also be done** for the more professionally- oriented legal exams so that a full spectrum of writing development would then be available. Finally, instances where 'that' was a high frequency semi-technical term in other disciplines **would also merit study**, in order to gain an insight into attribution and averral practices in additional fields.*

Step 3: Drawing pedagogical implications

Writers provide pedagogical implications or discuss how the research can be useful to teaching and learning.

Examples:

***The findings bear implications for teaching** NNES students in English-medium higher education. First, to assess learning, in addition to essay questions, content teachers…*

*Despite the limitations, **this study's findings provided significant implications for FL writing pedagogy**. Of particular note is that language learning can be pushed in the process of*

*We now turn to a brief **discussion of the implications of our study for the teaching and testing of writing**, particularly to multilingual speakers. The results of the study suggest that…*

BIOGRAPHY

Name	Miss Tharinee Boonyuen
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Educational Attainment	2002: Bachalor of Arts in English and Communication, Faculty of Liberal Arts, Ubon Ratchathani University
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